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Vol. 50, No. 2, 01-03 *Editorial*

Psycho-Social Perspective of Substance Abuse in India: Retrospect & Prospect

Tej Bahadur Singh

Magnitude of the problem: Active efforts have been made in the recent past thoroughly to estimate the size of the Substance abuser's population Based on a household survey (Ray, 2004) with a sufficiently large sample 40,697, focusing males in the age range of 12 to 60 years, prevalence rate was reported for Alcohol, Cannabis & Opiates.

A comprehensive survey at national level (Ambekar et.al. 2019) covered all states and Union territories; included 4,73, 56 9 Ss in the age range of 10 to 75 years. Apart from household survey, respondent based data was also added as they were part of the studied sample group. Prevalence was reported on a wide range of substances i.e. Alcohol, Cannabis, Opioids, Inhalants, Stimulants & Sedatives.

Few other nationwide surveys innovatively reported the burden of Tobacco and Alcohol use in the general population, known as 'National Mental Health Survey of India': 2015-2016 (Murthy, 2017). A treatment gap was as per these surveys was noted to be 80% (Ambekar, et. al. 2019; Murthy, 2017) which is an issue of concern. Currently prevalence reported for Alcohol use 14.6% with noted dependence in 2.7%: Cannabis use 2.8%: harmful use and dependence of substances like Sedatives 1.13%; Inhalants 0.06% and Cocaine 0.12%.

In a recent review of these nationwide surveys (Parmar et.al., 2023) authors advocated that there is dearth of nationwide representative systematic research on the Epidemiology of Substance Abuse in India. Authors felt the need to generate data based on nationwide epidemiological data involving specific population groups i.e.women , adolescents, the elderly and under-represented vulnerable groups. In their review authors also indicated the need for up scaling of prevention programmes & available treatment facilities along with capacity building initiatives to minimize burden of disease arising out of substance use and its related complications.

Retrospect: Substance abuse is known to be a Bio psychosocial problem which emphasises management of this problem with the help of a multidisciplinary team including family, community and state. In the Golden Jubilee year of IJCP, retrospectively taking into account the contributions of Clinical Psychologists as Mental Health Professionals in this area has a relevance. So that priority areas of service delivery with more effective awareness generation programmes for the families and community with a focus on rehabilitation are promoted in our future work.

Intention of the author is to take into account the contribution of Clinical Psychologists in the last 5 decades; conveyed as Psycho-social Perspective in the current context. Which includes Evidence based Diagnostic/ Psychosocial assessment, Therapeutic Approaches (Supportive, Behavioural, Psych educative and Counselling to assist clients and their families); Relapse Prevention, training and updating skills of Clinical Psychologists to work in this area, an exploration of protective factors and personality characteristics of substance users.

An account of published work in IJCP by Verma (1984), after a decade of publication of IJCP , Nathawat (1998), in the Silver Jubilee Year Issue and Nathawat (2001), in a special issue on: research paper published (abstracts) from 1974 to 2000, portray the work done by Clinical Psychologists in this area. Few researches published in other journals by CPs are also included here. In 25 years from 1974 to 1998; total 32 contributions on drug addiction (out of 750) were published (Nathawat, 1998).

In the early years of the beginning of IJCP focus of a large number of studies published was on Psych diagnostics/Psychological Tests and Psychometry. Efforts were made during this period (70s & 80s) to study personality profiles of substance users administering MMPI (Sinha & Sharma, 1999); Rorschach (Arora,1982) with exploration of frustration patterns and personality characteristics (Rajmohan, 1982; Singh & Chopra, 1979) applying other measures. Study sample included Smokers (including chain smokers), Alcoholics, Cannabis, Opiate & Narcotic drug users. These Psychological Assessment based studies used small samples and a control group of normal matched on relevant variables like age, sex, education and locale.

Another set of studies discussed adjustment and drug use behaviour, (Singh et.al., 1983) birth order and drug use (Singh, 1979), smoking and orality (Krishna, 1983); Smoker's Temperament & Sex roles (Augistine & Mrinal, 1996); this was followed by study of cognitive functions and dysfunctions (Vaya et.al., 1986; Rajendran & Cherian, 1990).

Behavioural treatment of drug addiction (Kumaraiah, 1979), Behavioural intervention related issues (Rao & Mishra, 1992) and Families of Alcoholics including wives and children (Kodandaram, 1996a. 1996b; Suman & Nagalalaxmi, 1996; Rejani & Kodandaram 2002; Jeevithat & Suman, 2010).There was also a mention of 'preventive intervention' (Dubey, 1988). An

account of 5 years initial experience in a Clinic for substance abusers was shared with the readers (Varma, et.al., 1985). Authors reported Sociodemographic details, diagnosis, treatment & follow up of 167 cases. Injection drug abuse & HIV Prevention was also looked into during this phase (Needle et.al. 1996).

In a later stage around and after 2000 some priority areas emerged and study reports published in IJCP included i.e. Relapse prevention(Kodandaram,2000), Involving families in the intervention programme (Ahluwalia et.al.2018; Cognition of Alcohol, Cannabis and Injecting Drug Users (Mathew, et.al. 2012), Attention Rehabilitation to improve attention of Alcoholics (Pandey,2012), Drug Dependence, Alcoholism and HIV AIDS (Choudhary & Mishra, 2013),Tobacco cessation (Jena et.al.2004), hospital based study of tribal population(Narayan et.al.2019), Study of P 300 waves among Alcoholics and their first degree relatives (Arora,2019) and training of Clinical Psychologists with a prime focus on addiction (Suman et. al. 2020).

Among children and adolescents street children in slums need attention on priority basis (Ram Chulam et.al.2016). There have been several media reports in the last two decades published in various popular periodicals and magazines.

Lockdown during COVID-19 had an impact on the substance use habit of abusers, due to disrupted supply of drugs. Availability, access and purity of substance used. There was an increase in the intake of substance/s but that was transient. During the second phase of lockdown recovering trends were observed (Arya et.al.2022).

In the initial phase of progress of the discipline of Clinical Psychology, apart from psychological assessment based studies (Singh & Chopra, 1979; Arora, 1982, Arya Mohan.1982; Sinha & Sharma, 1999), therapeutic efforts made to help this group were useful and replicable. Kumaraiah (1979): reported successful treatment of two drug addicts using multifaceted behavioural approach i.e. Aversion Therapy, Relaxation Technique and Assertive training.

Rao & Mishra (1992) mentioned difficulties faced in delivering treatment services to Alcohol dependent individuals, like irregularity in attending daily sessions, occupational hazards, high dropout rate, insistence on drug therapy & poor motivation for treatment.

Therapeutic efforts made to assist families of Alcohol dependent individuals, including their wives and children were also reported (Kodandaram, 1996; Nagalaxmi & Suman 1996).

Prospect: Needs and Priorities

The District Mental Health Programme has emerged as an effective service model for the mental health delivery system nationwide,in the current context; with wider coverage. A team of mental health professionals including Clinical Psychologists are working at these centres; There is a need to generate data based on the service delivery by the professionals working at these centres. Although we are well informed about prevalence and incidence of substance abuse in our country, as nationwide surveys conducted in the recent past were highly informative and insightful. Set of data made available through DMHP centres will be able to tell us the distribution of prevalence in specific groups like adolescents, females, adults, aged people & tribal population.

Further role of sociocultural factors contributing to the problem of substance abuse will be substantially visible in the DMHP set up like increase in consumption of Alcohol and Marihuana during celebration of festivals like Holi, Chrismas and New Year celebration. Use of Marihuana and Alcohol in the worship of god and goddesses in the village or community as a whole; as socially and culturally sanctioned behaviour.

Group approaches in therapy of substance abusers e.g 'Alcoholic Anonymous' are under-reported. This needs to be addressed in DMHP setup; with exploration of protective factors (Kaloiya, 2022) to promote prevention of substance abuse and intervention in treatment programme/s for substance abusers.

Multilingual awareness material for the community and treatment guidelines (Govt. of India, 2020) for professionals needs to be disseminated with updated information. Which also prevents substance abusers from getting treatment like criminals in place of a patient; who is in need of treatment.

There is a mention of 'training of Clinical Psychologists (Suman, et.al. 2020) with a prime focus on addiction and Preventive Intervention (Dubey, 1988). These trends of updating the knowledge and skills of the professionals should be a regular activity, time to time for the benefit of the professionals and their patients suffering from Substance Use Disorders.

Efforts to explore the Telemedicine mediated service delivery for substance use disorders (Basu, 2022) is a priority and demand of the day to expand quality service delivery with a wider coverage. Menon & Kandasamy (2018), based on a review identified determinants of Relapse, i.e. self efficacy, outcome expectancies, emotional states, coping, craving & motivation. These determinants should be looked into while dealing with cases of relapse prevention.

This special issue of IJCP takes a stock of the situation i.e. what has been done in this area by Mental Health Professionals with a focus on contribution of Clinical Psychologists, with a mention of future direction. The issues addressed in the included articles include Cannabis abuse, Evidence based Psycho-Social Assessment, Adolescents as an addicted group, Recovery & Relapse: role of self efficacy and Knowledge, attitude and belief and risk taking behaviour.

Another form of addiction seen now a days is use of screen to the addiction level i.e. Internet gaming disorder, Pornography among adults, Online problematic and non problematic gamers, Adolescents indulging in Internet Addiction; have also been addressed in this issue.

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Invited Article

Evidence-based Psychosocial Assessment in Substance Use Disorders

Swati Kedia Gupta

ABSTRACT

Globally, substance use disorders have become a major public health issues owing to the high morbidity, mortality, burden and the various psychosocial consequences. Epidemiological studies indicate a growing trend of both licit and illicit substances, lower age of initiation and high treatment gap. Both prevention as well as management is of paramount importance. To plan appropriate management, a comprehensive psychosocial assessment is an important first step. The aim of the current article is to provide an overview of the various domains of assessment, the available tools that can be used and assimilation of findings.

INTRODUCTION

Substance use has emerged as a significant global public health challenge, contributing significantly to morbidity, mortality, disability, and the burden of disease (Ali et al., 2011; Tran et al., 2019). This pattern holds true for India as well, where the use of various substances has been documented and ingrained in the country's cultural heritage for centuries. Notably, alcohol, cannabis, and opium are mentioned in religious texts and play integral roles in numerous religious ceremonies and traditions throughout the nation (Sharma, 1996). Given the various negative psychosocial implications of substance use disorders, it is imperative that a comprehensive assessment is carried out, which can act as the stepping stone for developing individualized treatment plans. This article provides an overview of the goals and process of carrying out a comprehensive assessment in patients with substance use disorders.

Epidemiology in Indian Context

In India, the first largest epidemiological survey on substance use was carried out In 2004, which employed the household survey method and focused on males aged 12 to 60. It included a substantial sample size of 40,697 individuals and provided prevalence data for alcohol, cannabis, and opiates (Ray, 2004). The most recent survey was conducted in 2019, which encompassed 473,569 individuals aged 10 to 75 from all states and Union Territories in India. It utilized both Household survey and Respondent Driven Sampling techniques and reported data on a wider range of substances, including alcohol, cannabis, opioids, inhalants, stimulants, and sedatives (Ambekar et al., 2019). Some other nation-wide surveys also covered the burden of tobacco and alcohol use in the general population, with the most notable being National Mental Health Survey of India (2015-16), National Family Health Survey, Longitudinal Ageing Study in India (2020-21) and Global Youth Tobacco Surveys (Gautham et al., 2020; Grover et al., 2020; IIPS, 2020; MoHFW, 2021).

Interestingly the prevalence of tobacco use has gone down in the last two decades. However, there is an alarming increase in use of alcohol as well as other illicit substances. As per latest survey report, current prevalence of alcohol use was found to be 14.6% with dependence found in 2.7%. Prevalence of cannabis use was found to be 2.8% and that of opioid dependence was 0.26%. Apart from that, the prevalence of harmful use and dependence for sedatives, inhalants, cocaine, ATS and other stimulants were found to be 0.11%, 1.13%, 0.03%, 0.06% and 0.12% respectively. Alarmingly, a treatment gap of almost 80% have been reported in most of the surveys (Ambekar et al., 2019; Murthy, 2017).

Assessment Overview

Substance use disorders are conceptualized from a biopsychosocial perspective, and therefore assessment needs to include all the three domains. Assessment is a continuous and multifaceted process that encompasses a interconnected set of stages, capabilities, and tactics, serving various objectives including:

1. Building a rapport with the client
2. Making an accurate diagnosis
3. Measuring the extent of the problem faced by client in various spheres in his life
4. Assess for comorbidities (e.g., mental illness, personality issues etc.)
5. Assess readiness for change/motivation level and
6. Planning appropriate management

Engagement and setting a tone of collaboration and trust are important first steps (Rapp & Goscha, 2011) The importance of building a "trusting and reciprocal relationship" with consumers, which needs to be reciprocal, friendly, purposeful and empowering cannot be under-estimated. Historically, it has been a challenge to involve and maintain individuals with addictive disorders in treatment services (Brunette et al., 2004). However, the duration and depth of involvement in these services play a significant role in predicting treatment

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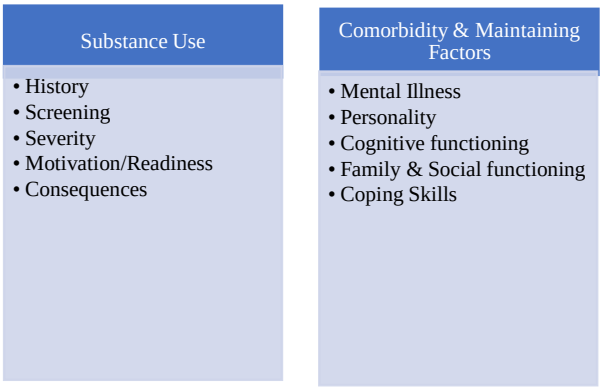
outcomes (Center for Substance Abuse Treatment, 2006). A pivotal aspect of this involvement is the therapeutic alliance established between the clinician and the individual seeking treatment, which can be broadly defined as the quality of the relationship between the clinician and the individual, founded on principles of collaboration, respect, and unconditional positive regard.

There are several effective strategies and approaches to boost engagement during the assessment process. The first strategy involves assessing the immediate needs of the individual seeking assistance and providing practical support to address those needs (Mueser et al., 2003). Another valuable strategy for enhancing engagement is to explore the client's short- and long-term goals, both in terms of treatment and broader life objectives. A third approach involves integrating basic motivational interviewing techniques into the assessment process, such as employing open-ended questions, using reflective listening, and acknowledging the client's feelings and perspectives (Miller & Rollnick, 2002).

Domains of Biopsychosocial Assessment

Once rapport has been established, a comprehensive biopsychosocial assessment can be carried out w.r.t. domains as illustrated in Figure 1.

Figure 1: Domains of Biopsychosocial Assessment in Addictive Disorders



Assessment of Substance Use

A well-taken history can form a cornerstone of reaching a diagnosis as well as understanding the various repercussions of substance use on an individual's life. History should include information about substance use per se (Mode of onset, frequency, duration, and escalation over time, Specific contexts of using substance; preferred route of administration, Intoxication, withdrawals, tolerance, abstinent attempts and complications), previous treatment attempts, past or present psychiatric and medical comorbidities, family genogram, history of substance use in family and level of support system and consequences of substance use on various psychological, social, economic and legal aspects.

Mental Status Examination must include "Readiness to Change" or motivation of the individual. Motivation plays a pivotal role in all types of psychological treatment, with particular significance in the management of substance use disorders (Prochaska & DiClemente, 1992). The absence of motivation is frequently identified as a primary factor contributing to client attrition, non-compliance with treatment, and relapse (Ryan et al., 1995). It can be assessed using a Visual analogue scale in which the person can be asked to rate following two questions on a scale of 0-10: (1) how ready do you feel in changing your substance use habits? And (2) How important it is for you to change your substance use habits? Some scales to measure readiness are Readiness to Change Questionnaire (treatment version -30 items rated on 5-point rating scale) (Heather et al., 1991); Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES), which is a 32 items on a 6-point rating scale (Miller & Tonigan, 1996), Brief Situational Confidence Questionnaire (8 items rated: 0-100) (SAMHSA, 1999) and Alcohol and Drug Use Consequence Questionnaire: (29 items on a 5-point rating scale (Cunningham et al., 1997). Table 1 elucidates some of the instruments and tools that can be used in screening of substance use disorders as well as assessing their severity.

Table 1: List of Screening Interviews and Severity Assessment Scales for Substance Use Disorders

Instrument	Time Taken	Training Required	Copyright Issues
Alcohol Use Disorder Identification Test (AUDIT) -WHO; 10 items	5 mins	Minimal	No
CAGE/CAGE-AID -Four items (Cutdown, Annoyed, Guilty, Eye-Opener)	2 mins	None (self-rated)	No
Michigan Alcoholism Screening Test (MAST) -24 items; cut-off =13	10 mins	Minimal	No
Drug Abuse Screening Test (DAST)	5 mins	Minimal	No
The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) -WHO; 8 items - Used in Brief Interventions	5 mins	Minimal	No
Addiction Severity Index (ASI) and ASI- Lite	60 mins	Extensive	Yes
Severity of Alcohol Dependence Questionnaire (SADQ- C)	5 mins	None (self-rated)	No
Severity of Dependence Scale (SDS)	5 mins	None	No

Comorbid Mental Illnesses and Personality

Over the years, epidemiological data has revealed a strong link between individuals diagnosed with substance use disorders and heightened risk of developing mental illnesses, giving rise to the concept of "dual diagnosis" (Mertens et al.,

2003). Findings from one of the most extensive comorbidity surveys, conducted by Kessler et al. in 1990s, demonstrated that 41-65% of individuals with a lifetime history of substance use disorders also had at least one other psychiatric disorder. Similarly, those with a lifetime diagnosis of a mental disorder often also had a lifetime diagnosis of a substance use disorder (Kessler et al., 1996).

Studies from India have highlighted comorbidities in patients diagnosed with substance use disorders, ranging from 76-92% in various investigations, with the most common comorbid conditions being depression, antisocial personality disorder, anxiety disorders and Adult Attention Deficit Hyperactivity Disorder (Parmar & Kaloiya, 2018; Singh et al., 2005; Vohra et al., 2003), which mimics the global trends as well. Therefore, screening for presence of comorbid mental illnesses is imperative.

Certain personality traits like sensation-seeking, impulsivity, low conscientiousness, high neuroticism etc have been found to affect development and maintenance of substance use disorders (Mulder, 2002; Verheul, 2001). In routine clinical practice, it may not be feasible to assess personality traits as most the instruments are lengthy and require expertise in interpretation. Thus, personality should be assessed only when specifically indicated, for example, when a client presents with difficult premorbid temperament, a history characterized by: antisocial acts, deliberate self- harm, frequent job changes, unstable relationship patterns, avoidance of social situations, poor ability to adapt, Potential medico- legal case and multiple relapses. Some of the commonly used instruments are Eysenck Personality Questionnaire, 16-PF, MCMI-III and IV, MMPI-2, NEO-FFI/NEO-PI-R.

Some of the commonly used screening instruments for other psychiatric illnesses are: SCAN 2.1, CIDI Screener, SCL-90-R, Kessler-6 and 10, PHQ-9, GHQ-7, Geriatric Depression Scale and IPDE screen. Rating scales like HAM-A, HAM-D, BDI-II, BAI etc can be used in routine clinical practice to assess progress. Apart from these, some diagnostic interview schedules can also be used to reach a conclusive diagnosis as indicated below:

- **M.I.N.I**. Version 6.0
- **CIDI v3.0 (**Composite International Diagnostic Interview**)**
- **SCID** (Structured Clinical Interview for DSM)
- **CAAPE**- Comprehensive Addiction and Psychological Evaluation
- **IPDE**- International Personality Disorder Examination
- **SCID-PD** - Structured Clinical Interview for DSM-IV (Personality Disorders)
- **PDI-IV -**Personality Disorder Interview – IV
- **PAS** - Personality Assessment Schedule
- **DIVA**-5 (for Adult Attention Deficit Hyperactivity Disorder)

Cognitive Functioning

As far back as 1901, Bonhoefer showcased memory impairment in individuals experiencing delirium tremens, and since then, a multitude of studies have consistently revealed the existence of cognitive dysfunction in diverse substance use disorders (Adamis et al., 2007). Estimates of the prevalence of cognitive dysfunction in these disorders range from 30% to 80% (Copersino et al., 2009). Individuals with substance use disorders frequently exhibit a range of cognitive deficits, including challenges with attention and concentration, delayed response times, limited ideational fluency, difficulties in problem-solving and abstract thinking, impaired visual-motor integration, memory impairments, and reduced cognitive flexibility (Gupta et al., 2018).

Cognitive functioning can be readily evaluated as part of routine clinical practice through instruments such as the Mini Mental State Examination (MMSE) or its Hindi version (HMSE), Montreal Cognitive Assessment (MOCA) and Addenbrooke's Cognitive Examination (ACE-III). Nevertheless, a comprehensive assessment becomes essential in specific situations, such as in cases of advanced age, chronic substance use, a history marked by birth or developmental delays, the presence of attention deficit hyperactivity disorder, a history of seizures, traumatic brain injury, current complaints of cognitive impairments, or the presence of conditions like Wernicke's encephalopathy or Korsakoff syndrome. Table 2 lists out some of the commonly assessed cognitive functions and their tests.

Table 2: Cognitive Functions and their Assessment

Function	**Tools Used**
Attention and Concentration	Continuous Performance Test Colour Trail 1 and 2 Digit Span Letter Cancellation
Orientation	Clinical Judgement
Intellectual Functioning	Binet-Kamat Test of Intelligence Weschler Adult Intelligence Scale -IV (India Norms) Progressive Matrices Bhatia Short Battery of Performance Test of Intelligence
Language	Vocabulary Verbal Fluency Aphasia Screening Test Boston Naming Test
Memory	Weschler Memory Scale -III PGI-Memory Scale Audio-verbal Learning test Complex Figure test
Executive Functioning	Stroop Color-Word Test Tower of London Verbal and Visual N-Back

Function	Tools Used
	Spatial Span Wisconsin Card Sorting test Clock drawing test
Motor & Sensory	Finger tapping test Test for ideomotor apraxia Cube construction Bender Gestalt Test

Social and Family Functioning

Within clinical settings, it is essential to routinely assess various social and family dimensions for each client, including:

- Family history of drug use, other psychiatric illnesses, and suicide.
- The client's knowledge, attitude, and perception of their family and drug use.
- Patterns of relationships within the family.
- The impact of substance use on family functioning.
- The presence of support systems within and outside the family.
- Peer group associations, encompassing both substance-using and non-using peers.
- Occupational functioning.

In cases where it is warranted, a more comprehensive evaluation should be undertaken to identify the strengths and weaknesses within the family and social system, which may involve examining positive role models and non-drug-using friends, as well as weaknesses such as significant conflicts or family breakdowns. Additionally, this assessment should consider family stressors unrelated to drug use, communication dynamics, decision-making processes, conflict resolution skills, and the emotional and physical aspects of the individual's relationship with their spouse. Furthermore, it is crucial to evaluate the compatibility between the individual and their job. Some of the commonly used tests are: Family Environment Scale - *Indian adaptation (Moos & Moos, 1986, 2002)*, Marital Quality Scale (Shah, 1995), McMasters Family Assessment Device (Miller Ivan W. et al., 2007), Revised Dyadic Adjustment Scale (Busby et al., 1995) and Couple Satisfaction Index (Funk & Rogge, 2007)

Coping Skills

Coping skills are conscious effort to solve personal/ interpersonal problems, and seeking to master, minimize or tolerate stress. Alcohol/substance use are seen because of poor coping skills (Coriale et al., 2012). Effective coping skills are associated with positive outcomes in treatment- seekers and therefore are important component of relapse prevention (Hasking et al., 2011; Kiluk et al., 2011). In routine clinical practice, coping skills can be assessed through "situational analysis", that is, asking the client how they have faced stress situations in the past especially before onset of substance use. Also, they can be asked about situations wherein they could prevent a lapse or a relapse.

Assimilation of Assessment Findings

Once the assessment is complete, the clinician can draw out an individualized treatment plan for the client. It is important to keep certain factors in mind such as:

- Client's choice and needs
- Client's strengths and weaknesses
- Creating a hierarchy of goals especially in case of comorbidity
- Choosing intervention that are appropriate to stage of change (e.g., a patient in contemplative stage will benefit from motivational interviewing rather than coping skill training).

CONCLUSION

To conclude, substance use disorders have various biopsychosocial ramifications and if left untreated, can lead to significant mortality, morbidity, and burden. To develop an individualized treatment plan, it is essential to carry out comprehensive assessment. Some of the tests have been adapted for Indian population. However, there is a need to develop assessment tools, which are culturally appropriate. Moreover, in the digital era, it is also important to have ecologically valid, digital assessments that can be carried out online.

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Original Research Article

Role of Gender and family type in Drug Knowledge Attitude and Belief, Risk taking behaviour and Spiritual wellbeing: Indian study among Young Adults

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ABSTRACT

Background: currently the role of gender and family type in drug knowledge attitude and belief, risk-taking behaviour and spiritual well-being in the young adult population is poorly understood. We examined the role of gender and family type on drug knowledge attitude and belief, risk-taking behaviour and spiritual well-being. Methods: Online cross-sectional data (n = 548) covered 6 provinces of India. The assessment included Drug knowledge attitude and belief, spiritual well-being, and Risk-taking behaviour. Results: t-test, Mean and Standard deviation revealed females have better knowledge about drugs and better attitudes toward drugs. Males have a high mean value for attitude toward drugs, and spiritual well-being, and females have a high mean value for risk-taking behaviour. There was a significant difference between males and females in the context of risk-taking behaviour on the t-test. Participants living in joint families had high mean value for drug knowledge attitude and belief, and those staying in nuclear had high risk-taking behaviour and spiritual well-being. There was a significant difference between family type in the case of drug knowledge attitude and belief, attitude toward drug use, risk-taking behaviour, and spiritual well-being.Conclusion: Drug knowledge attitude and belief, attitude toward drug use, risk-taking behaviour, and spiritual well-being had significant differences in the case of family type and risk-taking behaviour of the participant had significant differences in case gender.

Keywords: *Young Adults, Drug Knowledge Attitude and Belief, Attitude toward Drug Use, Risk-Taking Behaviour, Spiritual Wellbeing*

INTRODUCTION

Male high school students used drugs more frequently in the last year (5%) than females (2.3%), (National Narcotics Agency of the Republic of Indonesia. 2018). Male and female students have been observed to use different types of psychoactive substances despite having a high knowledge of their various effects like changes in mood effect, poor concentration, negative social effects and poor effects on educational careers. In a study, 32.4% of the male participants and 17.6% of the female participants from a university set up in South Africa were found to use different types of psychoactive substances (Ajao, 2014). Fifty-two (52) students from India out of 416 (12.5%) used or abused any one of the substances irrespective of time and frequency in their lifetime (Tsering, Dasgupta 2010). Having a high knowledge of drugs and substances may not be sufficient enough to protect students from drug use/abuse.

Almost one-third of full-time college students aged 18 to 22 used alcohol and were engaged in binge drinking, about 1 in 5 students used an illicit drug in the one-month observation (United States Census Bureau, 2014). Over 60% of full-time college students were found engaged in alcohol, and a staggering 39% had binge drinking issues (Lipari, 2016). Age-matched cohorts were found less in number in case of use of alcohol consumption when compared with college-going students (Schulenberg, 2017).

According to the Canadian Addictions Survey 2005, almost 62.3% of youth aged between 15-17 accepted early use of alcohol and 29.2% told about early cannabis use in the 12 months before the survey (National Crime Prevention Centre (Canada, 2009). Indian study by Narain suggested that boys start any substance usually from the age of 11 and male student from government intermediate college starts any substance at the age of 12-13 years (Narain, 2020).

Spirituality seems to protect against the abusive use of psychoactive substances (Oliviera, 2017). In a recent study done by (Hatala, 2021) research suggested that Saskatchewan adolescents (11-15 years) who scored high on various components of spiritual health had reduced likelihood of cigarette smoking, consumption of alcohol and marijuana use and sexual intercourse. Substance abuse is captivating and compelling which makes it difficult to treat (Galanter, Dermatitis, Bunt, Williams, Trujillo, et al. (2007). Spirituality is found to be associated with the psychological adjustment and well-being of students (King and Benson, 2006; Johnson, 2008; Saroglou et al., 2008). Studies by Alyssa showed that marked gender differences in spiritual qualities, and gendered patterns of spiritual development are expressed by both genders (Bryant, 2007). A study done in the year 2012 by Alvin Rich found no difference in spirituality between males and

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females but their expression of that was different (Rich II, 2012). Spirituality is not only important for patients with substance abuse disorder but it is also helpful in the larger aspect of recovery, the rebuilding of those under treatment (DiReda, & Gonsalvez, 2016).

AIM

The purpose of the original research was to determine the effect of gender and family type on drug knowledge, attitude, beliefs, risk-taking behaviour and spiritual index of well-being about attitude and awareness of drugs in young Indian adults.

MATERIALS AND METHODS

Study design and population

We did a cross-sectional study and primary data was collected using convenience sampling from various universities and colleges by distributing an online survey through a Google Form link via WhatsApp, Instagram, and Facebook, which are the most popular and accessible social media platforms in India. Facebook, Instagram, and apps are more popular among students. We utilized different approaches to reach as many respondents across the region with the help of teachers working in various universities during the 23 January- 28 May 2023 that is data collection period. Research relied on fellow researcher's technical and personal links and networks. The survey was shared through social media influencers and other community support. The inclusion criteria to fill in the Google form were as: Indian civilian, young adult 17~25 years, able to speak English and Hindi and willing to fill out the informed consent form. We reached 548 total participants/respondents through Google Forms.

Study variables

Independent variable: Gender and family type

Dependent variables: Drug knowledge, attitude, Belief, Risk-taking behaviour and spiritual index of wellbeing.

Tools for data collection

An online survey designed to measure students' knowledge and attitudes about Drugs along with risk-taking behaviour, and spiritual wellbeing was used as a tool for data collection. The online survey consisted of fifty-one (51). Among these nineteen (19) questions were related to knowledge, attitude and belief of various drugs, twenty (20) questions to test students' risk-taking behaviour in daily life, and twelve questions (12) were to assess the participant's spiritual index of wellbeing.

Drug Knowledge Attitude& Belief (Bryan, Moran, Farrell & O'Brien, 2000).

It is a 7 7-item Likert scale where item numbers 2, 6, and 7 are reversed scores. Items 3, 4 and 5 should be scored '5' for answers like strongly agree and '1' if the answer is 'strongly disagree'. However, remaining items 1, 2, 6, and 7 should be scored oppositely ('1' for 'strongly agree' and '5' for 'strongly disagree'). To obtain scores for attitude, items should be added together. A score of 35 will indicate a positive attitude toward drug use, while a score of 5 will indicate a negative attitude toward drug use.

Attitudes to Drug Use (Harmon, 1993)

This scale consists of 12 items with a Likert scale. In case of scoring, items 2, 3, 6, 7, 8, 10, 12 should be scored '1' for 'strongly agree' to '5' for 'strongly disagree'. The rest of items 1, 4, 5, 9, and 11 are scored oppositely ('5' for 'strongly agree' to '1' for 'strongly disagree'). Items of the present scale are added and then divided by the number of questions in the questionnaire (12) to obtain attitude scores for each individual. A score of 5 will indicate a favourable attitude towards drug use while a score of 1 will indicate an unfavourable attitude towards drug use. The author suggests that if any respondent is not able to answer all 12 questions should be excluded from the analysis as total scores are accumulated by dividing the score by 12.

Risk-taking questionnaire (Gullone, E., Moore, S., Moss, S., & Boyd, C. 2000).

It is a 20-item scale which has items related to physical and psychological risks in daily life. Risk-taking Questionnaire (RQ) was developed to comprehensively assess risk-taking beliefs and behaviours. It is a reliable instrument with strong construct validity. Responses are to be given on a Likert scale (1-5).

The Spiritual Index of Well-Being (Daaleman, T. P. & Frey, B. B. (2004)

This test attempts to define spirituality as a sense of meaning in daily life or purpose from a transcendent source. It is a 12-item instrument that measures one's perceptions of their spiritual quality of life. The scale is divided into two subscales: (1) the self-efficacy subscale and (2) the life-scheme subscale. Each item is answered on a 5-point scale ranging from 1 (Strongly Agree) to 5 (Strongly Disagree).

Statistical methods

Data is collected, encoded as per the norms given in the manual, and then fed to a compatible computer using SPSS version 24 for Windows. Mean and standard deviation were calculated for each independent variable like Gender and Family type in the context of Drug knowledge, attitude, Belief, Risk-taking behaviour and spiritual index of well-being.

RESULT AND DISCUSSION

The present study consists of only students as a sample from various colleges and universities assisted by

volunteers and co-authors. Age, Gender and family types, education were included as part of the socio-demographic details.

Table 1: Demographic details

Female	**442, 80.7%**
Male	106, 19.3%
Mean age & S.D.	21.98, (3.41)
Mean age & S.D. (male)	23.38, (3.09)
Mean age & S.D. (Female)	21.64, (4.26)
Family type	
Nuclear	349, 63.7%
Joint	199, 36.3%

The survey participants consisted of 548 young adults. Their mean age was Mean age (21.98 SD 3.41), who were between the ages of 21 (females) and 23 (males). All the participants are students. The majority of the participants were females and single (Table 1). Females consist 80% of all the participants outnumber males (19%) have more risk talking behaviour whereas males have a high spiritual index of well-being. 63% of total participants are in a nuclear family setup with high risk-taking behaviour and spiritual index of wellbeing but those in the joint family had high scores on drug knowledge attitude and belief along with high attitude toward drug use.

Table 2: Mean (Drug Knowledge attitude and belief, Attitude to Drug Use, Risk-taking behaviour, Spiritual well-being) in the context of Gender

	Gender	N	Mean	Std. Deviation
DKAB	1 (Female)	442	15.99	3.89
	2 (Male)	106	15.54	4.41
ADU	1 (Female)	442	26.29	6.55
	2 (Male)	106	26.92	6.68
RTQ	1 (Female)	442	70.36	17.94
	2 (Male)	106	63.81	17.40
SIW	1 (Female)	442	39.94	10.18
	2 (Male)	106	41.18	9.20

Drug Knowledge attitude and belief (DKAB), Attitude for Drug Use (ADU), Risk-taking behaviour (RSQ), Spiritual well-being (SIW)

The mean value of females (70) was found to be higher than males (63) for category risk-taking behaviours. Drug knowledge attitude and belief, attitude toward drug use and spiritual well-being did not have much mean difference among males and females. There was not much difference found in the mean values for the categories of DKAB, ADU and SIW. Men use all types of drugs more than the females, so this is shown even in the present study findings (ORWH, 2015). Risk-taking behaviour is high for women in the current study that has already been promoted by NIDA, (2002) which stated that females may have to put in harder efforts to quit smoking. The rate of risk-taking behaviours in female students was lower than in males (Bahramnejad, 2020) which is the opposite of the result of the current study.

Table 3: t-test for Equality of Means (Gender)

	Mean Difference	t	Sig. (2-tailed)
DKAB	.45057	1.041	.298
ADU	-.62815	-.882	.378
RTQ	6.55293	3.397	.001
SIW	-1.24072	-1.147	.252

Drug Knowledge attitude and belief= (DKAB), Attitude for Drug Use= (ADU), Risk taking behaviour= (RSQ), Spiritual wellbeing= (SIW)

Independent sample t-test showed significant differences (.001 significance level) among males and females for risk-taking behaviour. Other categories like Drug knowledge attitude and beliefs, attitude toward drug use and spiritual well-being did not have significant differences on the test which is also clear based on mean difference. It was also found that nicotine pouch and gum work better in men which again support the current findings in term of the high risk-taking behaviour of females. The Centre for Behavioural Health and Statistics (2017) found opposite results that male members in the research were found to use in comparison to women to use almost all types of illicit drugs (Centre for Behavioural Health and Statistics, 2017). The reason for males having poor scores in risk-taking behaviour which is opposite to existing findings (Azanova, 2021) may be the poor number of male participants in the current study.

Neuro-chemical-based explanations of the high risk among males and poor among females may help better understand the risk-taking behaviour of the female participants (Azanova, 2021).

Table 4: Mean (Drug Knowledge attitude and belief, Attitude for Drug Use, Risk-taking behaviour, Spiritual well-being) in the context of family type

	Family Type	N	Mean	Std. Deviation
DKAB	1 (Joint)	199	16.63	3.78
	2 (Nuclear)	349	15.49	4.07
ADU	1 (Joint)	199	27.23	6.25
	2 (Nuclear)	349	25.95	6.72
RSQ	1 (Joint)	199	65.92	18.46
	2(Nuclear)	349	70.90	17.51
SIW	1 (Joint)	199	39.04	9.50
	2(Nuclear)	349	40.83	10.23

Drug Knowledge attitude and belief (DKAB), Attitude for Drug Use (ADU), Risk-taking behaviour (RSQ), Spiritual well-being (SIW)

The mean value of those living in joint family had a higher mean score for the category of drug knowledge attitude and belief (16) and attitude for drug use (27) but risk-taking behaviour (65) and spiritual will being (39) had lower mean value for the participants living in joint family.

Table 5: t-test for Equality of Means (Types of the Family)

	Mean Difference	t-test	Sig. (2-tailed)
DKAB	1.14	3.24	.001
ADU	1.27	2.19	.029
RSQ	-4.98	-3.13	.002
SIW	-1.79	-2.02	.043

Independent sample t-test was found to have a significant level for all categories that is drug knowledge attitude and leave attitude for a drug used risk-taking behaviour and spiritual well-being. The level of significance for drug knowledge attitude and belief (DKAB) was .001, for Attitude for Drug Use (ADU) was .029, for Risk-taking behaviour (RTQ) was .002, and for Spiritual well-being (SIW) was .043.

Our study had a higher mean value supported by a significant t-test for drug knowledge, attitude and belief which means that participants living in a joint family had positive drug knowledge and attitude in comparison to those participants living in a nuclear family set-up. Drug knowledge was found to be poor for those daughters living with a father than those living with a single mother (harmonic and Crano, 2009). Another study found that drug use is found more on those living with one parent are prone to drug use both, 2001). A possible reason for poor drug knowledge and attitude for those living in nuclear families may be that these children may be more resource-deprived (Amato and Keith, 1991), they are prone to get a less protected environment and less consistent monitoring and supervision through which seems to be more in joint family setup. These conditions are thought to be associated with adolescent drug use (McLanahan and Sandefur, 1994). The current study suggests that the mean value for attitude toward drug use is high for those living in the joint family. Those who live in nuclear families are more prone to substance use and have poor attitudes toward drug use. In a study done by Roy and Miah (2017), Rather, Bashir, Sheikh, Amin, & Zahgeer, (2013), authors found in Kashmir and Bangladesh that most of the patients seeking treatment for substance use are from nuclear families which may be due to urbanization and availability of hospital at nearby place.

CONCLUSION

This study confirms that risk-taking behaviour may be gender specific where females may show high risk-taking behaviour when compared with males but gender may not cast any significant impact on attitude, knowledge and spiritual wellbeing. The concept of spirituality did not emerge as having a significant association in the context of gender.

The study suggests that family type has a significant relationship with attitude, knowledge, belief, risk-taking behaviour and spirituality. This is important as a clear understanding can be generated to understand the relationship between drugs and other psycho-social variables influencing the thinking and behaviour related to drug use currently or its possibility shortly. The study emphasizes the nuclear family as a risk factor over risk-taking behaviour and this is so even when participants scored high on the spiritual wellbeing index. The joint family emerged as a protective factor against risk-taking behaviour.

Limitations

Although this research expands the current knowledge on Drug knowledge, belief, attitude risk-taking behaviour and spirituality, it presents certain limitations.

The sampling procedure limits the external validity of findings. Convenience sampling could have been substituted with other robust techniques. Does not allow the generalization of the results. Participants were from a limited area of the nation so the result may not be applied to individuals of the rest of the part of the countries and regions.

Implications

The findings of the study emphasized that joint family may act as a protective factor. There is a need to educate emerging adults about the relevancy of joint family and staying close to each other. This study signifies the negative aspect of staying in a nuclear family and results discourage the growing tendency to follow individualist and ego-centric thinking, behaviour, belief systems, values and lifestyle.

Ethics Approval and Consent to Participate

Human and animal rights

In our study, no animals were used that are the basis of this research. The nature of the study does not demand any use of an animal to achieve the objective of the study. In the case of humans, none of the humans were used as part of any experiment/ medical trial by the ethical standards of the committee responsible for human experimentation (institutional and national), and with the Helsinki Declaration of 1975, as revised in 2013 (http://ethics.iit.edu/ecodes/ node/3931).

Consent for publication

Informed consent has been taken from all authors/ respondents involved in the study.

Availability of Data and Material

The data of the study supporting the conclusions of the article will be made available by the authors without undue reservation whenever asked or needed.

Conflict of interest

The authors declare that there is no conflict of interests

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Original Research Article

Effect of Self-efficacy, Marital Status, Duration of use on the Addiction Severity among Heroin Users

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ABSTRACT

Background and aims: Previously, marriage have been an exemplar of a possessive constituent against substance use. But apart from marriage how other associated variables such as General Self-efficacy, Duration of use, and Severity level of addiction are also important in managing heroin addiction have also been reflected using this particular research work. The present study aimed to investigate the effect of General Self-efficacy, Marital Status, and Duration of use on the level of addiction among heroin consumers. Also, to identify whether the Severity level of addiction affects general self-efficacy among heroin consumers. *Method:* A due ethical permission was granted from Institutional Ethics Committee, Utkal University before collection of the data. A purposive sample of 130 male heroin consumers (aged 18-35) from an indoor Rehabilitation Centre in Bhubaneswar, Odisha, consisting of an equal number of married and unmarried were administered the General Self-efficacy Scale (Schwarzer & Jerusalem, 1995) and Drug Abuse Screening Test-10 (WHO) to find out the level of self-efficacy and heroin addiction. Information related to the duration of the use of heroin was collected from the rehabilitation centre. A three-way Analysis of Variance with an independent sample 't' test were used to examine the differences among the participants concerning the level of self-efficacy and addiction respectively. *Results:* Both Marital Status and General Self-efficacy differ significantly so far as the level of addiction is concerned. Further, the moderate and substantial level of addiction also differ significantly on General Self-efficacy among Heroin consumers. No interaction effect was found to be statistically significant among the variables. *Conclusion:* Self-efficacy, Marital Status and Severity level of addiction work as a buffer in the treatment of heroin addiction. From the result it was revealed that married individuals having high level of general self-efficacy consume heroin at a moderate level and those are unmarried, having low level of general self-efficacy usually consume heroin at a substantial level. Some major factors for the above findings were given emphasized in the discussion part of the research. The different drug treatment centres must be given emphasis on how the patients' level of General Self-efficacy would be enhanced by administering various psychological interventions as well as counselling services by trained Mental Health Professionals and Counsellors.

Keywords: *General Self-efficacy, Heroine, Marriage, Addiction, Substance, Severity, Moderate*

INTRODUCTION

The American Society of Addiction Medicine (ASAM) (2019), defined addiction as "it is a treatable, chronic medical disease involving complex interactions among brain circuits, genetics, the environment, and an individual's life experience". In general, addiction refers to a psychological inability to stop consuming a chemical, substance activity even though it causes psychological and physical harm. In recent years, Self-efficacy as a psychological capital impacted in managing the various domains like, academic, superstitious beliefs, sports, and severe mental health issues. However, despite the theoretical supports, the concept of self-efficacy is yet to become a crucial factor so far as the management of different psychosocial domains are concerned. Thus, the current study provides an empirical analysis of self-efficacy, associated with other parameters such as marital status, duration of use, and addiction severity in managing the Heroin addiction.

Self-efficacy and substance use disorder

Bandura, 1977 conceptualized the concept of Self-efficacy that plays a significant role in inspiring someone to achieve the purposes in life and the abilities required in engaging behaviour in accomplishing the result. In the context of substance use disorder, it is related with an individual's confidence in his capability to manage cravings, coping with triggers, and maintaining abstinence. In fact, self-efficacy also plays a vital role in treating the issue of substance use disorder. Substance use disorder / substance addiction is a worldwide and tenacious health-related issue in India and all over the world nowadays. No part of this world is free from the curse of addiction. Generally, substance use refers to when someone consumes alcohol or drugs that may not be a problem. When an individual consumes alcohol or drugs that create impairments in their family life, or occupational life i.e., considered as substance abuse. On the other hand, when someone continues to consume alcohol and drugs and will have withdrawal symptoms when trying to quit, this is simply referred to as a full-blown addiction or substance dependency. The

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symptoms of withdrawal differ depending upon the categories of drugs. Physical withdrawal symptoms include nausea, tremor, headache, etc., and so far as the psychological withdrawal symptoms are concerned, it includes hallucinations, intense craving for the drug, depression, anxiety, confusion, suicidal ideations, hangovers, problems with attention and motivation, aggressive outburst, violent behaviors, paranoia, panic attacks. In this regard, self-efficacy is considered as an important aspect of addiction recovery; because individuals with a high level of self-efficacy are more likely to manage high-risk situations without giving into temptation. If an individual lacks self-efficacy and relapses, he is more likely to fall into a series of harmful decisions and a full-blown relapse. Similarly, 'Bandura, 1986; Corsini, 1994; Gossop', 1997 found, if the level of self-efficacy is highly formed within an individual during the entire process of recovery, as an outcome there is a greater possibility of the relapsed drug addicts would maintain a sobriety life without consuming heroin once again.

Epidemiology

So far as the epidemiology of Heroin is concerned, according to Drug Abuse Monitoring System (DAMS), Ministry of Social Justice & Empowerment, Government of India, 2022, the highest percentage of heroin users are found in New Delhi (44%), followed by Manipur (32.2%), West Bengal (32.1%), Rajasthan (30%), and Odisha (20.7%) respectively. The findings clearly showed that Odisha occupies the top fifth position among the states in the accessibility of Heroin as a substance. The treatment of heroin addiction is more effective with general self-efficacy with marital status as important domains as well. Married people are in greater control of their addiction levels compared to unmarried one's. However, there are hardly any studies that combines the effects of general self-efficacy and marital status of the heroin consumers.

Self-efficacy and Marital Status

The current empirical study signifies how self-efficacy along with marital status combinedly important as domains in the management of heroin addiction. Research has shown that taking heroin as a drug is associated with divorce or separation and residual as unmarried (Lex, 1994; Kaestner, 1997). Curiously, data from the epidemiological survey provide support that married persons are less likely to consume illegal substances. For instance, the rates of substance abuse between 35 years and older adults advocated that married individuals were significantly less likely for consuming cocaine as a drug compared to unmarried individuals (Merline et al., 2004). Conceivably, it has been identified that for the patients who received drug-abuse treatment, being married was possibly associated with a stable and progressively better consequences. Cessation of consuming cocaine as a drug has been also reflected to be relatively associated with unmarried and married persons. Unmarried fellows used to consume more cocaine compared to married fellows. A study published in the international journal of recent scientific research in 1995 examined a community-based representative, where cessation of consumption of cocaine was 3 times more frequent among married persons compared to unmarried ones (White et al., 1995). In contrast, such kind of proficiency might illuminate interventions and permit the investigators to eventually estimate the supervision of any cause-effect interrelations between substance abuse and Marital Status (being married or unmarried).

Literature based on researches on alcohol suggested that little satisfaction after getting married has been associated with forecasted weak management results (Beattie et al., 2003), on the contrary, marital happiness forecasts well-adjusted outcomes of treatment (McCrady et al., 2004). Advancement in Marital Satisfaction using couple therapy with drug users has been also implemented in reducing substance abuse, enhancing treatment facilities, and nurturing preferable bilateral coping mechanisms (Epstein et al., 1998; Fals-Stewart et al., 1996; O'Farrell et al., 2000; Winters et al., 2002). However, research evidenced individuals those are single, divorced, or widowed generally consume more alcohol (Wild et al, 2004). The prevalence of alcohol use disorder is 28.2% in single, 17.2% in divorcees, and 13.9% in married. It has been evidenced that among substance users 58% are single and 41% are married (Ibrahim et al., 2016). So, the above trend clearly reflects that unmarried individuals are consuming more substances compared to married individuals. Generally, consuming substances once again is a frequent issue that takes place in an addicted person who is or has been going through rehabilitation, management, and prevention of drugs (Azizul et al., 2018). In such cases, other protective factors like, Emotional Intelligence (EQ), Social support system, etc. play a crucial role. No studies have been conducted using both self-efficacy and marital status; rather the current research has focused on analysing the combining effect of those variables in managing the level of addiction.

Self-efficacy and Severity level of addiction

In the context of addiction, self-efficacy plays a vital role. It relates to an individual's confidence in their ability to manage cravings, coping with triggers, and maintaining abstinence. Research has consistently shown that the more the level of Self-efficacy; the lower the levels of substance addiction. Although self-efficacy is the strongest predictor of the outcomes of positive substance use (Kadden and Litt, 2011), few studies have

explored the role of self-efficacy among heroin users initiating treatment part. Dependency to Heroin is associated with the lowest abstinence of any substance class (El-Sheikh Sel and Bashir, 2004). Although there is theoretical support for a person's self-efficacy and substance use influencing motivation to change and personal goal setting (Bandura, 1998), research till date has not revealed the relationship between perceived Self-efficacy and seeking treatment among heroin users.

So, by referring to the above-mentioned studies, the present study focused on how Marital Status, Self-efficacy, Duration of use, and Severity level of addiction as variables are essential parameters for patients consuming Heroin as a substance. Hence, the current research centered on a sample comprising the heroin category with the following aims.

Objectives

1. To examine the effect of General Self-efficacy on the level of addiction among heroin users
2. To investigate whether Marital Status affects the level of addiction among heroin users
3. To find out whether the Duration of use impacts the level of addiction among heroin users
4. To identify whether the Severity level of addiction affects General self-efficacy among addicts with heroin users.

Hypothesis

The study explored the following hypothesis.

1. There would be a low level of addiction those having married and higher level of General self-efficacy.
2. There would be a low level of addiction those duration of use of heroin is less.
3. Those having a moderate level of addiction severity would have a higher level of General self-efficacy compared to those having substantial level of heroin addiction.

DESIGN

MATERIALS AND METHODS

Participants

130 Male Heroin Consumers consisting of an equal number of Married (65) and Unmarried (65) were selected as participants by using the purposive sampling technique. The participants' age range varied between 18-35 years. All Heroin consumers were selected from an indoor rehabilitation center in Odisha, present in Bhubaneswar.

Sample characteristics

The participants duration of heroin use ranged from 1-12 years having some psychological complaints like confusion and depression as mentioned in their individual intakes maintained in the drug treatment center. On the other hand, out of 130 participants, Marital Status as a socio-demographic variable, equally 50% were from each married and unmarried category. In Employment Status, the percentage of currently unemployed were (52.30%) followed by self-employed (40%), and students (7.69%). In Education Status, the percentage of higher secondary (49.23%) followed by secondary education were (32.30%), graduate (9.23), middle class (4.61%), primary education (3.07%), and post-graduate (1.53%). Duration of use, as demographic variable, participants using 6-10 years were (36.92%) followed by 5 or less than 5 years (36.15%), and greater than 10 years (26.92%). Lastly, so far as the Severity Level of addiction is concerned, substantial users were (51.53%) followed by moderate users (48.46%) respectively. From the demographic variables it has clearly been observed that status of education along with employment play a crucial factor for becoming addicted to substances. So, low level of education leads to unemployment which in turn increases the probability of being addicted at a substantial level.

Inclusion criterion

i. Age of the participants must range between 18-30 years.
ii. Those participants diagnosed with ICD-10 guidelines.
iii. All those consumed only Heroin as a substance.
iv. Participants having above primary education.
v. Those participants not having any co-morbid psychotic complications.

Exclusion criterion

i. Those participants below the age of 18 and above the age of 30 years.
ii. Those participants consumed other than Heroin as a substance.
iii. Those participants having below primary education.
iv. Those participants having some histories of chronic physical and severe psychiatric illnesses.

PROCEDURE

Initially, adequate rapport was established with the participants followed by the direction of the research and little confusions and doubts were addressed. Thereafter, all the participants were administered the General Self-efficacy Scale and Drug Abuse Screening Test.

Approximately, each subject took 20 minutes to complete both the tools. After filling out the tools, the scores were get added to obtain a total score, and the scoring of responses was done using the manual for further analysis.

Instruments

Socio-Demographic Details Sheet

The necessary demographic information such as Age, Marital Status, Occupation, Gender, Caste, Education Status, Duration of drug use were collected by administering the Socio-demographic details sheet.

General Self-efficacy Scale

the Odia adopted General Self-efficacy Scale, adopted by Sahoo, F.M. (2006) was used. The scale consists of 10 statements having a 4-point rating. The total score lied between 1-40. Higher the score, indicates higher level of General self-efficacy. The reliability of the scale is between 0.76 and 0.90.

Drug Abuse Screening Test (DAST-10)

This test developed by World Health Organization was used to measure the severity level of addiction. The DAST is a 10-item based screening tool and can be administered by a clinician or self-administered. Every statement required a 'yes' or 'no' response. The score lied between 0-10 with the degree of problems such as, no problem reported, low level of addiction, moderate level of addiction, substantial level of addiction, and severe level of addiction respectively. The reliability of the DAST-10 has been studied well and widely accepted globally. The scale tends to have moderate to high levels of test-retest reliability. It also tends to have moderate to high levels of validity, sensitivity, and specificity.

Ethical Approval

The study procedures were conducted following the declaration of the In-charge of the Indoor Rehabilitation Centre. Ethics approval was received from the IEC, Utkal University, Odisha (Ref No: IEC/UU/2021-02). All participants were informed about the study and provided written informed consent to participate in the current research.

RESULT

The purpose of the present study was to investigate the role of General Self-efficacy, Marital Status, Duration of use, and Severity Level on the patient's consuming heroin as a drug. The study adopted a 2 X 2 X 3 factorial design and an independent sample 't' test in order to find out the differences among the variables. The first independent variable i.e., Marital Status having two levels (Married X Unmarried), the second independent variable i.e., General Self-efficacy having two levels (High X Low), and the third independent variable was Duration of Use having three levels (5<5 years X 6-10 years X >10 years). The dependent measure for the first design was the level of addiction. On the other hand, so far as the independent sample 't' test was concerned, the only grouping variable to be studied was Severity Level which having two levels (Moderate X Substantial) and the test variable / dependent measure was General Self-efficacy respectively. Data were statistically analysed using SPSS V20 and discussed accordingly in the following Tables respectively.

Table 1: *Analysis of Socio-Demographic Variables between 130 Heroin Consumers*

Variables	Level	Frequency	Percentage
Marital Status	Married	65	50%
	Unmarried	65	50%
Employment Status	Self-employed	52	40%
	Currently Unemployed	68	52.30%
Education Status	Student	10	7.69%
	Primary Education	4	3.07%
	Middle Class	6	4.61%
	Secondary	42	32.30%
	Higher Secondary	64	49.23%
	Graduate	12	9.23%
	Post-Graduate	2	1.53%
Duration of Use (in years)	5 or <5	47	36.15%
	6-10	48	36.92%
	>10	35	26.92%
Severity Level	Moderate	63	48.46%
	Substantial	67	51.53%

Result Table-1 showed the number of subjects and their percentage of the variables such as Marital Status, Employment Status, Education Status, Duration of Use, and Severity Level respectively.

Table 2: *Group Means and Standard Deviations of Marital Status, General Self-efficacy, and Duration of Use of Heroin Consumers with respect to Level of addiction (N=130)*

Variable	Marital Status				General Self-efficacy				Duration of Use (in Yrs.)					
	Married		Unmarried		High		Low		5 or <5		6-10		>10	
Level of Addiction	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
	4.73	1.44	6.35	1.07	5.27	0.66	5.80	1.23	5.62	1.13	5.55	1.67	5.45	1.79

Table 3: *Summary of 2 X 2 X 3 ANOVA for Level of Addiction (N=130)*

Variables	Source	Ss	Df	Ms	F	P
Level of Addiction	Marital Status	81.89	1	81.82	51.53	.000
	General Self-efficacy	8.76	1	8.76	5.51	.02
	Duration of Use	0.55	2	0.27	0.17	.84
	MS * GSE	1.35	1	1.35	0.85	.35
	MS * DOU	3.11	2	1.55	0.98	.37
	GSE * DOU	0.20	2	0.10	0.06	.93
	MSE * GSE * DOU	5.98	2	2.99	1.88	.15
	Error	187.509	118	1.58		
	Total	4330.00	130			

*p<.05, p<.000***

*MS- Marital Status, GSE- General Self-efficacy, DOU- Duration of Use

It can be noticed in result table 3 that the main effect of marital status has a significant effect on the level of addiction (Heroin) with the probability of .000***. Married individuals have a lower level of addiction (Mean=4.73) compared to Unmarried individuals (Mean= 6.35). On the other hand, Self-efficacy as a main effect has also been significantly effective on the level of addiction (p<.05), which indicated that individuals those having a lower level of Self-efficacy (Mean= 5.8) considered a higher level of heroin consumption compared to those having higher level of Self-efficacy (Mean= 5.27). However, Duration of Use as a third variable had no significant effect on the level of addiction (p>.05). Also, so far as the interaction effect was concerned, no variables were found statistically significant with respect to level of addiction (p>.05) respectively.

Table 4: *Group Means and Standard Deviations of Severity Level of users (Moderate and Substantial) with respect to General Self-efficacy among Heroin Consumers (N=130)*

Variable		Moderate N=63	Substantial N=67
General Self-efficacy	**Mean**	24.66	21.68
	SD	5.78	5.35

It can be revealed from the result of table 4 that those having a moderate levels of addiction considered as high level of General Self-efficacy compared to a substantial level. This has been represented and interpreted in table no 5 respectively.

Table 5: *Summary of Independent sample 't' test of the Severity Level of users (Moderate and Substantial) with respect to General Self-efficacy (N=130)*

Variables	Severity Level	't' value	df	Level of significance
General Self-efficacy	Moderate Substantial	3.04	128	.003

**p<.01

It can be noticed in result table 5 that the severity level has a significant difference on the General Self-efficacy with the probability of .003***. The result particularly indicates that individuals having a moderate level of addiction (Mean = 24.66) were the high levels of Self-efficacy compared to substantial users (Mean= 21.68) respectively. The result can be generalized as individuals having higher level of general self-efficacy are in own control while taking substances compared to lower level of self-efficacy and they consume heroin at a moderate level. On the other hand, those having a lower level of general self-efficacy are uncontrollable and consume heroin substantially.

DISCUSSION

The study aimed to explore the effect of general self-efficacy on the level of addiction among heroin consumers, to investigate whether marital status affects the level of addiction among heroin consumers, to find out whether the duration of use as a variable impacts level of addiction among heroin consumers, and at last to identify whether severity level of addiction affects general self-efficacy among addicts with heroin consumers.

From the results, it was reasonable to conclude that, the main effect of self-efficacy as a variable was found statistically significant (p .02) on heroin users which was supported by the gathered literature reviews (high=5.27, low=5.80) respectively. On the other hand, so far as the effect of marital status on the level of addiction was concerned, a significant difference found between married and unmarried heroin consumers (p .000) and this indicated that married heroin users were consuming lesser amount than their counterparts (married mean=4.73, unmarried mean=6.35).

Long-term research on the number of uses of heroin during outpatient cognitive-behavioural treatment revealed that a high level of self-efficacy in patients who had already a high percentage change in using heroin as a drug before treatment was associated with less consumption of heroin during treatment. In contrast, a low percentage of change in taking heroin before treatment was related to more use of heroin during treatment despite the patient's high self-efficacy, supporting the maintaining change hypothesis of self-efficacy (Witkiewitz and Marlatt). If the level of Self-efficacy is highly formed in an individual in the recovery process, as an outcome there is a greater possibility of the relapsed drug addicts would maintain a sobriety life without consuming heroin again (Bandura, 1986; Corsini, 1994; Gossop, 1997).

Similarly, married individuals have more liabilities for their families, and as such, were more eager to quit heroin use. It is because married individuals most of the time keep away themselves from the tasks which are diminishing in nature, specifically those that create accusation of the people associated. In reverse, so far as the unmarried individuals were concerned, they have less responsibility concerning family concerns (i.e., catering to the happiness of wife and children as well). They were almost free to socialize with little or no caution (i.e., joining clubs, starts smoking and drinking, rash driving, snatching and night activities, etc.), and as such, they are more prone to initiate, maintain, and sustain misuse of heroin. Expressly, the causes are individuals during their unmarried period also have strong peer group involvement (that offers social support as well as substance use), they have reduced need to quit the abusive behaviour. Consequently, they responded very poorly to the process of management (Busari, 2013; Grail et. al., 2007). Thus, the hypothesis 1 of the study is

accepted. Statistically duration of consumption of heroin as a drug has no impact on the level of addiction among the adolescents and young adults and accordingly hypothesis 3 of the study is not supported with the findings of the result. Hence, the hypothesis is not accepted.

Despite, the Severity level of addiction as a variable found a significant effect on the level of General Self-efficacy (p .003). It revealed that those patients having a moderate level of addiction considered a high level of General Self-efficacy compared to Substantial level of addiction (Moderate Level Mean= 24.66, Substantial Level Mean= 21.68) and vice-versa as well. Thus, the 3rd hypothesis of the study also accepted. It clearly revealed how self-efficacy play a key role in helping patients to maintain a sobriety life. This could be generalized as individuals having higher level of general self-efficacy are in own control while taking substances compared to lower level of self-efficacy and they usually consume heroin at a moderate level. On the other hand, those having a lower level of general self-efficacy are uncontrollable and consume heroin substantially. Individuals with higher level of general self-efficacy are more likely to make their own efforts in order to complete a task and also persist longer in those efforts. So, they not at all get enough free time and always actively engaged in their respective works. On the other hand, a negative effect of low self-efficacy can lead to a state of learned helplessness. (Seligman, 1975). When an individual failed in each trial while achieving something that leads to experience stressful events and depression as well. After some trials even if sufficient resources are available, the individual never try further. So, feeling of depression leads to low level of self-efficacy and negative irrational beliefs for which consuming heroin initiates in order to avoid those negative states. Apart from that, as, the patients would come back their families after completion of the treatment, it is the sole responsibility of the family members to accept them unconditionally and must support during the entire recovery process without any derogatory remarks and let them feel happy by involving in the household activities, assigning some responsibilities for any specific purposes.

Implications

While managing heroin addiction, both Marriage and General Self-efficacy, including Severity level of addiction signify tremendous role. Different Drug treatment centres present in Odisha should provide more importance on how the patients level of Self-efficacy would increase and how they would be very much confident by internalising positive statements and unconditional positive regard throughout the process of recovery. However, different psychological interventions by the trained mental health professionals and counsellors must be provided in the centres. Following up sessions in a regular interval must be encouraged to keep in touch with the patients. The client's right to love, respect, and accept his self must be taken care of. Patients must be encouraged to attend Narcotic / Alcoholics Anonymous programs regularly to maintain a drug-free and healthy lifestyle; as a result, they can also come back to the mainstream.

Limitations and Future suggestions

The study remained few limitations. (i) This study has the limitation of taking a small sample size. (ii) Though it is quantitative research, the chance of the effect of social desirability and fixed response set is always there.

Considering all the above limitations, some suggestions may be given for future research on the problems like (i) to get a more holistic picture regarding one's level of addiction, other types of substances like Alcohol, Cannabis (Ganja), Cough Syrup, Pentazocine, Injective Drug users, Sedatives, Inhalants should be included. (ii) Random sampling could be used. To get a holistic picture of the effects for the variables qualitative analysis could also be done.

CONCLUSION

The study findings suggests that both General Self-efficacy and Marital status along with Addiction severity has a positive impact on the treatment of heroin drug use. The standard of Marital relationships is especially crucial for predicting heroin use. In general, greater emphasis must be given on increasing the level of Self-efficacy using different types of therapies, engaging them in different activities, constantly motivating the patients for attending Narcotics and Alcoholics Anonymous meetings, etc., as a result, they could able to maintain recovery and healthy lifestyle in rest of their lifespan.

FINANCIAL DISCLOSER

No financial discloser.

CONFLICT OF INTEREST

The authors declare there is no potential conflicts of interest.

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Original Research Article

Cognitive Behavior Therapy on Spouses' Anxiety and Quality of Life in Inpatients with Substance Use Disorders

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ABSTRACT

Background: Substance use disorders have been identified as one of today's most important social, psychological, and health-related challenges. It has not only affected the dependent individual's health but also had familial and social consequences. Given the intimacy of the relationship, spouses experience the greatest impact. Objective: The aims of the study are to evaluate the benefits of cognitive-behavioral therapy for spouses' anxiety and quality of life. Methods: The quasi-experimental design included pre- and post-tests, as well as a three-month follow-up during which all participants completed the Depression, Anxiety, and Stress Scale-21 (DASS-21) and World Health Organization Quality of Life-BREF (WHOQOL-BREF) questionnaires. The sixty (60) wives of patients' husbands with substance use disorders were chosen through a purposive sampling process, and then they were randomly assigned to experimental (n = 30) and control (n = 30) groups. The experimental group participated in eight 45- to 60-minute individual cognitive behavior therapy sessions per week. Results: The results showed that there were significant differences between the pretest, posttest, and follow-up scores of the experimental group, so cognitive behavior intervention could significantly reduce the anxiety and enhance the quality of life of the addict's wife. Conclusion: These findings have significant clinical implications for enhancing the mental health of these women.

Keywords: *Anxiety, Spouse Caregivers, Cognitive Behavior Therapy, Substance use Disorders, Quality of Life.*

INTRODUCTION

Substance use disorders have been identified as one of today's most important social, psychological, and health-related challenges. According to the World Drug Report 2022, 284 million people between the ages of 15 and 64 took drugs globally in 2020, a 26% rise from ten years prior. Many people in India use psychoactive substances. Adult men bear the brunt of substance use disorders. There are 72,642 drug dependents in our country, India (Ambekar et al., 2019).

Substance dependencehas a wide range of effects on the family, including anxiety, financial difficulty, stigma, psychiatric problem, and the responsibility of providing care. Given that they aid and take part in the healing process in India, it is crucial to understand the mental health of family members (Sarkar et al., 2016).Family members and society as a whole suffer greatly from substance misuse and dependence. Given the intimacy of the relationship, spouses experience the greatest impact. Wives may have negative effects on their quality of life becauseof their husbands'substance use disorders. According to the World Health Organization's (2019) International Statistical Classification of Diseases and Related Health Problems (11th ed.; ICD-11)definitions of substance use disorders (harmful substance use and substance dependence) and substance-induced disorders, such as substance intoxication, substance withdrawal,substance-induced mental disorders, sexual dysfunctions, and sleep-wake disorders, these are among the conditions brought on by substance use.According to the World Health Organization's (2017) report on depression and other common mental disorders, anxiety disorders affected 3.6% of the world's population in 2015, or more than 246 million years of life with disability (YLD). For those affected and for society at large, anxiety disorders pose severe personal, financial, and care challenges. A recent study found that 88% of Indians had anxiety disorders of some description (Kanwal, 2023). Anxiety is a complex cognitive, affective, physiological, and behavioural response mechanism (also known as threat mode) that is brought on by impending situations or events that are perceived as being extremely unpleasantbecause they are seen as unpredictable, uncontrollable, and potentially dangerous to an individual's vital interests (Clark & Beck, 2010). Anxiety is quite common among drug users' spouses, according to the literature (Noori et al., 2015).

The spouses of alcoholic men were also shown to ha ve higher incidences of anxiety and low marital satisfaction (Rao & Pandit, 2013; Begam et al., 2015; Mammen et al., 2015; Shah et al., 2017; Dandu et al., 2017; Gandhi et al., 2017). Women are particularly vulnerable in stressful

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environments if they have an unstable family, worry about their partners leaving, or try to avoid them because of their negative experiences with their husbands' substance use disorders (Maghsoudi et al., 2019).Their psychological health was impacted by living with a partner who was addicted to substances, notably their levels of stress, anxiety, and sadness (O'lafsdo'ttir et al., 2018). The World Health Organization defines quality of life as a person's sense of their place in life in relation to their objectives, aspirations, standards, and concerns, as well as the values and culture of their environment (WHO, 1994).A recent study by Gaikwad et al. (2018) has shown that there is a negative association between the wives' quality of life in each of the four domains (physical health, psychological health, social relationships, and environment) and the degree and duration of their husbands' alcohol dependence. The quality of life of spouses whose husbands have substance use disorders benefits from mindfulness training (Gharibboluk & Hosseizadeh, 2018).

Beck (1960) developed a classic form of psychotherapy called "cognitive therapy". Cognitive therapy (CT) is an active, short-term, present-oriented, structured approach used to treat depression and other mental disorders, such as anxiety. The goal of cognitive therapy is to assist clients in recalibrating overstated danger assessments and raising their tolerance for risk and unpredictability in relation to their anxiety issues (Beck & Clark, 2010). Faghih and Pahlavanzadeh et al. (2018) revealed that cognitive behaviour therapy helps reduce the burden on drug dependence caregivers. For inpatients with substance use disorders, informal care is primarily the responsibility of the spouse. The caregiver's quality of life will be lowered if their capacity to participate in social, recreational and employment activities is restricted by their caring responsibilities. The act of giving care could have an adverse effect on the woman's health. The spouse will get more anxious and stressed as the person with the substance use problem relapses. Women who provide care for partners with substance use disorders may also notice changes in their marital happiness, a self-reported loss in physical health, and worsening family dynamics.

Limitations and gaps in the intervention studies of female spouses' patients who are drug addicts in the northeast Indian state of Manipur Finding out how successful cognitive behaviour therapy is at reducing anxiety and improving quality of life for the most vulnerable women is of interest and significant scientific significance in light of the aforementioned factors. This study will contribute to the corpus of knowledge regarding the mental health of spouse caregivers who are coping with substance use disorders and aid in our comprehension of the therapeutic advantages of psychotherapy.

METHOD

Aim and Objective of the study

The current study compared the efficacy of cognitive behavior therapy to a control group in terms of reducing anxiety and improving quality of life in spouses of men with substance use disorders.

Hypotheses of the study

H1: The cognitive behavior intervention will reduce anxiety in the experimental group.

H2: The cognitive behavioral intervention will enhance the quality of life in the experimental group.

Participants

The sample of the study consisted ofa total of 60 (sixty) spouse caregivers of husbands' substance use disorders who fulfilled the inclusion and exclusion criteria. A purposive sampling method was used for the selection of the sample.

Inclusion criteria required participants to be the wives of inpatients with substance use disorders and be over 19 years of age. Spouses who suffer from chronic disease or mental illness or who are also co-dependent on substances were excluded.

Research Design

This study used a pretest- posttest design with a control group in a quasi-experimental setting. From January to December 2022, the study was carried out at the Regional Institute of Medical Sciences (RIMS), Department of Psychiatry, Lamphelpat, Imphal West, Manipur.

Procedure

The 11th institutional ethical committee of Sikkim University granted ethical approval on December 31, 2021 (No. SU/REG/F-1/03/2019/Vol-II/891). Consent form: written informed consent of the participants. Confidentiality: protecting the privacy and secrecy of the data of participants.

The entire research was conducted in **three** distinct phases**:**

Phase I: Screening/Pre-intervention Assessment

During this phase, individuals interested in participating provided written informed consent and completed eligibility screening questionnaires,

including the basic demographic information and the questionnaires, namely the DASS-21 and WHOQOL-BREF. A sample of 60 female spouse caregivers who scored above the clinical cut-off on the anxiety score (DASS-21) but had a low quality of life score (WHOQOL-BREF) was included and randomly assigned to the experimental (n = 30) and control (n = 30) groups, respectively.

Phase II: Cognitive Behavior Therapy (CBT) intervention for the experimental group

For each participant, the CBT intervention sessions lasted between 45 and 60 minutes, including the mindful breathing exercise session, which lasted five minutes.

Phase III: Post-intervention Phase: Post-intervention assessment participants completed self-reported outcome measurespost-treatment, as well as at 3-month follow-up, to determine the treatment effectiveness across the three-point time periods on anxiety and quality of life.

Tools Used

1. **Socio-demographic Datasheet:** It consists of the personal records of the spouse caregivers, such as age, sex, education, residential address, religion, social group, socio-economic status, the family's income and occupation, etc.

2. **Depression, Anxiety, and Stress Scale—21 (DASS-21):** The Depression, Anxiety, and Stress Scale is a short version of the DASS-42, which was developed by Lovibond and Lovibond (1995). Three self-report scales are included in the set, and they are used to assess the emotional states of stress, anxiety, and depression. Each index consists of seven items, for a total of 21 items. A 4-point Likert scale was used to evaluate the degree to which they had experienced each state over the past week, with a range of 0 to 3 (0 = "did not apply to me at all" to 3 = "apply to me very much, or most of the time"). Scores for depression, anxiety, and stress were multiplied by two to calculate the final score. Total scores for each indicator ranged from 0 to 42, with higher scores indicating a higher level of psychological distress. The anxiety levels were defined as normal: 0–7, mild: 8–9, moderate: 10–14, severe: 15-19, and extremely severe: 20+. The DASS-21demonstrated high internal consistency and test-retest reliability scores of 0.89 and 0.96, respectively, as well as criterion validity and construct validity.

3. **The World Health Organization Quality of Life-BREF (WHOQOL-BREF):** The World Health Organization Quality of Life- BREF was developed by the World Health Organisation group in 1995. It produces a quality of life profile and contains a total of26 items. It is a self-reported questionnaire that assesses four domains of quality of life (QOL): physical health, psychological health, social relationships, and environment. Additionally, two items are looked at independently: question 1 measures overall QOL, and question 2 measures overall health. Together, they measure an individual's perception of their overall health and quality of life. The four domain scores are scaled in a positive direction (i.e., higher scores denote a higherquality of life). WHOQOL-BREF domain scores demonstrated good content validity, discriminant validity, and internal consistency for domains: 0.80 for physical health, 0.76 for psychological, 0.66 for social relationships, and 0.83 for environment. The test-retest reliability for domains was 0.66 for physical health, 0.72 for psychological health, 0.76 for social relationships, and 0.87 for environment.

Outline of Intervention Program: Beck's Model Cognitive Behavior Therapy (CBT)

Session I: providing explanations of substance use disorders and the impact of them on family members; providing psychoeducation on anxiety; practicing mindful-breathing exercises with their potential benefits on quality of life; discussing the role of cognitive behavior therapy in the treatment of anxiety disorders; and developing a good working alliance and clientfeedback.

Session II: practicingmindful-breathing exercise, we collaboratively examine the client's meaning system and assist the client in recognizing the salient connections between thinking, feeling, and behaving/motivation/physiology in relation to their challenges, typically using real-life examples. Client's feedback.

Session III: Continue mindful breathing exercises; examine or explore the evidence for their beliefs and assumptions based on their behaviors. Client's feedback.

Session IV: mindful-breathing exercise: help the client recognize perceptual attention that leads to impractical interpretation. Impart the cognitive model in a way that infers that the client is thinking inadequately rather than "irrationally." Client's feedback.

Session V: Mindful-breathing exercise, guiding discovery: to help the client learn facts that will help them understand things better (and to help the client adopt this strategy for themselves as the basis for exploring their own beliefs). Client's feedback.

Session VI: Continue mindful-breathing exercise, identification, and recording of central cognitions (involuntary thoughts or images). Assist the client in obtaining alternative explanations for issues, with the goal of assisting the client rethink their problems. Client's feedback.

Session VII: Mindful-breathing exercise, identification, and modification of dysfunctional assumptions ("intermediate beliefs"). Behavioral activation: an activity schedule to help clients manage behavioral symptoms. Client's feedback.

Session VIII: Mindful-breathing exercise, the client learnedhow to become their therapist and terminate therapy as planned. Client's feedback.

STATISTICAL ANALYSES

The data was analyzed and interpreted using multivariate analysis of variance (MANOVA) with the statistical package for social science (SPSS) version 26. The significance level in statistical tests was 0.05.

RESULTS

Table 1 Summarizes participant demographics; the descriptive information of the variables is provided in Table 2. The results of the multivariate analysis of variance are shown in Tables 3 and 4.

Table 1: Frequency distribution of participants' demographic characteristics

Variables		*Treatment*		Total %
		Intervention	*Control*	
Age in years	young age (19 to 45)	28(46.67%)	25(41.67%)	53(88.34%)
	old adult (45 & above)	2(3.33%)	5(8.33%)	7(11.66%)
Total		30(50%)	30(50%)	60(100%)
Locality	urban	6(10%)	5(8.33%)	11(18.33%)
	rural	24(40%)	25(41.67%)	49(81.67%)
Total		30(50%)	30(50%)	60(100%)

As shown in Table 1, the result of the current study shows that 46.67% of the experiment groups' members were young adults, whereas 3.33% were older adults. Young adults made up 41.67% of the population, and older adults made up 8.33% of the control group. Furthermore, these results showed that 10% of the spouses of substance use husbands came from urban areas, 40% from rural areas, and 8.33% and 41.67%, respectively, for the experimental group and control groups.

Table 2: Descriptive informative (mean and standard deviation)

Variables	Pre-test	Post-test	Follow-up
	Groups	Mean and Standard Deviation (M & SD)	Mean and Standard Deviation (M & SD)	Mean and Standard Deviation (M & SD)
Physical health D1	Experimental	43.53±9.00	67.50±7.49	67.50±7.49
	Control	44.13 ±10.58	46.47±10.27	46.47 ± 10.278
Psychological D2	Experimental	39.17±8.623	60.23 ±9.198	60.23 ±9.198
	Control	43.03± 9.593	43.70±9.724	43.70 ±9.724
Social relationships D3	Experimental	35.77±9.905	52.90±7.112	52.90 ±7.112
	Control	34.53±9.043	39.80±9.859	39.80 ±9.859
Environment D4	Experimental	38.60±9.324	53.60±6.811	53.60±6.811
	Control	38.37±9.427	41.07±10.923	41.07±10.923
Anxiety	Experimental	14.2000±4.70803	2.6000±1.49943	2.6000±1.49943
	Control	14.8667±3.84827	12.6667±3.83571	12.6000±3.71947

QOL= quality of life; physicalhealthD1= physical health domain 1; psychological D2= psychological domain 2; social relationships D3= social relationships domain 3; environment D4= environment domain4.

As observed in Table 2, the mean scores in the control group showed little difference, but the difference is visible in the experimental group.

Table 3: Multivariate Tests

Test	*Value*	*F*	*Hypothesis df*	*Error df*	*Sig.*
Pillai's Trace	.727	28.731	5.00	54.00	<.05
Wilks' Lambda	.273	28.731	5.00	54.00	<.05
Hotelling's Trace	2.66	28.731	5.00	54.00	<.05
Roy's Largest Root	2.66	28.731	5.00	54.00	<.05

Table 3 shows that the observed F for Pillai's Trace, Wilks' Lambda, Hoteling's Trace, and Roy's Largest Root is 28.73 at a significance level of.05. This means that there is a significant difference, at least in one of the comparable variables, between the two groups.

Table 4: Tests of Between-Subjects Effects

Dependent variable	*Sum of squares*	*df*	*Mean square*	*F*	*Sig.*	*Eta*
Physical health	8597.42	1	8597.42	40.24	<.05	.410
Psychological	4263.20	1	4263.20	18.49	<.05	.242
Social relationships	3762.93	1	3762.939	18.25	<.05	.239
Environment	3200.45	1	3200.45	13.76	<.05	.192
Anxiety	2149.35	1	2149.35	76.37	<.05	.568

The results in Table 4 showed that there is a significant difference between the groups in terms of all four domains of quality of life and anxiety. This means that cognitive behavior intervention enhanced the physical health domain of quality of life (F = 40.24, p.05), psychological (F = 18.49, p.05), social relationships (F = 18.49, p.05), environment (F = 13.76, p.05), as well as reduced anxiety levels (F = 76.37, p.05) in the experimental group compared to the control group. Given the size of the effect, it can be stated that intervention had the greatest impact on anxiety.

DISCUSSION

Spouse caregiver: When it comes to substance use disorders, mental health is essential for both the patients and the smooth functioning of the family. Unnoticed by nature, a husband's substance dependence has detrimental effects that result in a host of psychological, social, and environmental difficulties. The present study examines the effect of cognitive behavior therapy on the anxiety and quality of life of substance use disorder spouse caregivers. According to the findings, at the baseline intervention, there was no significant difference between the intervention and control groups for anxiety or the four quality of life domains (dom1, dom2, dom3, and dom4) mean scores. However, according to the study's findings and the mean scores at the post-test and follow-up intervention, there were significant differences between the intervention and control groups for anxiety and the four domains of quality of life (dom1, dom2, dom3, and dom4) mean scores. These findings were consistent with studies by Borji et al. (2017), which examined family caregivers of prostate cancer patients; in addition, the results of another study by Faghih and Pahlavanzadeh (2019), which examined family caregivers of drug users, The three time points in the intervention group differed significantly from one another. Nevertheless, there was no discernible decrease in the control group's mean care burden score. Caregivers of drug addicts may have less stress as a result of CBT. As in previous studies by Gharibboluk and Hosseinzadeh (2018), which looked at the psychological wellbeing and marital satisfaction of wives of dependent adults, The outcomes demonstrated that mindfulness training had a positive impact on the psychological health and marital quality of women who had an addicted husband. Also, a three-month follow-up showed that the intervention was successful. Similarly, according to study findings by Secker & Brown (2005), which looked at the psychological discomfort, sadness, and burden of caring for a group of people with Parkinson's disease, the experimental group's mean score of quality of life after the intervention was significantly higher than that of the control group.

CONCLUSION

These findings provide early evidence in favor of a c ognitive behavioral therapy (CBT) method for impro ving anxiety and quality of life in spouse caregivers of those with substance use disorders. It helps the spouses recognize the salient connections between thinking, feeling, and behaving in relation to their challenges and also learn skills like mindful breathing exercises and living in the moment.

Limitations and Implications

The study's main weakness was that the sample was exclusively drawn from female spouses who served as the primary caregivers for male inpatients who sought treatment at a tertiary care hospital and were therefore perhaps not typical of the general community. In order to evaluate the findings' generalizability to a wider range of spouse caregivers, determine the longer-term effects on outcomes in caregivers and SUD patients, and determine the most efficient way to administer CBT, more extensive study is required in the future. The findings make spouse caregivers of inpatients with substance use disorders more aware of the effects of the cognitive behavior intervention on their mental health. This study laid the foundation for the subsequent investigations, spurring other researchers to continue their explorations into the partners of substance use disorders. This study also highlights the need for additional research employing a variety of psychotherapies in diverse contexts that are culturally acceptable.

Conflict of interest

The authors declared no conflict of interest.

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Impulsivity, Trait Mindfulness and Intolerance to Uncertainty as Factors in Cannabis Abuse: A Study on Emerging Adults

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ABSTRACT

The domains of impulsivity that are negative urgency, positive urgency, sensation seeking, lack of premeditation, lack of perseverance, trait mindfulness and Intolerance of Uncertainty have gathered attention due to their association with cannabis abuse. The aim of the present study was to explore relationship between severity of cannabis abuse in level of negative urgency, positive urgency, sensation seeking, lack of premeditation, lack of perseverance, trait mindfulness and Intolerance of Uncertainty among participants with cannabis abuse, to explore the differences in the variables between those consuming cannabis and healthy controls and to explore the gender difference in all the studied variablesamong participants with cannabis abuse. Cross sectional data were collected from different universities in Rajasthan (N=72). A significant positive correlation was found between severity of cannabis consumption and the studied variables negative urgency, lack of premeditation, sensation seeking, lack of perseverance, positive urgency and intolerance to uncertainty. A significant difference was found in level of negative urgency, lack of premeditation, sensation seeking between, lack of perseverance, trait mindfulness and level of intolerance to uncertainty between cannabis abuse group and healthy controls. No significant gender difference was found in the studied variablesamong participants with cannabis abuse. The findings suggest that multiple impulsivity facets, trait mindfulness and intolerance to uncertainty have a significant positive correlation with severity of cannabis abuse and that there is a significant difference in different impulsivity domains, trait mindfulness and intolerance to uncertainty among cannabis abusers and healthy controls.

Key Words: *Negative urgency, Positive urgency, Sensation seeking, Lack of premeditation, Lack of perseverance, Trait mindfulness, Intolerance of Uncertainty*

BACKGROUND

Emerging adulthood is defined as the time period from the end of adolescence to young adulthood which comes with responsibilities of a stable job, work, marriage, and parenthood (Munsey, C. 2006; Arnett, 2000). Experimenting with alcohol and illicit drugs during emerging adulthood is very common; individuals are keen to try different types of drugs like cocaine, alcohol, cannabis, opium, and more leading to a major problem of substance abuse and addiction in young adults (Johnston et al., 2004). According to the World Health Organization (WHO), substance abuse is persistent drug use inconsistent with or unrelated to acceptable medical practice. Due to drug addiction, an uncountable number of people are leading very miserable life in every aspect of their lives. India too is struggling in this vicious cycle of drug abuse, and the number of drug addicts is increasing day by day (Nadeem et al., 2009).One of such drugs is Marijuana. Marijuana is also called pot, weed, ganja, herb, grass, bud, Mary Jane and it is a greenish-gray mixture of the dried flowers and leaves of Cannabis sativa. Some people smoke marijuana in joints;bongs, in pipes, water pipes, in blunts which is marijuana rolled in cigars.(NIDA 2019).

One of the most widely studied and researched, but poorly agreed, personality constructs studied in relation to drug use is Impulsivity. Impulsivity is broadly defined as traits and behaviors that predispose individuals to rash or ill-advised actions (DSM-IV; American Psychiatric Association, 1994). Impulsivity-related traits have more robust relationships with negative marijuana consequences than marijuana use, suggesting impulsivity-related traits are important in differentiating adolescents most likely to experience negative consequences from marijuana use (Vander Veen et al., 2016). A multidimensional measure of impulsivity (the UPPS scale) which is divided into five components Negative urgency, Lack of Premeditation, Lack of Perseverance, Sensation Seeking, and Positive Urgency helps to explain impulsivity through its subdivisions. (Kaiser et al., 2012).

Negative urgency holds an important place in the literature of personality. The term negative urgency has been explained as an individual's tendency to engage in impulsive behavior when they experience feelings of distress; it has been linked with several uncertain problematic behaviors (Depue et al., 1999; Evenden et al., 1999). A growing body of evidence suggests that negative urgency is one of the strongest predictors of various maladaptive behaviors and psychopathologies, including alcohol use and addiction (Hershberger et al., 2020) tobacco use and dependence (Spillane et al.,

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2010; Lee et al., 2015) and problematic cannabis use (Wolitzky et al., 2016; Littlefield et al., 2015).

Positive urgency is explained as a tendency to lose control under positive emotions (Cyders & Smith, 2007). There is empirical evidence that positive mood is often a precursor to many kinds of risky behavior, (Cooper, Agocha, and Sheldon 2000) showed that motivation for drinking was associated with increased involvement in drinking, alcohol-related problems, and risky behavior among college students. It has been found that induced positive mood states increase the risk of impulsive behavior (Yuen & Lee, 2003; Del Boca et al., 2004)

The term sensation seeking is defined as a predisposition to try new and stimulating activities. (Whiteside et al., 2003). Individuals who are addicted to substances also have been seen to have high sensation seeking (Kosten et al., 1994; Bickel et al., 1999). Low level of premeditation is related to high sensation seeking behaviouron problematic drug use (McCabe et al., 2015). Investigations of sensation-seeking in drug abusers alone have shown that the number of drugs used correlates positively with sensation-seeking and that poly drug user has significantly higher scores than users of depressants only. It has been found that high-sensation-seeking cocaine abusers exhibited more severe symptoms of substance abuse, have a more severe psychosocial impairment and are more likely to be poly substance abusers, with an earlier age of onset for substance use and abuse. (Lejuez et al., 2002). Few studies have systematically examined the relationship between substance abuse and sensation seeking in subjects with comorbid neurotic disorders such as anxiety or depression (Ball et al., 1994).

Lack of perseverance is an individual's inability to maintain the level of effort needed during a demanding task. It refers to an individual's inability to remain focused on a task that may be boring or difficult (e.g., "I tend to give up easily") (Whiteside et al., 2003). Individuals high in lack of perseverance show difficulty in completing tasks and working under conditions that need resistance (Whiteside et al., 2003). Significant relationship between positive urgency and lack of perseverance was found, indicating that individuals at low levels of Positive Urgency and Lack of Perseverance drink less on co-use when compared to only alcohol days. Marijuana use has been significantly related to all impulsivity-related traits except lack of perseverance (VanderVeen et al., 2016; Romer et al., 2018).

Lack of premeditation is a tendency to make decisions without considering their consequences; it is consistent with several previous efforts to describe impulsivity. It is explained as the inability to think and reflect on the consequences of a situation or act before experiencing that situation (Whiteside et al., 2003; Madden et al., 1997). Lack of premeditation was significantly important in predicting alcohol-related problems in one study of college students, yet the association was not found in another study of college students. Negative consequences of marijuana use are significantly related to sensation seeking, lack of planning, and positive urgency. Except for lack of perseverance marijuana or cannabis use is significantly related to all impulsivity-related traits (VanderVeen et al., 2016). Cannabis users show a lower degree of certainty before deciding on a task (Solowij et al., 2012).

Another variable that is mindfulness has grown to be a subject of curiosity in understanding mental health of the youth. The term mindfulness has been described as the intentional attention toward experience as it arises in the present moment and is characterized by a non-judgmental, open receptivity toward all phenomena (Bishop et al., 2004). Relation between trait mindfulness and early maladaptive schemas among adult men seeking residential substance abuse treatment demonstrated strong negative associations between trait mindfulness and early maladaptive schemas (Shorey et al., 2015). Trait mindfulness is differentially related to distinct substance use behaviors (Black et al., 2015). In particular, trait mindfulness has been most consistently related to alcohol use behaviors (Murphy et al., 2012), but the relationship has been less consistent for tobacco use (Adams et al., 2012) and marijuana use behaviors (Karyadi et al., 2014).

Intolerance of uncertainty (IU) has been defined as a dispositional characteristic that is a result of a set of negative views and beliefs about uncertainty leading to reacting negatively on the cognitive, emotional, and behavioral levels to uncertain events and situations (Buhr & Dugas, 2009). Literature suggests that IU plays an important role in the onset and course of GAD. Intolerance to uncertainty is a personality trait characterized by a tendency to perceive uncertain situations negatively and make attempts to avoid those (Gorka et al., 2016). This perception believes that uncertainty is unfair, has favorable consequences, and involves an underlying fear of the unknown (Carleton e al., 2012). Intolerance of uncertainty is associated with drinking to manage or avoid negative emotions, and interventions aimed at reducing intolerance of uncertainty may help reduce problematic alcohol consumption among college students (Kraemer., et al 2015). It is also importance to consider intolerance to uncertainty in treatment efforts for individuals experiencing cannabis-related impairment (Jeffrieet al., 2015).

METHODS

Aim and Objectives:

- To examine the relationship between the severity of cannabis abuse and the level of negative urgency, lack of premeditation, sensation seeking, lack of perseverance, and positive urgency along with trait mindfulness and Intolerance to uncertainty in participants with cannabis abuse.
- To explore the difference in the level of negative urgency between participants with cannabis abuse and healthy controls.
- To explore the difference in the level of lack of premeditation between participants with cannabis abuse and healthy controls
- To explore the difference in the level of sensation seeking between participants with cannabis abuse and healthy controls
- To explore the difference in the level of lack of perseverance between participants with cannabis abuse and healthy controls
- To explore the difference in the level of positive urgency between participants with cannabis abuse and healthy controls
- To explore the difference in the level of trait mindfulness between participants with cannabis abuse and healthy controls
- To explore the difference in the level of intolerance to uncertainty between participants with cannabis abuse and healthy controls
- To examine the gender difference in the level of negative urgency, lack of premeditation, sensation seeking, lack of perseverance, positive urgency, trait mindfulness, and Intolerance of Uncertainty among participants with cannabis abuse.

SAMPLE

To assess impulsivity which is defined through different components (negative urgency, lack of premeditation, sensation seeking, lack of perseverance, positive urgency) trait mindfulness, intolerance to uncertainty as factors in cannabis dependence among emerging adults with cannabis dependence and comparing them to healthy controls, snowball sampling technique was used for the study. The inclusion criteria consisted of both male and female participants belonging to the age group between 18-29 years. Participants meeting the criteria of cannabis abuse on a standardized measure from at least 3 months were selected along with healthy participants, which was determined through screening assessments and the Principal Investigator's judgment. Participants with educated up to at least 12th standard with working knowledge of the English language and without any current or past history of severe mental and physical disorder were selected for the study. Other age groups were excluded from the study and the participants not meeting the criteria for dependence on any other substance, below the 12th standard of education level and those with current or past history of treatment for Cannabis Dependence or any other major mental and physical health disorder were excluded from the study.

TOOLS:

Sociodemographic Form (developed by the researcher)

ASSIST (The Alcohol, Smoking, and Substance Involvement Screening Test) World Health Organization (WHO, 2010).

GHQ 12 ITEM (The General Health Questionnaire) (Goldberg et al., 1972)

S-UPPS-P Impulsive Behavior Scale: The Short UPPS scale (Urgency-Premeditation-Perseverance-Sensation Seeking-Positive urgency) (Whiteside et al., 2001)

The Mindful Attention Awareness Scale (Brown et al., 2003)

Intolerance of Uncertainty Scale (IUS) (Freeston et al., 1994)

PROCEDURE OF THE STUDY:

The study took place in Rajasthan. The sample of emerging adults consuming cannabis and healthy controls was drawn from different Universities, de-addiction centers, and online platforms for the research**.** In phase, I in the initial period ethical approval for conducting this research was obtained from the ethics committee of Mahatma Gandhi Medical College and Hospital. Informed consent was obtained from the Department of clinical psychology and the authorities of Mahatma Gandhi University to carry out the research. Participants were recruited for the study based on the inclusion and exclusion criteria. Informed consent and socio-demographic details were taken from all the participants. Initially, the total sample collected was 55 early adults consuming cannabis for the past 3 months, but 19 of them were not able to meet the criteria of the study and hence were screened out. A sample of 50 control groups was selected but 23 of them did not meet the criteria of the study and hence were screened out. Thus a total of 72 participants were included in the final stage of the study. Among which 36 were individuals smoking cannabis and 36 were healthy controls.

In phase II the participants were administered the UPPS-P Impulsive Behavior Scale, (MAAS) The Mindful Attention Awareness Scale, and the Intolerance of Uncertainty Scale (IUS). The data was collected from the state of Rajasthan through different

Universities and online platforms for the research. Legal and ethical considerations were taken into account while doing data collection.

DATA ANALYSIS

Data was analyzed using IBM SPSS 28. Both descriptive and inferential statistics was used such as Percentage, Frequency, Standard Deviation, Mean, Independent sample t-test, and Pearson r correlation.

RESULTS

Table 1: Pearson correlation of severity of substance abuse with all the variables

VARIABLES	CAS	NU	LPM	SS	LPE	PU	M	ITOU
CAS	1	.464**	.377*	.419*	.646**	.541**	.024	.471**

Note. CAS(Cannabis abuse severity), NU (Negative urgency),LPM (Lack of premeditation),SS(sensationseeking),LPE(Lackofperseveration),PU(positiveurgency),M(mindfullness),ITU(intolerance to uncertainty)
*$p < .05$. **$p < .01$

Table 2: t-Test results comparing cannabis smokers and non-cannabis smokers on the study variables

	Cannabis smokers		Non Cannabis smokers			
Variables	M	SD	M	SD	T(70)	p
NU	11.33	2.673	7.44	1.949	7.055	.01**
LPM	10.47	2.249	7.53	2.490	5.266	.01**
SS	10.78	2.416	8.33	2.746	4.010	.01**
LPE	8.17	2.261	7.11	1.545	2.312	.024*
PU	10.75	3.316	10.03	3.256	.933	.354
M	3.4241	1.02751	4.7222	.79435	-5.997	.01**
ITU	86.33	16.105	58.33	20.483	6.448	.01**

Note. NU (Negative urgency), LPM (Lack of premeditation),SS (sensation seeking),LPE(Lack of perseveration),PU(positive urgency),M(mindfulness),ITU(intolerance to uncertainty), *M(mean), SD(standard deviation)*
*$p < .05$ **$p < .01$

Table 3: t test results comparing male and female on study variables

	Male		Female			
Variables	M	SD	M	SD	T	p
NU	11.0952	2.58660	11.6667	2.84521	-.617	.535
LPM	10.4762	2.01542	10.4667	2.61498	.012	.990
SS	10.8571	2.57460	10.6667	2.25726	.230	.819
LPE	8.1429	2.30837	8.2000	2.27408	-.074	.942
PU	10.3333	3.55434	11.3333	2.96808	-.890	-1.00000
M	3.6349	.89209	3.1289	1.15867	1.481	.50603
ITOU	85.67	16.178	87.27	16.520	-.290	-1.600

Note. NU (Negative urgency),LPM (Lack of premeditation),SS (sensation seeking),LPE(Lack of perseveration),PU(positive urgency),M(mindfulness),ITU(intolerance to uncertainty), *M(mean), SD(standard deviation)*
*$p < .05$ **$p < .01$

DISCUSSION

The first objective of the study examined the relationship between the severity of cannabis abuse and the level of negative urgency, lack of premeditation, sensation seeking, lack of perseverance, and positive urgency along with trait mindfulness and Intolerance of Uncertainty among participants with cannabis abuse. Results which can be seen from table 1 found a significant positive correlation between cannabis abuse severity and negative urgency ($r=0.464$, $p<0.01$), indicating that as the severity of cannabis consumption increases that is high risk of experiencing severe problems (health, social, financial, legal, relationship) negative urgency, explained as an individual's tendency to engage in impulsive behavior when they experience feelings of distress also increases. The current findings were supported by previous works of literature, as a study found that negative urgency emerged as the best predictor, relating to substance use and made it clear that negative urgency is related to all substance use outcomes (Alison et al., 2012).Another study found negative urgency as a unique moderator of the daily relationship between cannabis and alcohol consumption (Daro et al., 2022).

The relationship between the severity of cannabis abuse and lack of premeditation. Results which can be seen from table 1 found a significant positive correlation between cannabis abuse severity and lack of premeditation ($r=0.419$, $p<0.05$), indicating that as the severity of cannabis consumption increases that is high risk of experiencing severe problems (health, social, financial, legal, relationship) lack of premeditation, explained as an individual's tendency to make decisions without considering their consequences also increases. Through extensive research and literature, the result was supported and it was found that premeditation is a risk factor for individual differences in problematic substance use among young adults, (McCabe et al., 2015). Another similar finding found that lack of premeditation was significantly related to illicit substance use in young adulthood (Shin et al., 2013).

The significant relationship between the severity of cannabis abuse and sensation seeking was also examined. The result which can be seen in table 1 found a significant positive correlation between cannabis abuse severity and sensation seeking ($r=0.377$, $p<0.05$), indicating that as the severity of cannabis consumption increases that is high risk of experiencing severe problems (health, social, financial, legal, relationship) sensation seeking, defined as predisposition to try new and stimulating activities also increases. Previous literature supports the current findings; a study found that sensation-seeking is strongly associated with cannabis problems (Kearns et al., 2022).

The present study examined the correlation between the severity of cannabis abuse and lack of perseverance. Results can be seen in table 1 that there was a significant positive correlation between the severity of cannabis abuse and lack of perseverance ($r=0.646$, $p<0.01$), indicating that as the severity of cannabis consumption increases that is high risk of experiencing

severe problems (health, social, financial, legal, relationship) lack of perseverance, defined as individual's inability to maintain the level of effort needed during a demanding task also increases. Our findings are supported by previous literature where a huge account of researchers has found a direct relationship between the degree of cannabis abuse and lack of perseverance. A study suggests that specific impulsivity facets are prospectively associated with cannabis problems and lack of perseverance is most prominent (Kearns et al., 2022).

The present study focused to examine the relationship between the severity of cannabis abuse and positive urgency. The result which can be seen in table 1 states that a significant positive correlation was found between cannabis abuse severity and positive urgency ($r=0.541$, $p<0.01$), indicating that as the severity of cannabis consumption increases that is high risk of experiencing severe problems (health, social, financial, legal, relationship) positive urgency, defined as individual's tendency to lose control under positive emotions also increases. In support of current findings, many studies have been done on positive urgency and its relation with cannabis abuse. In a study, it was found that positive urgency was associated with the problematic use of cannabis, and the chances of cannabis addiction increased (Romer et al., 2018).

The study aims to examine the relationship between the severity of cannabis abuse and trait mindfulness. Results that can be seen from table 1 found no significant correlation between the severity of cannabis consumption and trait mindfulness($r=0.024$) which is increased focus in the present moment in a non-judgmental manner. In adjunction with the current findings, a study found that the mindfulness facet was not a significant moderator of substance use behavior (Karyadi et al., 2014). Another study found no relationship between trait mindfulness and motivation to change cannabis use (Lin et al., 2021).

The present study also examined the relationship between the severity of cannabis abuse and intolerance to uncertainty. Results that can be seen from table 1 found a significant positive correlation between cannabis abuse severity and intolerance to uncertainty ($r=0.471$, $p<0.01$), indicating that as the severity of cannabis consumption increases that is high risk of experiencing severe problems (health, social, financial, legal, relationship) intolerance to uncertainty also increases. Previous research that supported the current findings stated that adolescent cannabis users scored higher on intolerance to uncertainty (Moreno et al., 2021).

The research focus to explore the difference in the level of negative urgency, lack of premeditation, sensation seeking, lack of perseverance, and positive urgency along with trait mindfulness and intolerance of uncertainty between participants with cannabis abuse and healthy controls. The results which can be seen from table 2 suggest that there is a significant difference in level of negative urgency between cannabis abuse group and healthy controls ($t=7.055$, $p < .01$). This indicated that participants with cannabis abuse scored higher ($M=11.33$, $SD= 2.673$) on negative urgency than healthy controls ($M=7.44$, $SD=1.949$). The result is consistent with prior studies that show Neuroticism, Negative Urgency, and Distress Tolerance all demonstrated significant relations with substance use outcomes. It was also seen that negative Urgency achieves statistical significance as a predictor of all substance use outcomes (Alison et al., 2012).

The difference in the level of lack of premeditation between participants with cannabis abuse and healthy controls. Which can be seen from table 2 shows a significant difference in level of lack of premeditation between cannabis abuse group and healthy controls ($t=5.266$, $p < .01$) this indicated that participants with cannabis abuse scored higher ($M=10.47$, $SD= 2.249$) on lack of premeditation than healthy controls ($M=7.53$, $SD=2.490$). Through previous research the current findings are supported, a study found that young adults who have an impulsivity trait of lack of premeditation may engage in illicit substance use since they fail to consider adverse long-term consequences of substance use when peer and social environments provide opportunities to use illicit substances (Flora et al., 2005).

The present study also explores the difference in the level of sensation seeking between participants with cannabis abuse and those without any substance dependence. Results which can be seen from table 2 found that there is a significant difference in level of sensation seeking between cannabis abuse group and healthy controls ($t=4.010$, $p < .01$), this indicated that participants with cannabis abuse scored higher ($M=10.78$, $SD= 2.416$) on sensation seeking than healthy controls ($M=8.33$, $SD=2.746$). It is well documented in the literature that sensation seeking, a tendency to seek excitement and risk-taking increases an individual's chance to use illicit substances during young adulthood (Zuckerman et al., 1994).

The difference in the level of lack of perseverance between participants with cannabis abuse and healthy controls, which can be seen in table 2 found a significant difference in level of lack of perseverance between cannabis abuse group and healthy controls ($t=2.312$, $p < .05$) this indicated that participants with cannabis abuse scored higher ($M=8.17$, $SD= 2.261$) on lack of perseverance than healthy controls ($M=7.11$,

SD=1.545). Previous researchers have also found some similar findings to support the result. In a study, it was found that lack of perseverance was positively associated with 1-year cannabis use problems (Kearns et al., 2022).

The study explores the difference in the level of positive urgency between participants with cannabis abuse and healthy controls. The results which can be seen in table 2 states no significant difference was found in level of positive urgency between cannabis abuse group and healthy controls (t =0.933, p> 0.05) indicating that there is no significant difference in level of positive urgency between participants with cannabis abuse (M=10.75, SD= 3.316) and healthy controls (M=10.03, SD=3.256).Many previous researchers have focused on positive urgency as a moderator for substance abuse and as an impulsivity trait in cannabis smokers and have identified mixed results. Some pieces of literature found that for positive urgency (PU), such that individuals at low levels of Positive urgency drank less on co-use with cannabis (compared to alcohol-only) days supporting the result that there is no indication of a difference in scores of positive urgency among cannabis smokers and healthy controls (Waddell et al., 2021).

The present study aimed to explore the difference in the level of trait mindfulness between participants with cannabis abuse and healthy controls. The results can be seen from table 2 that there was a significant difference in level of trait mindfulness between cannabis abuse group and healthy controls (t =-5.99, p=*p* < .01), this indicated that control group scored higher (M=4.72, SD=0.79) on trait mindfulness than participants with cannabis abuse (M=3.42, SD= 1.02), with Supporting the current findings, it was found in previous research that Mindfulness was associated with a lower likelihood of lifetime alcohol and marijuana use, supporting that mindfulness is present at a lower level in cannabis smokers as compared to healthy controls (Robinson et al., 2014). Another study found that higher trait mindfulness was associated with less cannabis use (Lin et al., 2021).

The difference in the level of intolerance to uncertainty between participants with cannabis abuse and healthy controls was explored. The result findings which can be seen in table 2 found a significant difference in level of intolerance to uncertainty between cannabis abuse group and healthy controls (t =6.44, *p* < .05), this indicated that participants with cannabis abuse scored higher (M=86.3, SD= 16.10) intolerance to uncertainty than healthy controls (M=58.3, SD=20.48). In support of the results, literature stated intolerance to uncertainty is positively related to cannabis problems, highlighting the importance of considering IU in treatment efforts for individuals experiencing cannabis-related impairment (Jeffries, E. R. 2015). Some studies also showed mixed results suggesting that IU is a feature of addiction but does not necessarily play a unique role (Garami et al., 2017) and therefore Further research is needed to explore the difference in the level of intolerance to uncertainty between participants with cannabis abuse and healthy controls and how intolerance to uncertainty is related to cannabis abuse.

The research literature on impulsivity facet found that sex differences in impulsivity are present, although very few studies have focused on these differences after controlling the effects of sex. The present study aimed to explore the gender difference in the level of negative urgency, lack of premeditation, sensation seeking, lack of perseverance, positive urgency, trait mindfulness, and Intolerance of Uncertainty among participants with cannabis abuse. The results which can be seen from table 3indicated no significant difference (t= -0.617, p > 0.05) between male (M=11.09, SD= 2.58) and female (M=11.66, SD= 2.84) participants consuming cannabis in the level of negative urgency (tendency to engage in impulsive behavior when they experience feelings of distress). In lack of premeditation (tendency to take decisions without considering their consequences) no significant difference was found (t = 0.012, p> 0.05) between male (M= 10.47, SD=2.01) and female (M= 10.46, SD=2.61) participants consuming cannabis. The results found no significant difference (t = -0.23, p > 0.05) between male (M=10.85, SD= 2.57) and female (M=10.66, SD= 2.25) participants consuming cannabis in the level of sensation seeking (tendency to try new and stimulating activities). No significant difference was found in level of lack of perseverance (inability to focus on a task performance) (t = -0.074, p> 0.05) between male (M=8.14, SD= 2.30) and female (M=8.20, SD= 2.27) participants consuming cannabis. The result findings indicated no significant difference (t =-0.890, p > 0.05) between male (M=10.33, SD=3.55) and female (M=11.33, SD= 2.96) participants consuming cannabis in the level of positive urgency (tendency to lose control under positive emotions). This is supported by previous pieces of literature, in a study, no significant sex differences were found for self-discipline and deliberation facets that are related to the lack of perseverance. (Costa et al., 2001). In another study, it was found that Negative marijuana consequences were only significantly related to sensation seeking, lack of planning and positive urgency and gender was not a significant moderator of any relationships (J. Davis et al., 2016). Another promising finding on Understanding Race and Gender Differences in Delinquent Acts and Alcohol and Marijuana Use was that no gender differences are present in the initiation of alcohol and cannabis use

during adulthood but, there is a negative and significant effect for African Americans and the initiation of alcohol use (James et al., 2007).

The results found no significant difference ($t = 1.48$, $p > 0.05$) between male (M=3.63, SD=0.89) and female (M=3.12, SD=1.15) participants consuming cannabis in the level of trait mindfulness (increased focus in the present moment in a non-judgmental manner). Concerning gender difference in trait mindfulness among cannabis smoker's fewer pieces of research have been done and most of the researches have been done on mindfulness based treatment for cannabis abuse in a finding. A papers based on one randomized controlled trial study failed to find gender differences in the efficacy of mindfulness based therapies for substance use, (Kaz et al., 2013). In another study to examine sex difference before and after mindfulness based treatment it was found that females were more engaged than males in the class and respond in a better way (Bluth et al., 2017). These findings support the result and make strong clarification that there is no significant gender difference in trait mindfulness among cannabis smokers.

In intolerance of uncertainty (reacting negatively on cognitive, emotional, and behavioral level to uncertain events and situations) no significant difference was found ($t = -0.29$, $p > 0.05$) between male (M=85.6, SD=16.17) and female (M= 87.2, SD=16.5) participants consuming cannabis. Another variable that is intolerance of uncertainty and its gender difference was explored in the present study; the result findings that can be seen from table 3 indicated no significant gender difference in the level of intolerance to uncertainty in cannabis smokers. In support with the result, studies relating to anxiety, distress tolerance and intolerance to uncertainty are discussed. A study to examine gender differences among individuals diagnosed with DSM-IV lifetime cannabis use disorder (CUD) found that men with lifetime CUD were more likely than women to be diagnosed with any psychiatric disorder, any substance use disorder and antisocial personality disorder, whereas women with CUD had more mood and anxiety disorders (Khan et al., 2013). Another study on association between marijuana use and anxious mood liability in adolescence found no gender difference among adolescence (Rusby et al., 2019) which supports our result that there is no significant gender difference in the level of intolerance to uncertainty in cannabis smokers. Though the previous studies have shown mixed results, more researches should be done concerning gender difference in intolerance to uncertainty among cannabis abuse individuals.

Our results are consistent with the prior researches and a similar conclusion was reached that there is no significant gender difference in that level of negative urgency, lack of premeditation, sensation seeking, lack of perseverance, positive urgency, trait mindfulness, and Intolerance of uncertainty among participants with cannabis abuse.

CONCLUSION

A significant positive correlation was found between severity of cannabis consumption and the studied variables negative urgency, lack of premeditation, sensation seeking, lack of perseverance, positive urgency and intolerance to uncertainty. A significant difference was found in level of negative urgency, lack of premeditation, sensation seeking between, lack of perseverance, trait mindfulness and level of intolerance to uncertainty between cannabis abuse group and healthy controls. No significant gender difference was found in the studied variables among participants with cannabis abuse. The findings suggest that multiple impulsivity facets, trait mindfulness and intolerance to uncertainty have a significant positive correlation with severity of cannabis abuse and that there is a significant difference in different impulsivity domains, trait mindfulness and intolerance to uncertainty among cannabis abusers and healthy controls.

LIMITATIONS

The current study is limited only to the geographical area of Rajasthan. Racial and ethnic diversity was lacking in the sample, making it important to imitate the results using diverse samples. Male and female samples were unequal. Sample size was relatively smaller in the present study. The duration of cannabis abuse wasn't considered.

CLINICAL IMPLICATION

Study facilitates further understanding of personality factors as predisposing factors to substance use severity and pin planning management. Study helps to develop prevention and intervention impulsivity traits, mindfulness and intolerance to uncertainty should be considered as important factors to reduce substance use behavior and problems. One implication is that, when considering an individual's level of risk, it may be important to take into account the level of negative urgency, lack of premeditation, sensation seeking, lack of perseverance, positive urgency, and intolerance to uncertainty.

FUTURE SUGGESTIONS

Sample should be collected from a larger regional area to increase the generalizability of the study. Future work would benefit from addressing the matter to more comprehensively examine the role of various personality factors in cannabis use behavior. More work should be done to examine and explore various other

variables that could mediate or, moderate the relationship between impulsivity, mindfulness, and intolerance to uncertainty with substance use severity.

Future studies need to clarify the mechanism linking Negative Urgency, lack of premeditation, sensation seeking, lack of perseverance, positive urgency, mindfulness, and intolerance to uncertainty to risky behavior at the moment.

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Original Research Article

Coping Behavior among Caregivers of Patients with Alcohol Dependence

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ABSTRACT

Background: Caregivers play a crucial role in addressing alcohol dependence symptoms in India, impacting family life and coping strategies. The current study aimed to assess the level of coping strategies among the primary caregivers of alcohol-dependent patients. Methods: A study in India assessed 65 alcohol-dependent patients and their caregivers through purposive sampling by using the Stress Coping Behavior Scale (Hindi adaptation). Results: Mann Whitney test result revealed that adaptive coping by caregivers was statistically significantly higher with regard to those alcohol dependent persons who belong to the Up to std IX group (U = 289.500, p = .011); rural group (U= 240.000, p= .000) whereas maladaptive coping strategies by caregivers was statistically significantly higher with regard to those alcohol dependent persons who belong to Middle adulthood = 41 and above (U = 240.000, p = .004); those who belong to duration of illness 16ears and above (U= 51.50, p= .000); rural group (U= 361.000, p= .046). Adaptive coping by caregivers was significantly higher in those caregivers who belonged to the rural group (U= 342.000, p= .013) maladaptive coping by caregivers was significantly higher in those who belong to the middle adulthood (U= 190.000, p= .000); up to std IX (U= 377.000, p= .051); the employed group (U= 355.000, p= .021); the 11000/ and above group (U= 325.000, p= .011). Conclusion: Alcohol dependence adversely affects the patients as well as the coping used by caregivers.

Keywords: *Coping, Alcohol Dependence, Caregiver*

INTRODUCTION

Numerous life events and long-term stressors are sources of stress, such as microbial roots and overt emotional and behavioral manifestations (Pearlin et al., 1981). How one views a circumstance affects how well one can handle stress (McEwen, 1998). Some persons are more prone to depression than others due to the effects of life events on their health, and they look for specific coping behavior aspects (Pearlin et al., 1981).Being a caregiver is a constant source of stress; thus, managing it requires coping mechanisms. Findings revealed that high load levels are positively correlated with coping mechanisms such as avoidance, denial, and resignation (Rammohan et al., 2002).A study investigated the association between a loss of coping resources and psychological suffering in alcoholic wives. The researchers observed a relationship between alcohol consumption and psychological distress. They also discovered that alcohol-dependent individuals' wives use adaptive and dysfunctional coping techniques (Ravindran & Joseph, 2017). Using the marital coping scale, a comparison study was conducted on the participants to analyze the difference in coping skills between spouses with schizophrenia and alcohol dependence syndrome. The findings demonstrated a significant difference in support-seeking and avoidance coping strategies between the two groups (Shilpa &Vaidyanath, 2020). Another study on alcohol and opioid-dependent males and their wives was undertaken to observe psychiatric morbidity, social support, and coping among the wives of the alcohol and opioid-dependent individuals. According to the findings, opioid-dependent males and their spouses are younger and have a younger marriage than the alcohol-dependent group. The mental diagnostic rate among wives of alcoholic-dependent individuals is 16%, whereas it is 20% among opioid addicts. Depression and dementia are frequently mentioned. The most commonly utilized coping strategies have been identified as denial and internalization. Psychological morbidity among the wives was also observed to be frequent in both groups (Gupta et al., 2014).

Using convenient sampling, another study explored the coping mechanisms employed by the wives of alcoholic-dependent persons. According to the findings, 98.1% of spouses of alcoholics have a high level of coping. Furthermore, it was discovered that among the couples, withdrawal coping was the most commonly employed way, whereas engaged coping was the least commonly used. They also discovered a substantial link between coping and the duration of alcohol consumption. However, the researchers found no effect on demographic characteristics regarding coping (Pandey & Shrestha, 2020).Another study discovered the association between social support, coping resources, and codependence among spouses of those addicted to alcohol or drugs. One hundred thirty people were chosen for the study, with 65 from each category. A social support scale, a Coping Resources Inventory,

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and a codependence assessment questionnaire were used. The results suggest that 49 of the 60 individuals were codependent. Furthermore, codependent wives have fewer coping resources and social support (Bhowmick et al., 2001).

Another prospective study was conducted on 318 urban female caregivers living in low-income communities who were interviewed annually for three waves about community violence exposure, coping behaviors, substance use, and protective factors. Lifetime witnessing of violence, but not victimization, was associated with changes in avoidant coping, but not active coping, one year later; avoidant coping, in turn, was related to changes in and higher levels of problematic drug use the following year, according to path analyses. Because there is no agreement among the researchers, the current study aims to investigate the coping behavior of caregivers of patients with alcoholism. As a result, the current study's goal is to analyze coping behavior among caregivers of patients with alcohol dependence (Kliewer & Zaharakis, 2013).

METHODS

Study Design

The study was cross-sectional and hospital-based and conducted at a medical college in India. The study was started after getting ethics approval from the institute. Written informed consent was taken from each participant. With the purposive sampling technique, 65 subjects were selected for the study sample. Caregivers of the patients attending Outpatient Services of that medical college and hospital with Alcohol Dependence diagnosed as per the International Classification of Diseases, 10th revision (World Health Organization, 1992)were included in the study. Patients of any gender with mental and behavioral disorders due to Alcohol Dependence Syndrome (F10.2) were included in the study. Age group 18-60 years. However, the presence of any chronic physical/mental illness was used for exclusion criteria.Primary caregivers of any Gender of patients with mental and behavioral disorders due to Alcohol Dependence Syndrome (F10.2) were included. Duration of stay of caregiver with the patient must be ≥ 1 year. The presence of any chronic physical/mental illness was used for the exclusion criteria of caregivers.

Instruments

The Stress Coping Behaviour Scale (SCBS) Hindi adaptation (Janghel&Shrivastav, 2017) was developed to assess how Indian adults cope with stress. The brief cope scale was initially developed by Carver (Brief cope, free version) (Cook et al., 1994) to gather information on various adult coping strategies for all diseases. The SCBS consists of 23 items and is scored using a Likert scale. There are two possible responses: "Yes" and "No." There is a 10- to 20-minute time limit, with a response score of "2" for "Yes" and "1" for "No." Adaptive and maladaptive coping behavior was associated with two factors, with 15 items in factor one and eight in factor two, respectively. SCBS scale Cronbach's Alpha reliability is 0.82. The Stress Coping Behavior Scale's (Hindi version) psychometric characteristics attest to its validity and reliability as an instrument.

Procedure for Data Collection

This study was done at the State Drug Dependence Treatment Centre, Institute of Mental Health, Pt. B.D Sharma University of Health Sciences, Rohtak, Haryana. Caregivers of the patient with mental and behavioral disorder due to the use of Alcohol Dependence Syndrome (F10.2), diagnosed as per International Statistical Classification of Diseases (ICD-10) criteria, was approached to participate in the study after fulfilling the study criteria. Written informed consent was taken from participants. A particular self-designed form for sociodemographics was filled out for subjects. Family burden and stress coping behavior in caregivers were assessed using Family Burden Interview Schedule and Stress Coping Behavior Scale, respectively. The participants were asked to go through the questionnaire and give their responses. The participants' responses were scored according to the scoring key and then tabulated for further analysis.

Statistical analysis

The data were entered; coded, and appropriate statistical method, including mean, stand deviation, and Mann Whitney U test, was used for analysis with the help of the SPSS 20.0 version.

RESULTS

Social demographic details, including age, gender, religion, marital status, educational qualification, occupation, and current living arrangement, were collected for persons with alcohol dependence and their caregivers. However, information about the age of onset, duration of illness, any other family member having a history of substance dependence, and locality were also collected regarding persons with alcohol dependence, whereas relation with patient, family income, and locality was collected regarding caregivers of persons with alcohol dependence. Tables 2 and 3 included the frequency and percentages of these variables regarding the person with alcohol dependence and caregivers of a person with alcohol dependence, including the Mann-WhitneyU test. However, as all 65 males and 62 Hindus, and 03 Sikhs were persons with alcohol dependence, this test was not conducted on this variable. In this study,62 Hindu and 03 Sikh were caregivers of persons with alcohol dependence**,** and the

frequency offather, mother, brother, sister, wife, son, and daughter relation under the variable relation with the patient were 01, 14, 07, 00, 37, 04, 02. Therefore,the Mann-Whitney U testwas not conducted on religion and its relation with patient variables. Table 1 depicts the mean and standard deviation of adaptive and maladaptive dimensions of coping by a caregiver of a person with alcohol dependence.

Table 1: Stress Coping Behavior in the study population in the study sample of the caregiver of a person with alcohol dependence (N= 65)

Coping	Mean ± SD
Adaptive dimension	
Active Coping	3.74 ± .54
Use of emotional support	3.14 ± .75
Use of instrumental support	1.80 ± .40
Positive reframing	3.38 ± .58
Planning	3.62 ± .70
Humour	2.15 ± .47
Acceptance	3.02 ± .72
Religion	3.63 ± .65
Total score on adaptive dimension	24.42 ± 1.74
Maladaptive dimension	
Self-distraction	3.31 ± .68
Denial	1.20 ± .40
Substance use	1.32 ± .47
Behavioral-disengagement	1.54 ± .50
Venting	3.11 ± .56
Self-Blame	1.25 ± .43
Total score on maladaptive dimension	11.69 ± 1.63

Table 2 shows the result of the Mann-Whitney U test, which was performed to know the significant difference between groups of each sociodemographic variable of persons with alcohol dependence patients as per the coping score obtained from their caregivers. The test result revealed a significant difference in the adaptive dimension score of coping strategies by caregivers with regards to that alcohol depended persons who belong to the Up to std IX group (Median = 41.21, n = 21) and those who belong to Std X and above (Median = 29.08, n = 44), (U = 289.500, p = .011); rural group (Median = 39.85, n= 60) compared to urban locality (Median = 22.73, n= 40), (U= 240.000, p= .000). Except this there was no significant difference between any other groups of other variables of the person with alcohol dependence in adaptive dimensions of coping strategies.

The test result also showed a significant difference in the maladaptive dimension score of coping strategies by caregivers with regards to alcohol depended persons who belong to Middle adulthood = 41 and above (Median = 43.37, n = 19), (U = 240.000, p = .004) and Early adulthood = up to 40 (Median = 240.000, n= 46); duration of illness up to 15 years group (Median = 26.78, n= 45) and those who belong to duration of illness 16ears and above (Median = 47.00, n= 20), (U= 51.50, p= .000); rural group (Median = 36.74, n= 39) compared to urban locality (Median = 27.38, n= 26), (U= 361.000, p= .046). Except this, there was no significant difference between any other groups of other variables of the person with alcohol dependence in maladaptive dimensions of coping strategies.

Table 2: Mann Whitney U test performed on adaptive coping score and coping maladaptive score of behavior questionnaire of caregivers concerning sociodemographic data of person with alcohol dependence

Alcohol depended persons' characteristics				Caregivers' coping							
				Adaptive Coping				Coping Maladaptive			
Variables	Group	Frequency	%	Median	Mann Whitney U	P Value	R^2	Median	Mann Whitney U	P Value	R^2
Age	Early adulthood = up to 40	46	70.77	33.66	406.500	.645	0.003269	28.72	240.000	.004	0.128849
	Middle adulthood = 41 and above	19	29.23	31.39				43.37			
Marital Status	Single	15	23.08	33.30	370.500	.942	8.198461	36.00	330.000	.475	0.007843
	Married	50	76.92	32.91				32.10			
Educational Qualification	Up to std IX	21	32.31	41.21	289.500	.011	0.098709	31.14	423.000	.577	0.004773
	Std X and above	44	67.69	29.08				33.89			
Occupation	Unemployed	21	32.31	37.31	371.500	.184	0.027172	37.33	371.000	.193	0.026
	Employed	44	67.69	30.94				30.93			
Current living arrangement	Joint	38	58.46	33.49	494.500	.797	0.0010240	34.89	441.000	.329	0.014655
	Nuclear	27	41.54	32.31				30.33			
Age of onset	Up to 19 years	20	30.77	31.00	410.000	.552	0.005446	35.80	394.000	.417	0.010118
	Above 19 years	45	69.23	33.89				31.76			
Duration of illness	Up to 15 years	45	69.23	31.82	397.000	.430	0.009577	26.78	170.000	.000	0.252844
	16years and above	20	30.77	35.65				47.00			
Any other family member having a history of substance dependence	At least one of the family members affected	12	18.46	33.67	310.000	.887	0.0003102	29.50	276.000	.469	0.0080419
	None of the family members affected	53	81.54	32.85				33.79			
Locality	Rural	39	60	39.85	240.000	.000	0.215539	36.74	361.000	.046	0.061047
	Urban	26	40.00	22.73				27.38			

Table 3 shows the result of the Mann-Whitney U test, which was performed to know the significant difference between groups of each sociodemographic variable of caregivers of persons with alcohol dependence patients as per the coping score obtained from caregivers. Mann Whitney test result revealed that significant difference in the adaptive dimension score of coping strategies by caregivers of those caregivers who belonged to the rural group (Median = 38.00, n= 39) and those who belonged to the urban locality (Median = 26.79, n= 26), (U= 342.000, p= .013). Except this, there was no significant difference between any other groups of other variables of the caregiver of a person with alcohol dependence in adaptive dimensions of coping strategies.

The test revealed that significant difference in the maladaptive coping scores of coping strategiesby caregivers of those who belong to the early adulthood group (Median = 24.14, n= 37) compared to the middle adulthood (Median = 44.71, n= 28), (U= 190.000, p= .000); the std X and above group (Median = 28.97), n= 36) compared to the up to std IX (Median = 38.00 n= 29), (U= 377.000, p= .051); the employed group (Median = 38.24 n= 33) compared to the unemployed (Median = 27.59), n= 32), (U= 355.000, p= .021); the below poverty line (BPL) group (Median = 28.05 n= 31) compared to the above poverty line (APL) group (Median = 39.96), n= 34), (U= 325.000, p= .011). Except this, there was no significant difference between any other groups of other caregiver variables of the person with alcohol dependence in maladaptive dimensions of coping strategies.

Table 3: Mann Whitney U test performed on adaptive coping score and coping maladaptive score of behavior questionnaire of caregivers concerning sociodemographic data of caregiver of a person with alcohol dependence

Alcohol depended on persons' characteristics				Caregivers' coping							
				Adaptive Coping				Coping Maladaptive			
Variables	**Group**	**Frequency**	**%**	**Median**	**Mann Whitney U**	**P Value**	**R^2**	**Median**	**Mann Whitney U**	**P Value**	**R^2**
Age of caregiver	Early adulthood = up to 40	37	56.92	30.49	425.000	.197	0.025601	24.14	190.000	.000	0.301376
	Middle adulthood = 41 and above	28	43.08	36.32				44.71			
Gender	Male	12	18.46	31.38	298.500	.730	0.0018311	41.67	214.000	.073	0.049348
	Female	53	81.54	33.37				31.04			
Marital Status	Single	16	24.61	38.06	311.000	.197	0.025641	35.75	348.000	.495	0.007176
	Married	49	75.38	31.35				32.10			
Educational Qualification	Up to std IX	29	44.61	33.90	496.000	.719	0.0019827	38.00	377.000	.051	0.05844
	Std X and above	36	55.38	32.28				28.97			
Occupation	Unemployed	32	49.23	30.73	455.500	.319	0.015261	27.59	355.000	.021	0.082236
	Employed	33	50.77	35.20				38.24			
Current living arrangement	Joint	38	58.46	33.49	494.500	.797	0.0010240	34.89	441.000	.329	0.014655
	Nuclear	27	41.54	32.31				30.33			
Family income	Below poverty line	31	47.69	31.03	438.000	.296	0.016800	28.05	325.000	.011	0.09996
	Above poverty line	34	52.31	35.78				39.96			
Locality	Rural	39	60.00	38.00	342.000	.013	0.095156	34.89	454.000	.361	0.012852
	Urban	26	40.00	26.79				30.66			

DISCUSSION

The current investigation examines the stress coping behavior among caregivers of patients with alcohol dependence. It was assumed there would be a significant difference in stress coping behavior among caregivers of patients with alcohol dependence. In the present study, caregivers adopted adaptive and maladaptive coping behavior to deal with the stress arising from alcohol-dependent individuals. Most caregivers were found to use active coping as stress coping behavior; the mean score was 3.74±.54, followed by religion and planning mean score 3.63±.65 and 3.62±.70 respectively. Greater use of adaptive coping suggested that caregivers usually involved an awareness of the stressor and conscious attempts to reduce stress, including solving problems and seeking information. Planning helps to improve emotion regulation, decrease the memory of unpleasant emotions, and help to identify potential barriers to implementation and possible ways to solve them. Religion adaptive coping behavior helps cope with stressful situations and prevent negative emotions through religious beliefs or practice. Whereas the

findings of maladaptive detentions, most of the caregivers were found to use self-distraction and venting as stress coping behavior. The mean score was 3.31±.68 and 3.11±.56. This can increase stress rather than decrease it because venting to someone is good, but it only reinforces aggressive impulses.

The sociodemographic of persons with alcohol dependence in the study was similar to the previous studies carried out in India on Caregivers of patients with alcohol dependence (Babu et al., 2021). In the present study, the sociodemographic profile of the patients showed that the majority of alcohol-dependence patients belong to the early adulthood age group, 18-40 years being most prominent (Table 2), and all the patients with alcohol dependence who attended the de-addiction center were males who were noticed similar findings in other studies where the rate of men was higher than females(Babuet al., 2021; Girish et al., 2010; Ramanan et al., 2016; Sen et al., 2016; Vaishnavi et al., 2017). This might be due to adult males being more likely to use alcohol, which is also in accordance with the majority of other Indian studies. A higher representation of Hindu religion among the patients was noticeable, which was 62 (95.38%) Hindu and 3 (4.61%) Sikh, similar to other studies (Sen et al., 2016; Shekhawat et al., 2017).In the present study, most of the patients married, around 50 (76.92%) married, and 15 (23.08%) participants never married; similar results were found in another study (Mehra et al., 2020). In this study majority of patients, 44 (67.69%), were studied more than or equal to the 10^{th} standard. Occupation of the patients showed that a more significant number of the participants are employed, which is 44 (67.69%) among the total participants. 26 (40.00%) patients of the study sample healed from a rural background, while the remaining 39 (60.00%) were from an urban background. This finding is suggested that poor awareness, limited leisure activities, and limited resources for prevention, treatment, and recovery lead to rural individuals having a higher rate of alcohol dependence. Most patients belong to joint families, i.e., 38 (58.46%), while 27 (41.54%) live in nuclear families. Similar results showed in other Indian studies (Mattoo, S. K et al., 2013). The age of onset was higher in the early adulthood (up to40 year), which was 46 (70.77%) of the study sample, and the duration of illness of patients was noticed to be higher among the up to 15 years group. All the patients consumed alcohol as the primary substance, with 53 (81.54%) patients of the study sample having a history of none of the family members being affected by any substance dependence. This result was similar to another study (Shekhawat et al., 2017).

The sociodemographic profile of caregivers and this study's result were similar in some related Indian studies (Rammohan et al., 2002; Sen et al., 2016; Vaishnavi, et al., 2017). In the present study, the distribution shows an inclination toward the age group early adulthood of 18-40 years, with 37 (56.92%) being the most prominent. Most of the caregivers were married 49 (75.38%), female 53 (81.54%), and most of the patients' spouses. This was mainly due to a cultural belief that men should be the family's breadwinners and women would be responsible for caring for sick men (Vaishnavi et al., 2017). Most caregivers were educated; 36 (55.384%) studied matriculation and above, and 29 (44.61%) caregivers were studied under matriculation. Also, 33 (50.77%) caregivers were running their lives without being disturbed much by patients' illnesses. They were either self-employed or part-time or full-time employed, and 32 (49.23%) caregivers were housewives/unemployed by occupation. Most participants belong to joint family backgrounds, similar to the previous study (60.00%) of participants were from a joint/extended family (Senet al., 2016).In the present study, the majority of the caregivers were the wife 37 (56.92%), mother 14 (21.54%), and brother 7 (10.77%) of the patient, similarly in a study, 74% of caregivers were the spouse of the patient (Sen, et al., 2016; Vaishnavi, et al. 2017). In this study, most of the caregivers, 31 (47.69%), had monthly incomes below poverty line, which belonged to lower socioeconomic status, same findings in another study (Rammohan et al., 2002; Senet al., 2016; Vaishnavi, et al., 2017). Most caregivers, 39 (60.00%), belong to a rural background, similar to another study result (Rammohan et al., 2002).The stress coping behavior is categorized as adaptive coping and maladaptive coping, and further, it is categorized into eight and six subdomains, respectively. Mean, and standard deviation (Table 1), Mann Whitney U test was performed to measure the significant difference between sociodemographic variables of patient (Table 2) and caregivers (Table 3) with stress coping behavior among caregivers. Comparing the caregivers coping with socio-demographic information of patient researchers found that although adaptive coping is higher in the group Up to std IX (U = 289.500, p = .011); rural group (U= 240.000, p= .000), while maladaptive coping is higher in those who belong to early adulthood (U = 240.000, p = .004); duration of illness 16ears and above (U= 170.000, p= .000); rural group (U= 361.000, p= .046), still the effect size is small in all the cases. But comparing the caregivers coping with socio-demographic information of caregivers researchers found that the adaptive score is higher in the urban locality group (U= 342.000, p= .013); the maladaptive score is higher in middle adulthood (U= 190.000, p= .000); in the up to std IX (Median = 38.00 n= 29), (U= 377.000, p= .051); the employed group (Median = 38.24 n= 33) compared to the unemployed (Median = 27.59), n= 32), (U= 355.000, p= .021); the BPL group (Median = 28.05 n= 31) compared to the APL group (Median = 39.96), n= 34), (U= 325.000, p= .011). Still, the effect size is small in all the cases.

The study has some limitations. A small sample size (N= 65) has been taken for the present study for alcohol-dependent persons and their caregivers, due to which a robust external validity of the present study could not be ascertained. Proportional representation of persons with substance dependence and caregivers of persons with substance dependence should be undertaken. The sample has been collected using purposive sampling. Random sampling would have provided a better generalization of results. Due to time limitations, the study undertaken was cross-sectional. A randomized block design would have ensured better control of extraneous variables.

CONCLUSION

Findings of the present study were significant differences in the adaptive coping behavior of those who belong to rural groups, followed by those who belong to urban localities. The maladaptive coping scores were significantly lower in the early adulthood group than in the middle adulthood caregivers. Most caregivers use active coping, planning, and religion as adaptive coping behavior and self-distraction and venting as a maladaptive coping behavior. A significant implication of the present study is that these findings can be helpful in further investigation and research works and may help plan intervention strategies.

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Original Research Article

Ways of Coping as the Predictor of Alcohol and Drug Use Attitude amongst Adolescents

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ABSTRACT

Our daily lives are identified by stress, but studies also demonstrate that adolescents are more sensitive to it because of the complexity of their underlying issues. However, humans must learn to cope with stress, which is defined as "the act of managing unfamiliar or internal pressures that are considered to be demanding on personal capability and resources. Adolescence is the most sensitive and crucial stage of development wherein physical and psychological changes are at its peak. The rising cases of drug abuse among adolescence are one of the major problems being faced by many of the countries across the globe. Deliberating upon the causative factors of alcohol and drug use among adolescents, the factors could be many; Ways of coping has also been documented as one of the contributory factors. To present research study made an attempt to explore the relationship between ways of coping and attitude towards the alcohol and drug use among adolescents. The target population of the study was adolescents with the age group of 15-19 years. The sample of present study comprises of 500 (N=500) adolescents coming from the state of Haryana, India. The Questionnaire Ways of Coping (Folkman and Lazarus 1988) and Alcohol and Drug Attitude Scale (Singh & Saini, 2010) were used to assess the ways of coping and attitude towards alcohol and drug. The findings of the present study revealed significant positive correlation between ways of coping and its dimensions and attitude towards alcohol and drug use among adolescents.

Keywords: *Adolescence, Ways of Coping, Alcohol and Drug Attitude*

INTRODUCTION

Our daily lives are identified by stress, but studies also demonstrate that adolescents are more sensitive to it because of the complexity of their underlying issues. Physical and psychological consequences of stress are feasible (Rout & Rout, 1993; Fisher, 1993). Stress has been shown to be a significant contributor to the emergence of addiction. It's presumed that individuals are starting to take drugs because they don't see any other way to cope with regular stress management. On the other hand, stress makes it extremely difficult to stop taking drugs and encourages quitting drug use. To survive, however, humans must learn to cope with stress, which is defined as "the act of managing external or internal pressures that are considered to be demanding on personal capacities and resources" (Rout & Rout, 1993). An individual's susceptibility to alcohol and drug abuse grows as the proportion of their life dominated by risk factors grows, as noted by Craig (2004). Adolescents, in particular, seem to be influenced by this.

The onset of increasing epidemiology of substance use behaviour during the high school years is rooted in adolescence (Johnston et al., 2013; Chen, & Jacobson, 2012). The propensity to develop alcohol abuse and dependence is high among individuals who initiate alcohol use in the age range of 11–14 (Zeigler et al., 2005). As substance use can be seen in any age group but the World drug report (2018) suggests that drug usage is at its peak among 18–25-years old. Ford (2007) observed that the adolescent age is a crucial time of change when a person is moving from childhood to adulthood. At this stage of life, they are often no longer supervised by their parents and are susceptible to other academic and social pressures. The rising cases of alcohol and drug use among adolescence are one of the major problems being faced by many of the countries across the globe. Although, it is fairly accepted that this is the age of exploration, experimentation, risk taking habits, and curiosity to about self and the world, but on the other hand, during this period youth also experiences several types of stress from family, society, career choices, peer pressures, etc.

Coping is a multidimensional process to manage stressful state involving emotional, cognitive, and behavioural efforts (Carver & Scheier, 1994; Folkman & Lazarus, 1985). Coping is considered as the adaptive mechanism. In terms of Lazarus and Folkman (1984), “coping is the constantly changing cognitive and behavioural efforts to manage specific external and internal demands that are appraised as taxing or exceeding the resources of the person.”

There are two broad coping strategies, emotion focused and problem focused.

Folkman and Lazarus (1988) further classified the types of coping styles/strategies as: problem focused and emotion focused. In problem focused coping style, an individual focuses on the problem and works out with the different alternatives to the problem and tries to

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solve the problem. Whereas, in emotion focused coping style, the persons focus is on reducing the emotional stress and strain associated with the problem/situation.

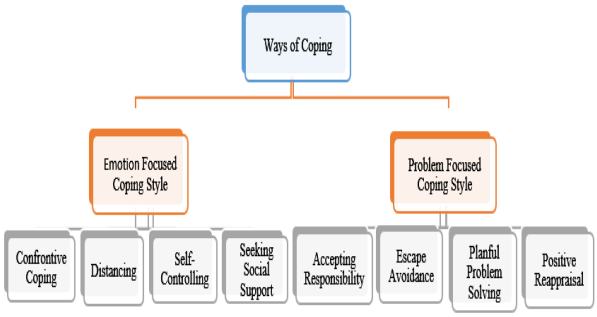

Figure 1: Types of Ways of Coping

According to research, individuals who are experiencing stress shouldn't learn to avoid, forget, or completely block off the source of that distress (Lazarus & Lazarus, 1994). This is indicative of the fact that the problem-focused coping strategy is more helpful in coping with stress. Walker, & Stephens, (2014) with the sample of college students made an attempt to understand the relationship among coping styles, protective behavioural strategies and alcohol use. Protective behavioural strategies not only exert mediating effect between problem focused coping and alcohol use but also emerged as protective strategies against alcohol use.

Indeed, the manner in which ways of coping and coping styles have been defined and operationalized has varied greatly across studies. The manner in which ways of coping is related to attitude towards alcohol and drug use is somewhat unclear. The present study makes an attempt to examine the correlation between ways of coping and the extent to which it determines the attitude towards alcohol and drug use.

Objectives:

- To explore the association between ways of coping and alcohol and drug attitude among adolescents.

Hypothesis:

- There shall be a significant relation between ways of coping and alcohol and drug attitude among adolescents.

METHODOLOGY

Sample:

The target population of the study was adolescents with the age group of 15-19 years. The sample of present study comprises of 500 (N=500) adolescents males and females coming from the state of Haryana, India.

Measuring Instruments:

- **Ways of Coping Questionnaire by Folkman and Lazarus (1988)**

The questionnaire regarding way of coping strategies was developed by Folkman and Lazarus. (1988). It is a self-report questionnaire comprising of 66 items assessing coping mechanism-not coping dispositions or styles. It is primarily designed to measure coping processes applied by adolescents in a particular stressful encounter in day to day life. There are four alternative for each statement from not used to used a great deal. It comprises of eight subscales such as confrontive coping, distancing, self-controlling, seeking social support, accepting responsibility, escape avoidance, planful problem solving and positive reappraisal. The first four subscales are for emotion focused coping mechanism and last four subscales are for problem focused coping mechanism. The alpha coefficients for eight subscales are significantly high ranging from (0.61 to 0.79). The internal consistency was (Cronbach's alpha 0.79) for overall scale.

- **Alcohol and Drug Attitude Scale by Singh & Saini (2010)**

Alcohol and Drug Attitude Scale developed by Singh & Saini (2010) is a 28 items Likert type five point scale which measures the attitude towards alcohol and drug use. The positive items receive a score between 1 and 5, whereas the negative items receive a score between 5 and 1.The higher score on the scale indicates the positive attitude towards the consumption of alcohol and drug use. The test–retest reliability (0.32) and internal consistency (Cronbach's alpha 0.82) indicates that the instrument is reliable enough. The good face and content validity for the tool has been reported by the experts.

Procedure

To achieve the main purpose of the current research study the data was obtained from the sample of the study with the help of respective tools. The data was collected after establishing rapport and clearing their doubts regarding the study. The participants were provided with the questionnaires and were instructed in an appropriate manner. The tests were administered individually as well as in the small groups of 3-5 participants as per the convenience. The completed questionnaires were collected and the responses of respondents on various scales were scored according to the scoring instructions provided in the respective manuals.

RESULTS

The data obtained from the present study was analysed with the help of SPSS (version 25.0). To examine the nature of the correlation that occurs between the variables of this specific study, descriptive statistics, such as the mean and standard deviation, as well as Pearson's product moment coefficient of correlation, were applied. The simple and multiple linear regression was further applied on the data to explore the ways of coping as the predictor of alcohol and drug attitude among adolescents. The outcomes of the present study are presented in Table No. 1, 2 and 3.

Table 1: Outcomes of Descriptive statistics of the dimension of ways of coping and alcohol and drug attitude among adolescents (N=500)

Variables	N	Mean	SD
Confrontive Coping	500	11.26	2.891
Distancing	500	10.94	2.751
Self-Controlling	500	11.36	2.589
Seeking Social Support	500	11.28	2.947
Total Emotion focused Coping	500	44.84	8.260
Accepting Responsibility	500	8.04	2.092
Escape Avoidance	500	12.73	4.136
Planful Problem Solving	500	12.06	2.602
Positive Reappraisal	500	13.81	2.485
Total Problem focused Coping	500	46.64	7.823
Alcohol and drug attitude	500	90.13	20.040

Table 1. Indicates the descriptive statistics related to the variables being studied in the present study on the total sample (N=500). The mean score for the variable of alcohol and drug attitude (M=90.13; SD=20.040).

The descriptive statistics for the dimensions of ways of coping has also been reported in the table 1. The ways of coping has been studied under the two sub styles primarily emotion focused coping style and problem focused coping style. The mean score for the variable of total emotion focused coping style (M=44.84; SD=8.260) and total problem focused coping style (M=46.64; SD=7.823). The emotion focused coping style further has four sub dimensions the mean values have been reported as confrontive coping (M=11.26; SD=2.891), distancing (M=10.94; SD=2.751), self-controlling (M=11.36; SD=2.589), and seeking social support (M=11.28; SD=2.947). Whereas, the scores obtained on the various sub dimensions of problem focused coping style is being reported as accepting responsibility (M=8.04; SD=2.092), escape avoidance (M=12.73; SD=4.136), planful problem solving (M=12.06; SD=2.602), and positive reappraisal (M=13.81; SD=2.485) respectively.

Table 2: Outcomes of correlation coefficients of the dimension of ways of coping and alcohol and drug attitude among adolescents (N=500).

Variable	CC	DI	SC	SSS	TEFcop	AR	EA	PPS	PR	TPFcop	ADA
CC	1	.537**	.449**	.311**	.780**	.275**	.531**	.288**	.266**	.535**	.447**
DI		1	.332**	.335**	.745**	.219**	.456**	.237**	.289**	.470**	.434**
SC			1	.406**	.726**	.306**	.341**	.234**	.297**	.434**	.190**
SSS				1	.704**	.401**	.302**	.381**	.405**	.522**	.137**
TEFcop					1	.408**	.552**	.389**	.427**	.666**	.410**
AR						1	.265**	.312**	.366**	.627**	.148**
EA							1	.179**	.273**	.746**	.502**
PPS								1	.427**	.646**	.084
PR									1	.702**	.099*
TPFcop										1	.365**
ADA											1

*** Correlation is significant at .01 level (2-tailed).*
** Correlation is significant at .05 level (2-tailed).*

Table 2 Indicates that the correlation coefficients to explore the relationship between ways of coping and alcohol and drug attitude among adolescents. The findings reveal the significant positive correlation (r=.410, *p*<.01) between total emotion focused coping style and alcohol and drug attitude. It further depicts the significant positive correlation for the confrontive coping (r=.447, p<.01), distancing (r=.434, *p*<.01), self-controlling (r=.190, *p*<.01) and seeking social support (r=.137, *p*<.01) sub dimension of emotion focused coping style with alcohol and drug attitude among participants.

The findings also establish the significant positive correlation (r=.365, *p*<.01) between problem focused coping style and alcohol and drug attitude among adolescents. The findings also depict the significant positive correlation between accepting responsibility (r=.148, *p*<.01), escape avoidance (r=.502, *p*<.01), planful problem solving (r=.084), and positive reappraisal (r=.099, *p*<.05) sub dimension of problem focused coping style and alcohol and drug attitude among adolescents.

Table 3: Outcomes of regression analysis for the dimension of ways of coping predicting alcohol and drug attitude among adolescents (N=500).

Predictors		B	SE B	B	t	Sig.
	Constant	52.823**	5.107		10.343	.000
Emotion Focused Coping Style	Confrontive Coping	1.428**	.344	.206	4.151	.000
	Distancing	1.646**	.333	.226	4.939	.000
	Self-Controlling	-.393	.339	-.051	-1.158	.247
	Seeking Social Support	-.363	.308	-.053	-1.179	.239
	Accepting	.248	.405	.026	.614	.539

Predictors		B	SE B	B	t	Sig.
Problem Focused Coping Style	Responsibility					
	Escape Avoidance	1.658**	.220	.342	7.525	.000
	Planful Problem Solving	-.269	.329	-.035	-.818	.414
	Positive Reappraisal	-.584	.354	-.072	-1.649	.100
	R^2	.339				
	F	31.468**				.000

***significant at p < .01 level*
**significant at p < .05 level*
Note: **Dependent Variable**: Alcohol and drug attitude, **B**=Unstandardized regression coefficient, ***β***=Standardised regression coefficient

The findings of the present study as demonstrated in the table 3 demonstrate the regression analyses for the sub dimensions of ways of coping and alcohol and drug attitude among adolescents. The overall regression model predicting the alcohol and drug attitude was found F (8,491) =31.468, R^2=.339. The effect size for alcohol and drug attitude is R^2= .339 indicates that overall, 33.9% variance in the alcohol and drug attitude among participants has been caused by them. The findings of the present study depicts that the confrontive coping (β =1.428, p<.01) and distancing (β =1.646, p<.01) sub dimension of emotion focused coping style and escape avoidance (β =1.658, p<.01) sub dimension of problem focused coping style as significant predictor of alcohol and drug attitude among adolescents.

DISCUSSION

The major purpose of the present research study was to examine the ways of coping as predictor of the alcohol and drug attitude among adolescents. Coping is another important determinant of alcohol and drug attitude among adolescents. In fact, the substance use can be considered as the outcome of maladaptive or avoidant behavioural pattern. The present findings provide us the understanding of the fact that individuals who apply emotion focused coping style are able to reduce emotional strain which affects their mental state and consequent to which they get inclined attitude towards alcohol and drug. Emotion-focused coping means focus on relaxation, substances abuse, defence mechanisms to reduce the effects of stress caused by unpleasant situation, events or experiences (Rothmann & Van Rensburg, 2002; Edwards & Holden, 2001). The findings reported here are congruent with those found in research done by Dashora, Erdem, & Slesnick (2011) and Scott, Hides, Allen, & Lubman (2013) wherein they found emotion-oriented coping strategies to be linked to the risk of experiencing health problems, and drug use.

The present findings are in congruence with the findings of Massah et al., (2014) wherein on the basis of their research they reported emotion-focused coping strategies as the most powerful predictor of attitude towards alcohol and drug use. The finding makes us to infer that higher the tendency to escape and avoid the situation higher will be the inclination attitude towards the alcohol and drug use. The escape avoidance sub-dimension has emerged as the significant predictor of alcohol and drug attitude among adolescents. From the present findings it could be inferred that higher the escape avoidant behaviour more would be the propensity to attitude towards in the alcohol and drug use.

The results of the present study are significant because they allow us in understanding, realizing and evaluating the range of stress coping style applied by the adolescents who resort to alcohol and drug abuse behaviour. The identification of the coping mechanism further helps in managing and planning of intervention program for the management of alcohol and drug abuse behaviour.

CONCLUSION

Adolescence age is crucial period that has been characterized in part of attitude towards alcohol and drug use. Alcohol and drugs have the potential for some serious physical and psychological consequences. In this study the result revealed that ways of coping and its dimensions was a major contributory factor or predictor of attitude towards the alcohol and drugs among adolescents and positively significant relationship between ways of coping and alcohol and drug attitude among adolescents. Parents and teacher help by using positive and negative reinforcement, improving communication skill to be modified or shaped their beliefs, thought and attitude towards the alcohol and drug use among adolescents. For this result, those who lack these strategies to cope are more likely to engage in risky drinking behaviours (Wagner, Myers, & McIninch, 1999; Hasking, Lyvers, & Carlopio, 2011).

Implications

The results of the present investigation conclude significant positive relationship between ways of coping and its dimensions and attitude towards the alcohol and drug use among adolescents. As, adaptive coping strategies are predictor of desirable health outcomes the findings suggests the incorporation of skills training emphasizing the acquisition of adaptive coping strategies in the developmental tasks and intervention programmes to as to combat the substance use and have better health outcomes.

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Extraversion, Neuroticism, Religiosity, and Self-perceived Effects of Pornography Consumption among Young Adults of Kerala, India

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ABSTRACT

Understanding the link between pornography and personality has broad implications for individuals, relationships, and society as a whole. It can inform educational programs, and public health initiatives promoting healthy attitudes and behaviors related to sexuality. This study examines the relationship between Extraversion, Neuroticism, Religiosity, and Self-perceived effects of pornography. 781 participants were selected using stratified sampling technique from Kerala. Validated short form version of Self-perceived effects of pornography consumption scale (PCES-SF), a revised version of EPQ-BV, and Religiosity scales were used. The results indicated a significant correlation between extraversion and self-perceived effect of pornography, as well as religiosity and pornography consumption. However, no significant correlation was found between neuroticism and self-perceived effects of pornography consumption. Furthermore, negative correlation between age of exposure to pornography and its impact on self-perception, suggesting higher risk for negative self-perception with early exposure. Exposure to pornography at a younger age was associated with greater impact on self-perception and higher frequency of use. A strong positive correlation demonstrated that higher frequency of pornography consumption led to a greater impact on self-perception. No significant gender differences were found in self-perceived effects of pornography consumption.

Keywords: *Extraversion, Neuroticism, Religiosity, Self-perception, Age of first exposure, Pornography*

INTRODUCTION

Pornography may be defined as written or pictorial material describing or showing explicit images of sexual acts that is read or viewed with the intention of increasing sexual arousal (Hald & Malmuth, 2008). People view pornography for amplifying their sexual fantasies (Byrne & Osland, 2000). In the case of pornography, the way to addiction is comparatively very easy and once it is formed it will become an obsessive-compulsive disorder. In order to reduce their obsession people, follow compulsive behaviour like watching more porns. They develop thoughts of reciprocating the same behavioural patterns as exhibited in pornographic videos. The association between pornography consumption and holding abusive attitudes toward women is primarily seen in persons with more antisocial personalities (Freguson & Hartley, 2009). Kama sutra was the first sexually explicating material in India. Later during the second half of the twentieth century, Indian miniature paintings were transformed from crafts to arts which are mainly in exhibitionistic form, these Indian miniature paintings acquired the status of art, many of them are depicting naked figures and thus neutered with the term 'nude', which was meant to regulate dangerous visual knowledge of the body (Nead, 1992). In the case of Avadhiragamala albums, they were also identified as pornography. The new shift from craft to art did little to ease the potential danger of the erotic. In India, the advent of internet pornography has become widespread, resulting in 30% to 70% of web traffic (Ghosh, 2015). Some studies revealed that 35%-40% of content that is downloaded daily in India is pornographic (Outlook, 2019). India reports 95% rise in viewing pornography in this Covid-19 pandemic situation (India Today, 2020). According to Indian penal code (IPC) 1860, it is criminal to sell, distribute, exhibit, circulate or produce such obscene material. Pornography has also been prohibited under the information technology act, 2000 (IT Act).

Pornography is considered yet another source of information expressing ideas about gender, sex, and intimate relations. According to this view, most pornography merely triggers sexual thoughts that are not acted out, unless these thoughts result in harmful actions against others, pornography should be consider harmless (Malamuth, 1999), pornography is a form of communication which allows self-expression of sexual interests, and it is a part of basic human rights; freedom of expression of ideas (Malamuth, 1999). The conservative-naturalistic perspective holds that although individuals are equipped with a certain degree of free will, the socio-cultural environment influences their choices and decisions. According to this perspective pornography is seen as a part of this environment with the potential to adversely affect morals, values, standards, and behaviour of both the individual and society. The most commonly feared adverse effects of pornography include undesirable sexual behaviour like adultery, sexual aggression, loss of respect for traditional family structures and values,

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and a general non-specific moral decay (Linz &Malamuth, 1993). Pornography lacks intellectual or aesthetic merit; it is harmful to the viewers and damages the moral fabric of the society (Firestone, 1970).

Further, some models have also tried to explain pornography. Sexual communication model (SCM) views pornography as a natural result and it emphasizes more on considering human beings as sexual beings. This model holds a view about pornography that it performs positive, educational, informational, and therapeutic functions by serving as a source of educational and/or therapeutic aids (Goldstein, 1984). Wilson (1978) argued that pornography is a part of a latent mechanism through which society provides the individual with an opportunity to learn about sex and act as a potential clinical tool to help in overcoming sexual problems such as sexual guilt, shame and inhibition. Sexual Callousness Model (SCAM) considered pornography as a dangerous material with the potential to cause severe adverse effects. According to this model, pornography is not to be regarded as potentially beneficial, innocent, or harmless material to be used for recreational purposes, sexual pleasure, sexual development, or learning about sex (Kendrick, 1987). It argues that continuous exposure to pornography may cause acceptance and internalization of attitudes, opinions, values, morals and behavior portrayed in such materials (Buchmann, 1988). Thus continuous exposure to pornography in which women are portrayed as malleable, obsessed with sex, and willing to engage in any sexual act with any available partner potentially creates rape myths (Diamond, 1985) and it is highly problematic.

Pornography plays a significant part in men's sexual life and sexual socialisation (Wright & Bae, 2016). Consuming pornography has been proven to have an impact on men's sexuality in a number of areas, including body image dissatisfaction (Tylka, 2015), tolerance toward unintentionalsex activity (Peter & Valkenburg, 2010), preferences regarding the sexual practices depicted in pornography (Morgan, 2011), sexual aggression (Wright, Tokunaga, & Kraus, 2016), and sexual objectification of women (Mikorski& Syzmanski, 2016). Objectifying media representations of women, such as in pornography, socialise men to support particular ideas about masculinity and affect their sexual self-schemas (Brooks & Morrow, 2012).

Personality is the combination of characteristics or qualities that form an individual's distinctive character. According to Costa and McCrae (2002) extraversion, agreeableness, conscientiousness, and neuroticism are the four traits associated with risky forms of sexual behaviour. Through his three-factor model of personality, Eysenck has argued that extraversion is central to explaining individual differences in sexuality, according to these extraverts have favourable attitudes about having multiple sex partners and they also have favourable attitudes to engage in sexual intercourse with more partners than introverts (Eysenck, 1976). Neuroticism is rooted in negative emotionality, including anxiety, depression, and anger (Costa &Widiger, 1994). Neuroticism has been associated with several features of problematic sexuality which includes sexual dissatisfaction and marital distress (Bradbury & Fincham, 1988; Gottman, 2014). Some studies have found that people who score high in neuroticism tend to have more permissive sexual attitudes and engage in more sexual risk taking (Johnson, 1997).

Research has also found that the perceived effects of pornography were emphasized on 'third person' effects. That is people tend to attribute others as having more pornographic effects in their life than themselves (Lo & Paddon, 2000). The urge for longer stimulation, greater sexual stimulation, and a decline in sexual satisfaction were the most often reported unfavourable consequences of pornography. Age of first exposure was significantly related with the need for longer stimulation and more sexual impetuses to reach orgasm, and such individuals also experience a reduction in sexual plesure, quality of romantic relationship, neglect of basic needs and duties due to pornography use, and self-perceived addiction in both females and males. In their study they stated that pornography may have adverse effects on human health (Dwulit&Rzymski, 2019).

Fonceca, Raj and Anandan (2019) checked the impact of pornography on rural youth in Tamil Nadu, India. Most of the participants of the study stated that they had viewed pornographic content on a daily basis, constant viewing of porn interfered with their sleep pattern and had developed a thought of reciprocating the same behavioural patterns as exhibited in pornographic videos. More than half of them stated that they struggled with the urge to control their addiction. 66.3% of the participants stated that pornography interfered with their religious life, and they often felt guilty about it.

Declining the age of puberty and the increasing age of marriage has created a growing window of opportunity in which young people may engage in premarital romantic and sexual relationships. The Government of India estimates that about 2.40 million Indians are living with HIV, in which 83% are in the age group of 15-49 years (World Bank Group, 2012). Most of the divorce cases reported now-a-days have a root cause in any one of the partner's pornography consumptions. It creates a fantasy of sex life within their mind and they prefer pornographic models over their partner. In the

case of Kerala, 49% of porn viewers were aged between 18-24 years, 30% between 25-34 years, 9% between 35-44 years, 5% between 45-54 years, 4% between 55-64 years and 3% of them were above 65 years (Paul, 2017). Kerala is the largest producer of porn videos in India (Kurian, 2012), at the same time Kerala possesses 96.2% literacy rate, the highest in India. This might suggest that there seems to be no relationship between educating people and pornography consumption. Extraversion, agreeableness, conscientiousness, and neuroticism are associated with risky forms of sexual behaviour (Costa &McCrae, 2002). The basic idea of every religion is the purity of mind and purity of intention. Viewing pornography has generally been considered as a major sin in any religion, and society often also has a negative attitude towards it. There is a need to study all these variables together to understand more about the effect of pornography on personality, especially in the most educated state of the Indian sub-continent.

METHODS

Objectives

1. To examine the relationship between extraversion and self-perceived effects of pornography consumption.
2. To examine the relationship between neuroticism and self-perceived effects of pornography consumption.
3. To examine the relationship between religiosity and self-perceived effects of pornography consumption.
4. To find out the influences of selected demographic variables on self-perceived effects of pornography consumption.

Hypotheses

1. There is a significant relationship between extraversion and self-perceived effects of pornography consumption.
2. There is a significant relationship between neuroticism and self-perceived effects of pornography consumption.
3. There is a significant relationship between religiosity and self-perceived effects of pornography consumption.
4. Effects of pornography consumption decrease with increasing age of first exposure.
5. Perceived effects of pornography consumption increases with the frequency of pornography usage over the last six months.
6. Frequency of pornography usage over the last six months would be more in early exposed individuals than those who are exposed to pornography during later years of life.
7. There is a significant difference over gender and self-perceived effects of pornography consumption of participants

Sample: The sample (N=781) for this study was in early adulthood (i.e., within the age range of 18-30 years). All participants were from various districts of Kerala and were educated at least to the level of higher secondary or more. Out of 781 participants 451 are males and 330 are females. On the basis of districts 3.7% belongs to Kasaragod, 13.7% belongs to Kannur, 1.2% belongs to Wayanad, 41.2%belongs to Malappuram, and 40% belongs to Kozhikode. In the case of frequency of pornography use over last six month, 56.8% of the participants reported that they used pornography less than one month, 16.0% used pornography more than 15 days, 11.1% of them used pornography most of the days in a month, 9.9% of them used it twice a week, and 6.2 % of them exposed to pornography more than once a day.

Inclusion criteria

1. Any pornographic viewer watching porn at least 6 months before the data collection period.
2. Males and females within the age range of 20-40 years.
3. Native of Kasaragod, Kannur, Wayanad, Kozhikode and Malappuram.

Exclusion criteria

1. Individuals who did not have any pornographic exposure in their life or were viewing porn less than 6 months since the day of data collection.
2. All other genders were excluded from the study.
3. Individuals from other districts of Kerala were excluded.

Instruments

Self-perceived effects of pornography consumption (PCES-SF) by Hald and Miller, 2019: It is a scale developed by Hald and miller in 2019 to measure individuals' subjective experiences and perceptions of the effect of pornography consumption on themselves. It consists of 14 items that assess various aspects of individuals' self-perceived effects of pornography consumption. Participants rate the extent to which they agree or disagree with each statement on a likert type scale, typically ranging from 1(not at all) to 7 (an extremely large).

Eysenck personality questionnaire-brief version (EPQ-BV) revised by Sato in 2005: The EPQ-BV is a shorter version of the EPQ, which consists of 24 items

that assess two personality dimensions (extraversion and neuroticism). Participants respond to each by indicating their agreement or disagreement with the statement.

Religiosity scale (Modified version of Wilkes et al.) 1986: The wilkes et al. scale is a widely used measure of religiosity that assesses various dimensions of religious beliefs, practices, and experiences. It consists of multiple items that participants respond to on a likert scale, indicating the extent to which they agree or disagree with each statement.

Procedure

The study started with taking online consent for participation first. Around 6000 individuals were sent the online forms for consent, but watching porn being a sensitive personal issue only 2756 individuals agreed to participate. Although it was clearly mentioned that the data obtained will remain confidential and individual anonymity will remain throughout the study. It was also made clear that individual data will be a part of group data and hence will not be individually analyzed. The next step was to identify subjects who were watching porn from at least past six months. Again, an online form asking their duration of porn-watching was sent to all these 2756 individuals. It was mentioned in this form that even a rough estimate of duration of their porn-watching will be sufficient and they need not be too strict about the actual dates they started watching porn. The responses suggested that many of the participants were either curious about the topic under investigation and themselves were not watching porn or were watching for less than six months of duration. It might have happened that the participants got reluctant to participate further, so they did not turn back for study. Whatever could be the reason, out of 2756 participants, only 781 were the ones who turned up for this study and were watching porn for a period of more than 6-months from the start of data collection.

Since the topic of this study aimed at analyzing highly personal information, the first step of this study was to maintain rapport with the individual subjects before administering questionnaires online. Rapport was built telephonically, by calling every subject individually. The subjects were made clear that it's a common behaviour to watch porn these days, thereby making it imperative to study more about porn watching and how significant his or her contribution in it will be. Along with confidentiality and anonymity, the subjects were made clear that they can leave the study at any point of their discomfort. The subject who got a call was sent online questionnaires just after disconnecting the call. The subject was required to complete the questionnaires in accordance with the instructions on manual which were clearly mentioned on the online questionnaire too. The link for online submission by subject was closed immediately by the researcher after the stipulated time limit. The same subject then was again called to express gratitude for providing data and asking queries if any from the researcher. This procedure was repeated for around a year to gather data from 781 subjects. Once the data was obtained it was subjected to statistical analysis.

RESULTS

Table 1: Correlation between religiosity, extraversion, neuroticism, and self-perceived effects of pornography.

Variables	Religiosity	Extraversion	Neuroticism	Self-perceived effects of pornography
Religiosity	1	-.018	.076	.235*
Extraversion	-.018	1	.092	.285**
Neuroticism	.076	.092	1	.131
Self-perceived effects of pornography	.235*	.285**	.131	1

p<0.05, p<0.01** (2 tailed)

Table 2: Correlation between positive and negative effects of pornography consumption, extraversion, neuroticism, and religiosity.

Variables	PED	NED
Extraversion	.291**	.170
Neuroticism	.039	.265*
Religiosity	.125	.278*

p<0.05, p<0.01**

From Table 1, it can be seen that there is a significant positive relationship between extraversion and self-perceived effects of pornography consumption, and is significant at 0.01 level of significance. Hence H1 that there is a significant relationship between extraversion and self-perceived effects of pornography consumption is supported. But further analyzing the result the researcher reaches another interesting finding that neuroticism is moderately positively correlated with the negative effect dimension of the scale PCES-SF (see table 2). It can be seen that religiosity and self-perceived effects of pornography consumption are positively correlated. Which is significant at 0.05 level of significance. Which indicates that there is a significant relationship between these two variables. Hence, H3 there is a significant relationship between religiosity and self-perceived effects of pornography is supported. From Table 2, it can be seen that religiosity is positively correlated with the negative effect dimension of PCES-SF.

In order to check the percentage of responses to each item on the self-perceived effects of pornography scale, the researcher combined 'to a large extent to to an extremely large extent' to one and 'to a small extent to a moderate extent' to two, and 'not at all to to a very small extent' to three. And it is shown in Table 2.1.

Percentage of responses to each item on PCES-SF
1= to a large extent-to an extremely large extent
2= to a small extent-to a moderate extent
3=not at all-to a very small extent

Table 2.1: Percentage of responses to each item on PCES-SF

Item number	Item	1 (%)	2 (%)	3 (%)
1	Overall, has improved your sex life? (P)	30	25	21
2	Has made your life more problematic? (N)	38	24	18
3	Has made you more respectful towards the opposite gender? (P)	28	10	33
4	Overall, has made your sex life worse? (N)	55	13	12
5	Has had a negative influence on your attitudes toward sex? (N)	46	19	13
6	Has improved your knowledge of oral sex? (P)	15	24	23
7	Has improved your quality of life? (P)	37	19	21
8	Has had a positive influence on your attitudes toward sex? (P)	24	24	21
9	Has added something positive to your sex life? (P)	25	23	22
10	Has led you to view the opposite gender more stereotypically? (N)	39	23	16
11	Has adversely influenced your opinions of sex? (N)	30	29	17
12	Has improved your knowledge of sex? (P)	9	30	28
13	Has positively influenced your opinions of sex? (P)	14	16	37
14	Has added something negative to your sex life? (N)	43	24	8

By analyzing the table 2.1 it can be seen that, most of the participants reported that pornography has improved their quality of life, but 37% of the participants reported it's not that much positively influenced their opinion of sex, and half percentage of the respondents gave a moderate range of responses to the question asking the extent of influence of pornography on their knowledge of sex. And many of them reported that it led them to view the opposite gender more stereotypically.

In order to determine the relationship between selected demographic variables, Pearson correlation was done which is shown in table 3.

Table 3: Correlation between self-perceived effects of pornography consumption, age of first exposure, frequency of pornography use over the last 6 months.

Variables	PCE	Age of first exposure	Frequency of pornography use over last 6 month
PCE	1	-.246*	.374**
Age of first exposure	-.246*	1	-.267*
Frequency of pornography use over last 6 month	.374**	-.267*	1

p<0.05, p<0.01**

The results in Table 3 shows the correlation value for age of first exposure and frequency of pornography use over the last six months with perceived effects of pornography consumption. From Table 3 it can be seen that there is a negative correlation between age of first exposure and perceived effects of pornography consumption. Which supports the hypothesis of the study that perceived effects of pornography consumption decrease with increasing age of first exposure to pornography. Hence H4 is accepted.

It can be also seen from Table 3 that the effect of pornography consumption is (positively) correlated with the frequency of pornography use over the last six months, i.e. Perceived effects of pornography consumption increase with the frequency of pornography use over the last six months. Hence H5 is accepted.

Table 3 shows that there is a negative significant relationship between age of first exposure and frequency of pornography use over the last six months, i.e., frequency of pornography use over the last six months would be more in early exposed individuals than those who are exposed to pornography very late in their life. Hence H6 is accepted.

In order to determine the sex difference on self-perceived effects of pornography consumption t test was performed and results were presented in Table 4. Before performing t test Levene's test is performed to assess the equality of variance. The F values of self-perceived effects of pornography consumption and gender were 0.327 ($p>0.05$), and equal variance of variables are not assumed in self-perceived effects of pornography consumption. For analyzing further relationship t test was carried out.

Table 4: Mean, S.D, and t value of self-perceived effects of pornography consumption by sex

Sex	N	Mean	S.D	t value
Male	451	39.72	13.73	0.398
Female	330	38.26	17.07	

The results in table 4 shows the t-value for self-perceived effects of pornography use by sex difference are not significant. Hence H7; there is a significant difference between sex difference and self-perceived effects of pornography consumption of participants is not supported.

DISCUSSION

Personality traits have often been shown to have correlational relationships with human behavior. Just like Grubbs et al (2015) have argued that religiosity is a factor for perceived addiction of pornography because of their feeling of guilt for acting against their religious or cultural values. Similarly, the result of the study indicates a significant relationship between extraversion and self-perceived effects of pornography consumption. In another study conducted by Zeitsch et al. (2012)

extraversion is positively correlated with engagement in sexual risky behavior. Researcher also found that there is no significant relationship between neuroticism and self-perceived effects of pornography consumption. It was in contradiction to the study hypothesis, which states that there is a significant relationship between these two variables. Lobell et al (2016) found that neuroticism has an insignificant correlation with risky sexual behavior, and pornography consumption. Even though the study result shows an non-significant relationship between neuroticism and perceived effects of pornography, neuroticism has a small positive correlation with negative effects of pornography consumption. Even though the correlation was very small, most of them reported that the consumption of pornography has led them to view the opposite gender more stereotypically (39%), it also adversely influenced their opinions of sex (30%) and it made their life more problematic (38%).

In the case of religiosity, the correlation was very small with the self-perceived effects of pornography consumption, and it was also noticed that there is a small correlation between religiosity and negative effects of pornography consumption. According to Baltazar et al (2010) religious commitment or religiosity is negatively associated with consuming pornography. In his study he finds that the negative religious effects of pornography use were felt most severely by males. Nelson et al (2010) argued that frequent religious practice was negatively associated with pornography consumption, and young people who view pornography feel embarrassed or guilty about their behavior and therefore do not participate in religious activities. It may be due to the cognitive dissonance in the mind of religious people who believe porn viewing to be wrong yet do it anyway.

There is a negative correlation between age of first exposure and perceived effects pornography consumption. It supports the study hypothesis, which states that perceived effects of pornography consumption decrease with increasing age of first exposure to pornography. As the age of first exposure to pornography increases, the chances of taking that to life will decrease, it may be because of the individual's social maturity or their ability to see the world as it is. Early exposure to pornography may increase the person's unusual arousal to the pornographic materials and that person's chances of viewing the world apart from this fantasy would be very less as compared to others.

As expected, there is a strong positive correlation between the effect of pornography consumption and the frequencies of pornography use over the last six months. As the frequency of exposure increases its perceived effect on the individual also increases. And there is a negative correlation between age of first exposure and frequency of pornography use over the last six months. Age of first exposure was significantly associated with the need for longer stimulation and more sexual stimuli to reach orgasm, and they also experience a decrease in sexual satisfaction, quality of romantic relationship, neglect of basic needs and duties due to pornography use, and self-perceived addiction in both females and males (Dwulit& Rzymski,2019).

The study could not find any gender differences in perceived effects of pornography consumption. Which indicates that both men and women experience the same level of perceived effects of pornography consumption. Gender differences were found not to have any role in determining it.Overall, the study has thrown light over self-perceived effects of pornography consumption in context to various other variables.

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Role of Identity Status in Internet Addiction among Adolescents

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ABSTRACT

The internet is good for people's mental health and wellbeing when used moderately. However, Internet use is regarded problematic when it turns compulsive, interferes with everyday activities, and when the user has trouble controlling his usage. The current study examine the relationship between identity status and internet addiction among adolescents. 262 internet addicted (108 male and 154 female) school/college students out of total 604 adolescents were assessed. Their ages ranged from 11 to 19, and they were chosen at random to administer a battery of psychometrically recognised tests such as the Internet Addiction Test and the Extended Objective Measure of Ego Identity Status-2. Results of Pearson correlation coefficients found that internet addiction is significantly correlated to identity status. The internet addiction is negatively correlated with Achievement status and positively with Foreclosed and diffused status. The values of r were documented as -.26, .65 and .64 respectively. In addition, results of Regression analysis also showed that identity status as a predictor of internet addiction.

Keywords- *Identity Status, Internet Addiction, and Adolescents*

INTRODUCTION

Information and communication technologies advanced dramatically during the 20th century, but the 21st century is emerging as the Internet's boom era as massive amounts of information and communication platforms are available to us from across the globe. The Internet is an essential component and integral part of modern life, and as information technology (IT) progresses, it becomes a very much easier to use (Bozoglan, 2018). The prevalence of internet addiction among adolescents varies from country to country. In European countries, Wang et al. (2016) found that the rate is between 1.9% and 2.8%, while in Asian countries it is between 2.3% and 20.7%. A study of medical students found that 98.8% of them use the internet daily, and 47.3% of them use instant messaging applications as their main reason for accessing the internet (Moromizato et al., 2017). In Arab societies, the rates of internet addiction are even higher. In Kuwait, for example, 29% of University of Al-Huvith students exhibit at least a low level of internet addiction, and 13% of them are severely addicted (Hamade 2018). A sample of nursing students from Palestine who had their internet use patterns examined found that 30.1% of them had severe internet addiction (Alhajjar 2014). However, there hasn't been much research on internet addiction in Arab nations, which calls for more attention.

India has the second-highest usage rate in the entire world. Additionally, the country's internet penetration is growing rapidly. This is particularly true in urban India, where the majority of family members have multiple devices that they use to access the internet. The internet is therefore more likely to be used at a young age by students who live in country's urban areas (Balhara et al., 2018). Overuse of the Internet has been found to have an impact on a person's social, professional, and personal performance (Charlton and Danforth, 2007). Professionals in mental health treatment have been interested in Internet Addiction (IA), a relatively new and rapidly expanding clinical phenomenon (Saville et al., 2011). Compulsive browsing the internet, online gambling, addiction to pornography, cyber-relationships (online relationships), cyber-bullying, and addiction to online gambling are just a few behaviours that fall under this broad category. (Mihajlov and Vejmelka, 2017; Young, 1998a).

Internet Addiction

By Young (2004), addiction is described as follows: Every addiction is typically characterised by a insatiable need that is frequently followed by a loss of control, obsession with the use, and persistence in the behaviour despite the problems it causes. The results of the study by (Missaoui & Brahim, 2015) indicate that the effects of cyber-addiction include sleep disorders, disregard for household responsibilities, academic challenges, social isolation, and changes in mood and behaviour (violence, irritability). Discovered in 2017 by Bakarman. An increase in internet use is linked to several psychological effects, such as lack of motivation, rejection anxiety, and low self-esteem.

Internet addiction exhibits a wide range of symptoms, just like other addictions fulfil (Kuss et al. 2013a). Signs of internet addiction include changes in mood, increased salience of the internet in one's life, withdrawal symptoms, tolerance, relapse, and conflict. Three core types of characteristics associated with internet addiction are personal characteristics (Impulsivity, low self-efficacy and poor communication skills), other society based characteristics like poor family and social supports and internet-oriented characteristics like increased internet using time, accessibility, and proficiency).

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Diagnostic and Statistical Manual -5 (2013) included new subtype i.e., internet addiction called "Internet Use Disorder." However, the decision to include this disorder was met with criticism, as there is no clear definition of what constitutes normal versus obsessive internet use. Additionally, the terminology used to describe internet addiction is heterogeneous, and there is debate about the clinical application of the construct. Nevertheless, it is clinically helpful to know how a number of studies mentioned the relationship between internet addiction and negative factors like depression (Zdemir et al. 2014) shyness and loneliness (Ainin et al, 2017) social isolation (Poon, 2018) poor mental health (Cardak, 2013). Cerniglia et al. (2017) found that individuals with internet addiction also display more distressing symptoms, such as social withdrawal and feelings of anger. Adolescents' mental and physical health may be particularly severely impacted by internet addiction because it can worsen issues with self-worth, happiness, despair, and apprehension (Bahrainian et at. 2014; Rehman et al. 2016). Additionally harmful to identity development, internet addiction can alter the way the young brain is wired.

Additionally, it may have a negative impact on cognitive functioning, which can result in reduced academic enactment or performance, participation frequently dangerous activities, unhealthy eating behaviours, poorer interpersonal relationships, and self-harming behaviour in teenagers (Kuss et al. 2013). Studies have looked at a variety of factors that may contribute to compulsive internet use, including personality traits, demographic characteristics, and mental health symptoms (Kuss and Griffiths 2012; Andreassen 2015; Andreassen et al. 2013; 2017; Wittek et al. 2016). However, it is still unclear what factors specifically increase adolescents' vulnerability to internet addiction in Asian countries.

Internet Addiction and Identity Status

Identity status may enhance risk of internet addiction among adolescents. Erikson (1968) reports that adolescents and emerging adults face hard challenges in forming their identity in a coherent way to develop self-representatios. While some studies have linked different identity styles to high-risk behaviours that could be considered internet addiction, there have not been many studies that specifically examined identity styles as predictors of internet addiction.

The identity statuses that were the focus of this study were defined by Marcia (1980), who argued that identity creation is the result of a person's commitment and exploration. While commitment relates to individuals's choices regarding the road they are now on and their subsequent allegiance to that path, and the amount that people explore different perspectives and directions is referred to as exploration. Marcia (1980) identity status model classifies individuals' identity formation into four categories based on their levels of exploration and commitment. Individuals who exhibit low levels of exploration and commitment are categorized as diffused, while those with low exploration but high commitment are categorized as foreclosed. Those who display high exploration but low commitment are classified as moratorium, and those with high levels of both exploration and commitment are classified as achieved.

Before deciding on various identity-defining domains, people who have attained identity have gone through a phase of considering many options. The identities of those on an identity moratorium are being explored, but their commitments are hazy. Those whose identities have been locked off are devoted but haven't done any independent research. Identity-diffused people aren't actively pursuing or devoted to any roles or ideals that define who they are (Rseth et, al. 2009)

According to Marcia's four categories of identity status from 1980, people with a strong sense of identity (identity achieved) are more likely to have stable personalities, while people with a weak sense of identity (identity diffused) are more likely to have unstable personalities. Social and psychological problems appear to be correlated with identity status. According to Megreya and Ahmed (2011), identity-diffused and foreclosed people are more likely to drink heavily, while identity-moratorium and achieved people are more likely to drink lightly. Additionally Dumas et al. 2012, found that adolescents with high levels of identity commitment (either achieved or in moratorium) are less likely to engage in risky behaviors than adolescents with low levels of identity commitment (either diffused or foreclosed). Furthermore, also examined that first-year college students with high levels of identity status drank less alcohol (Bishop et al. 2005). Stefanescu et al. (2007) looked into characteristics, particularly those related to identity development that affected adolescents' participation in risky internet behaviour. The findings revealed a strong positive link between low identity status and online usage metrics associated to internet addiction.

According to a separate study conducted by Soltanifar in 2004, it was found that spending more time on the internet was linked to a reduced probability of attaining a specific identity status. Other studies have shown that low identity commitment and social communication were significantly impacted by internet addiction (Rahimirad 2004). Studies by Bagheri 2011; Fathi at al. 2013 found that non-addicted students are more likely to have achieved a sense of identity than addicted students. Addicted students, on the other hand, are more likely to have a foreclosed or diffused identity.

The research on the connection between identity status and internet addiction has shown inconsistent findings. Several studies (Ceyhan 2010; Arabzadeh et al. 2012; Tabaraei et al. 2014; Monacis et al. 2017) have indicated a significant negative correlation between achieved identity status and online addiction. This suggests that students who have achieved a stable sense of identity tend to exhibit lower levels of internet addiction. However, studies have produced varying conclusions regarding the association between moratorium identity status and internet addiction. While some studies have discovered a relationship between internet addiction and identity status, one study conducted by Ceyhan (2010) observed that first-year Turkish students in a state of moratorium were more prone to internet addiction. On the other hand, other studies (Ceyhan 2010; Arabzadeh et al. 2012; Tabaraei et al. 2014; Monacis et al. 2017) have identified a negative correlation between moratorium and internet addiction. Furthermore, conflicting evidence exists regarding the connection between low identity status (foreclosed and diffused status) and internet addiction. Several studies (Ceyhan 2010; Arabzadeh et al. 2012; Tabaraei et al. 2014; Monacis et al. 2017) have found that individuals with these identity statuses are more likely to be addicted to the internet, whereas other studies (Morsunbul 2014; Ceyhan 2010; Sinatra et al. 2016) have found no association.

In summary, the research on the relationship between internet addiction and identity status is inconclusive. Some studies have found a link, while others have not. More research is needed to determine the true nature of this relationship. The diversity of the study methods and other factors that can be related to the distinctive ethnic traits of the populations studied are potential explanations for this discrepancy in the results. Research with more homogeneous populations is therefore required to determine who these connections are most pertinent to.

Objectives:

1. To study the connection between adolescents' Identity status and internet addiction.
2. To explore whether measures of Identity status significantly predict internet addiction among adolescents.

Hypotheses:

1. Internet addiction would be negatively related with identity achievement and moratorium.
2. Internet addiction would be positively related with foreclosure and identity diffusion.
3. Measure of identity status would predict internet addiction among adolescents.

METHODS

Participants:

The sample for the study includes the students who are studying in the schools and colleges in the Kurukshetra and Karnal Districts of Haryana. After the school and college principals had granted the permission to participate in the study, participants were provided the questionnaires. Only those participants who gave consent to participate in the study were included. All participants gave their responses voluntarily. Participants were selected through purposive and convenient sampling. Sample of the study consisted of 260 internet addicted (108 male and 152 female) school/college students out of total 604 adolescents. Their age ranged 11 to 19 years.

Criteria of sample Selection for Participants

Inclusion criteria: In the present study the subjects with score less than 50 (N=344) are classified as Internet non-addiction group and those subjects with score over 50 (N=260) are classified as Internet addiction group. The collected data from the internet addiction group (260) which was the focus group of the present study were considered to verify the study results.

Exclusion criteria: Adolescents with mental retardation, psychotic disorder, bipolar disorder, autism spectrum disorder, accompanying neurological or chronic medical illness were excluded from the study. Among the 604 adolescents, those who scored less than 50 on Young's IAT and did not meet Young's IA diagnostic criteria were used to create the control group of 344 adolescents who matched the study group with respect to age, gender and socio-economic level.

Tools

Identity Status Questionnaire

The developers of this scale are Bennion and Adams (1986). It was created to assess the four various ways people respond to the late-adolescent identity crisis that James Marcia (1980) described. The questionnaire has 64 items and uses a five-point scale (1 being strongly disagree and 5 being strongly agree) to show how much respondents agree or disagree with each item. It consists of four sub-scales: "the identity-achievement score, which is the average of items 8, 13, 15, 18, 20, 22, 33, 35, 40, 42, 45, 46, 49, 51, 55, and 60; the identity-moratorium score, which is the average of items 5, 9, 11, 12, 14, 26, 31, 32, 34, 36, 43, 47, 48, 54, 57, and 61; the identity-foreclosed score, which is the average of items 3, 17, 21, 24, 27, 28, 37, 38, 39, 41, 44, 50, 58, 62, 63, and 64; and the identity-diffused score, which is the average of items 1, 2, 4, 6, 7, 10, 16, 19, 23, 25, 29, 30, 52, 53, 56, and 59". The diffused status (Cronbach's alpha =.84), foreclosed status (Cronbach's alpha =.86),

moratorium status (Cronbach's alpha =.80), and achieved status (Cronbach's alpha =.83) values in this study. Each item had a load level of at least 0.4.

Internet Addiction Test (IAT)

The Internet Addiction Test (IAT) was created by Kimberly Young and David Rogers in 1998. It is a questionnaire consisting of 20 items designed to assess the level of internet addiction. These items are categorized into six groups: salience, excessive use, neglect of work, anticipation, self-control, and neglect of social relationships. On a Likert scale of 1 (rarely) to 5 (always), each response is scored. The scores range from 20 to 100 (A Score between 20-49 reflects average use of the internet; a score between 50-79 would be interpreted as having occasional or ongoing problems when using the Internet; a score between 80-100 reflects Internet usage has a significant impact on problems) (Ghamari et al. 2011). More Internet dependence is evident from the higher score. Additionally, this questionnaire has been employed by other IA researchers, and its psychometric characteristics in regard to the component structure have been good but vary (Widyanto and McMurran 2004; Khazaal et al. 2008;). Each subscale's items had high to moderate dependability based on Cronbach's alpha values.

RESULTS AND DISCUSSION

Table 1: Relationship among internet addiction and identity status

Variables	Internet addiction	Ach	Mort	Forc	Diff
Internet addiction	1	**-.26****	.06	**.65****	**.64****
Achievement		1	.32**	-.24**	-.28**
Moratorium			1	.08	.06
Foreclosure				1	.69**
Diffusion					1

**. Sig at the 0.01 level (2-tailed).
*. Sig at the 0.05 level (2-tailed).

According to table 1st findings, there is a substantial negative link between adolescent internet addiction (IA) and Identity achievement and positive with Moratorium and diffusion status. The estimated "r" values for IA and achievement (r=-.26, p<0.01), IA and foreclosure (r=.65, p<0.01), and IA and diffusion (r=0.64, p<0.01). So the results confirms Hypothesis 1st that Internet addiction would be negatively related with identity achievement and moratorium. It might mean that students who have a high identity status have clearly defined goals for themselves and society. These goals might result from traumatic, real-world experiences and a sense of continuity. People with a well-organized ego are able to identify their strengths and weaknesses and use effective decision-making and problem-solving skills. They are also less impulsive and more likely to behave in a controlled and deliberate manner. This is because they are open to learning about the world from a realistic perspective.

These findings Ceyhan (2010), Arabzadeh et al. (2012), Tabaraei et al. (2014), Monacis et al. (2017), and Agbaria and Bdier (2019) are consistent with previous studies that have shown a link between identity status and internet use. People with a high identity status are curious to use the internet for practical and useful purposes, rather than for impulsive or recreational activities. In other words, people with a well-organized ego are more likely to use the internet in a controlled and deliberate manner, similar to other behaviors. Overall, people with a well-organized ego are more likely to use the internet in a productive and meaningful way.

The second hypothesis also came true as well. Table 1 shows that Internet addiction have statistically significant positive correlated with identity diffusion, and foreclosure. The finding that people with low identity statuses (diffused and foreclosed) are more likely to be internet addicts provides further support for the hypothesis that internet addiction is linked to identity issues. People with low identity statuses are less established in their sense of self, which can lead to a range of risky behaviors and psychological problems (Megreya and Ahmed 2011; Gavriel-Fried et al. 2018). The current findings are consistent with earlier research that found a link between internet addiction and low identity status (Arabzadeh et al. 2012; Tabaraei et al. 2014; Monacis et al. 2017; Agbaria and Bdier 2019).

Students who possess low identity statuses, characterized by a lack of clarity regarding their roles and values, are likely to exhibit a higher tendency to utilize the internet as a substitute for genuine social interactions. This inclination can be attributed to the challenges and anxiety they face in effectively coping with daily stressors. These people might have the opportunity to safely travel the world thanks to the internet, free from the identity-defining fear of rejection (Marcia, 1980). Several studies (Gross 2004; Valkenburg et al. 2005; Kennedy 2006; Valkenburg and Peter 2008) have shown that people with a weak sense of identity may use the internet to explore different identities and find one that feels right for them. They may do this by hiding their real identity, presenting themselves as someone else, or experimenting with different personas. This can be a helpful way to learn more about themselves and what they want in life. (Gross 2004; Valkenburg et al. 2005; Kennedy 2006; Valkenburg and Peter 2008).

Table 2: Stepwise Multiple Regression Analysis Dependent Variable: Internet Addiction

Step	Variable	R	R^2	R^2-Change	β	F	Sig.
1	Diffusion	.649	.421	.421	.649	188.98	.001

2	Diffusion + Foreclosure	.700	.490	.069	.366	124.35	.001
3	Diffusion + Foreclosure + Achievement	.706	.498	.008	-.093	85.28	.001

Table 2 displays the findings of a stepwise regression analysis for the dependent variable internet addiction among adolescents. The predictor variable identity diffusion accounts for 42% of variance (R^2= .421) in internet addiction. Identity diffusion is emerged as the main predictor for internet addiction and entered at step one in the equation. The predictor variable identity diffusion has positive beta weight (β = .649). It shows that, students who have lack of stability or focus in the view of the self also have addicted to internet. Multiple R for identity diffusion variable equals to .649. The F value for this variable is 188.98 (df =260) which is significant at .001 level of significance.

The next potent predictor of internet addiction is emerged as identity foreclosure. Multiple R increased to .700 and R^2 increased to .490 with this identity foreclosure in the equation after identity diffusion. The F being 124.35, (df =259) it is significant at .001 probability level. Identity diffusion and identity foreclosure jointly account for 18% of variance (R^2 = .490) in internet addiction. The identity foreclosure has positive beta weight (β = .366) that indicates that excessive use of the internet is caused when someone accepts without question the values, abilities, objectives, and overall worth that someone else has given to them. The last predictor of internet addiction is identity achievement with R=.706, R^2 =.498 and individually explain approximately 1 % variance and F-ratio is 85.28 and beta value (β = -.093) which is significant at .001 probability level. Which means that students with achieved identity status or having one's true sense of self are involving in internet addict type of activity.

Thus the hypothesis No. 2 is accepted here that Measure of identity status (foreclosure, diffusion, moratorium and achievement) would predict internet addiction among adolescents. These findings suggested that students who are high on identity achievements are proper utilisation of internet as comparison identity diffused students.

CONCLUSIONS

The results of this investigation suggested that higher identity status and stronger identity development were protective factors against adolescent's internet addiction. These results are in consistency with earlier research among Western samples, which found that these characteristics contributed to a reduction in risky behaviour in general and addictive behaviour in particular. In the current, it is found that Indian adolescents behaviour more or less in similar fashion as in other Asian societies. Identity status show a common universal significance among eastern and western adolescents despite difference in socio-political characteristics. Consequently, in order to lessen the possibility of adolescents' internet addiction, present findings may influence intervention programmes like psych education-based initiatives that help young people build their own sense of self. Around the world, the covid-19 pandemic had an effect on the occurrence of internet addiction, particularly among students. Digital entertainment has become more expensive as a result of people engaging in too many digital activities and not enough face-to-face engagement. Therefore, it is urged that more oversight and control be used over how teenagers should use the Internet, and that they be made aware of the risks associated with inappropriate or excessive use of technology.

The findings of this study also highlight the significance of preventive interventions, such as student education initiatives and counselling on effective and responsible Internet use. By addressing the problems and challenges that communication technologies like Internet and by enticing parents and families to focus more on the safe and effective use of the Internet, the groundwork for proper education may also be laid.

LIMITATIONS AND SUGGESTIONS

Although the current study had significant limitations, it was new in several respects. Initially, participants were not selected at random from the population of interest; rather, they were gathered as a convenient sampling. Moreover, the fact that each participant came from one ethnic background may limit the generalization. To offer particular insight into the individual traits that might be especially significant for raising the risk of internet addiction among this particular group of adolescents, the current sample was purposefully kept homogeneous. Secondly, the information was obtained via self-report questionnaires, which could introduce bias in the manner in which it is reported. Thus, future research may consider integrating multiple sources of information, such as questionnaires administered to teachers, parents and peers. Although many background variables are included in the study, there are still some more background variables such as socio economic status, parents‟ education and parents working status, type of family, major of study, academic performance etc., which are not included in the study. Such variables should be considered for the further studies.

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Original Research Article

Time Spent On Playing Online Games: A Comparative Study of Problematic and Non-Problematic Gamers

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ABSTRACT

Aim: Over the last few decades researchers have been intrigued by the increasing incidence of Problematic Gaming among adolescents and a large body of recent literature is focused on the amount of time *"Gen Z"* likes to spend on playing Online Games. However, whether the "Time Spent" on playing Online Games is a significant criterion for classifying gaming as "Problematic" remains unclear. Objective: For this purpose, the current investigation attempts to study the association between "Time spent on playing games" and 'Problematic Gaming" among adolescents. Methods and Material: The sample comprised of 300 adolescents (150 males and 150 females) in the age range of 14-16 years from various schools of Chandigarh, Mohali and Panchkula (India). The Problematic Online Gaming Questionnaire-Short Form, POGQ-SF was administered and demographic information was collected from the participants using multiple choice questions including time spent on playing online games. Data was analysed using the Pearson Chi-Square test. Results: Results revealed a significant difference in the Time Spent on playing Online Games between Problematic and Non-Problematic gamers over the Weekend ($p<.05$). Findings from the current study, thus, could be used heuristically to consider "Time Spent" on playing games as an important criterion for classifying gaming as "Problematic".

Keywords: *Time spent, Problematic Gaming, Adolescents*

INTRODUCTION

Online Gaming culture has been gaining popularity among the adolescents over the last few years, wherein, gaming is amongst the most favoured recreational activities for the younger generations **(**Andre et al., 2020). A recent U.S. based study reported that 70% of those who play games are below 18 years of age (Entertainment Software Association, 2018). And even though gaming is associated with multiple social, cognitive and motor benefits (Nuyens et al., 2018), there is always a risk of gaming to become "Problematic" (Andre et al., 2020) and resulting in multiple negative health consequences (Kumar et al., 2021).

Problematic Gaming, thereby, is understood as a consistent pattern of gaming that starts to interfere with the routine functioning of the individual **(**Demetrovics et al., 2012). According to Van Rooij et al. (2011) and Kuss and Griffiths (2012), there are two key aspects of Problematic Gaming:

a. Individuals continue to engage in gaming activity despite knowing about its negative consequences and that often results in interpersonal difficulties for the individual

b. A substantial amount of time is spent on gaming activities, wherein, gaming starts to interrupt the routine of the individual

Recent studies by Kumar et al. (2021) highlight that the "time" individuals spend on playing games is associated with pathological health consequences such as musculoskeletal, psychosomatic along with anxious and depressive conditions (Hellstrom et al., 2015). This implies that the "number of hours" an individual spends on playing games is closely associated with "Problematic" patterns of gaming. Contrary to this idea, earlier studies of Griffiths (2009), posited that the "time spent" on playing games, in fact, should not be considered as an essential a criterion for classifying gaming as "Problematic". Further, Lee and Leeson (2015) depict that even though the "Time Spent" on playing games is a strong risk condition for Problematic Gaming behaviours it still cannot be considered a clear "indicator" of Problematic Gaming.

This paradox generates curiosity to dive deeper into the subject matter and explore if "Time Spent" on playing games is significantly associated with "Problematic Gaming" behaviour amongst adolescents. This would further help in generating intervention strategies that attempt to reduce the number of hours spent on gaming and consequently the pathological effects of playing online games.

METHOD

Aim & Objective: The increasing popularity of the time spent on playing Online Games amongst social scientific researchers has generated an interest to explore the association between Time Spent on Playing Online Games and Problematic Gaming. For this purpose, the current investigation aims to study the association between "Time spent on Gaming" and 'Problematic Gaming" behavior amongst adolescents.

Hypothesis: Based on the review of literature, following hypotheses were proposed:

1. Problematic Gamers were expected to spend more Time on Playing Online Games as compared to Non-Problematic Gamers on Weekdays.

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2. Problematic Gamers were expected to spend more Time on Playing Online Games as compared to Non-Problematic Gamers on Weekends.

Procedure:

Sample

The sample comprised of 300 adolescents (150 males and 150 females) in the age range of 14-16 years. For this purpose, subjects were contacted from various schools in Chandigarh, Mohali and Panchkula. Participants were selected using a purposive sampling technique and demographic information was also obtained from the participants.

Tests and Tools

Following standardized tests and tools were used to assess Problematic Gaming and Time Spent on Playing Online Games-

1. **Problematic Online Gaming Questionnaire Short-Form (POGQ-SF) (**Demetrovics et al., 2012): The test comprised of 12 questions associated with preoccupation, overuse, immersion, interpersonal conflict, social isolation and withdrawal. To each item there is a graded response (1= never to 5= always). According to Papay et al., (2013) a respondent scoring 32 or above from a maximum possible score of 60 was to be classified as a Problematic Gamer and consequently the one scoring below 32 as a Non-Problematic Gamer. The test has good internal consistency (Cronbach's alpha = .91) and high discriminant validity (.75).
2. **Time Spent on Playing Online Games**: The Time Spent on playing online games was recorded along with the demographic information, using two multiple choice questions i.e. "How many hours do you play online games on a *Weekday*?" and "How many hours do you play online games on a *Weekend*?" Each question had four options to choose from i.e. "less than 2 hours", "2-4 hours", "4-8 hours" and "more than 8 hours per day".

Statistical Analysis

Keeping in view the objectives and the hypotheses of the current study descriptive frequencies and percentages along with Pearson Chi-square test were administered using the SPSS software package.

RESULTS

Table 1: Frequency and Percentage of Time Spent on Gaming (Weekday) (n=300)

No. of Hours	Problematic Gamers		Non-Problematic Gamers		All	
	N	%	N	%	N	%
Less than 2 hours	118	78.70%	135	90.00%	253	84.30%
2-4 hours	26	17.30%	13	8.70%	39	13.00%
4-8 hours	4	2.70%	1	0.70%	5	1.70%
More than 8 hours	2	1.30%	1	0.70%	3	1.00%
All	150	100.00%	150	100.00%	300	100.00%

Table 2: Pearson Chi Square Results of Time Spent on Gaming (Weekday) for Comparing Problematic and Non-Problematic Gamers (N= 300)

Time Spent on Gaming	Problematic Gamers	Non-Problematic Gamers	Chi Square	P value
Less than 2 hours	118	135	7.609	0.06
2-4 hours	26	13		
4-8 hours	4	1		
More than 8 hours	2	1		
Total	150	150		

P<.05*, p<.01**

Table 3: Frequency and Percentage of Time Spent on Gaming (Weekend) (n=300)

No. of Hours	Problematic Gamers		Non-Problematic Gamers		All	
	N	%	N	%	N	%
Less than 2 hours	90	60.00%	113	75.30%	203	67.70%
2-4 hours	47	31.30%	31	20.70%	78	26.00%
4-8 hours	12	8.00%	4	2.70%	16	5.30%
More than 8 hours	1	0.70%	2	1.30%	3	1.00%
All	150	100.00%	150	100.00%	300	100.00%

Table 4: Pearson Chi Square Results of Time Spent on Gaming (Weekend) for Comparing Problematic and Non-Problematic Gamers (N= 300)

Time Spent on Gaming	Problematic Gamers	Non-Problematic Gamers	Chi Square	P value
Less than 2 hours	90	113	10.221	0.02*
2-4 hours	47	31		
4-8 hours	12	4		
More than 8 hours	1	2		
Total	150	150		

p<.05*, p<.01**

DISCUSSION

The current investigation aimed to evaluate the association between "Time spent on Gaming" and 'Problematic Gaming" behavior amongst adolescents. For this purpose, descriptive frequencies and percentages of Time Spent on Gaming by Problematic and Non-Problematic gamers were calculated along with calculation of Pearson Chi-square.

Results from Table 1, depict the frequency and percentage of Time Spent on Gaming by Problematic and Non-Problematic Gamers on Weekdays. As per the findings 1.30% of Problematic Gamers spent "more than 8 hours" playing games compared to 0.70% of Non-Problematic Gamers. And 2.70% of Problematic Gamers spend "4-8 hours" in comparison to 0.70% of Non-Problematic Gamers on playing games. While 17.30% of Problematic Gamers spend "2-4 hours" on gaming compared to 8.70% of Non-Problematic Gamers. Lastly, 78.70% of Problematic Gamers spend "less than 2 hours" playing Online Games compared to 90% of Non-Problematic Gamers. These findings, thus, suggest that a higher percentage of Problematic Gamers spend a greater number of hours playing Online Games as compared to Non-Problematic Gamers on Weekdays. Also, the only category in which the percentage of Non-

Problematic Gamers was higher than Problematic Gamers was the "less than 2 hours" category which further stands consonant with the hypothesis of the investigation.

Further, results from Table 2, depict the chi-square analysis of Time Spent on Gaming (Weekday) and as per the findings no significant difference was observed between the Time Spent on playing Online Games (Weekdays) of Problematic and Non-Problematic Gamers i.e. X^2= 7.609. Therefore, the hypothesis that "Problematic Gamers spend more Time on Playing Online Games as compared to Non-Problematic Gamers on Weekdays" was rejected.

Results from Table 3, depict the frequency and percentage of Time Spent on Gaming by Problematic and Non-Problematic Gamers on the Weekend. As per the findings 0.70% of Problematic Gamers spend "more than 8 hours" playing games compared to 1.30% of Non-Problematic Gamers. And 8% of Problematic Gamers spend "4-8 hours" playing online games in comparison to 2.70% of Non-Problematic Gamers. While 31.30% of Problematic Gamers spend "2-4 hours" on gaming compared to 20.70% of Non-Problematic Gamers. Lastly, 60% of Problematic Gamers spend "less than 2 hours" playing Online Games compared to 75.30% of Non-Problematic Gamers. This implies, that a higher percentage of Problematic Gamers spend "2-4" hours and "4-8" hours playing Online Games as compared to Non-Problematic Gamers on the Weekends. While a lesser percentage of Problematic Gamers spend "less than 2 hours" playing Online Games on the weekend in comparison to Non-Problematic Gamers.

Since, a higher percentage of Problematic Gamers spend more time playing Online Games in comparison to Non-Problematic Gamers on the Weekend, Pearson Chi-Square analysis was also administered to find the association between "Time Spent on Gaming" and "Problematic Gaming" behaviour on the Weekend. As evident from the Chi-Square analysis in Table 4, significant difference was observed between Problematic and Non-Problematic Gamers Time Spent on playing Online Games (Weekend), i.e. X^2= 10.221 ($p<.05$). Therefore, the hypothesis that "Problematic Gamers spend more Time on Playing Online Games as compared to Non-Problematic Gamers on the Weekend" was supported.

The findings from the current investigation also stand consonant with the literary review, wherein, studies of Choo et al. (2010); King et al. (2010) suggest that the amount of time gamers spend on playing games is critical for classifying gaming as Pathological or Non-Pathological. Further, a recent study of Sincek et al. (2017) depicted that Problematic Gamers spend more than 5 hours on playing games every day that further causes them to be at a higher risk of experiencing negative consequences such as bullying and cyberbullying as compared to Non-Problematic Gamers. The findings of Manniko et al. (2017) were also consonant with the above studies, wherein, their findings highlighted that there was a positive association between "Time Spent on Gaming" and "Problematic Gaming" behaviour amongst adolescents who on an average spent one hour playing action, casual and digital games. **Further, Nakayama et al. (2020)** posited that Problematic Gamers woke-up and slept at later hours in comparison to Non-Problematic Gamers and that spending time "weekly" on gaming at a younger age was a potential risk factor of Problematic Gaming behaviour amongst adolescents. From the above listed studies, it can thus be implied that 'Time Spent on playing Online Games' does have "negative" consequences for gamers and can contribute to Problematic Gaming behaviours.

CONCLUSION

The current investigation, therefore, supplements the previous findings by depicting a "significant association" between Time Spent on Gaming and Problematic Gaming Behaviour amongst adolescents. But a limitation of the study was that "Time Spent" on gaming was recorded categorically instead of using a continuous scale which limited the results to provide a "range" over the "exact" number of hours a Problematic Gamer would spend on playing games in comparison to a Non-Problematic Gamer. So future studies should attempt to overcome this limitation by using more specific means to measure Time Spent on playing Games.

The current study can, therefore, be considered one amongst the preliminary works that have attempted solidify the supposition that Problematic Gaming and Time Spent on playing Games are positively associated. Results from this study could also provide cues for intervention based researches that may target to reduce the interval of time adolescents spend on playing games and consequently minimize their Problematic Gaming behaviours.

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Original Research Article

Assessment of Anxiety in Wives of Patients with Alcohol-Related Disorders

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ABSTRACT

Background: The growing evidence shows that harmful use of alcohol adversely affects not only individuals but also families. This negatively impacted the economic, physical, psychological, and social functioning of the family. There is concern about the effect of husbands' alcohol-related disorders on wives, given the intimate nature of their relationship, who are more vulnerable to having common psychological disorders. Aim: The main objective of the study was to assess the levels of anxiety and the severity of alcohol dependence. Methods: A cross-sectional study design and a purposive sampling method were used. The sample consisted of 110 wives and their husbands who fulfilled the inclusion and exclusion criteria. Respondents were administered a semi-structured questionnaire for collecting socio-demographic data and screened for anxiety using DASS-42 for the wife and SADQ-C for assessing the severity of alcohol dependence for the husband. Result: Statistical analysis such as the Chi-square test and frequency were used. The research findings showed that 35% had mild anxiety, 54% had moderate anxiety, and 11% had severe anxiety. The prevalence of anxiety was 65% among wives. There was a significant association between the severity of the husbands' alcohol dependence and the levels of anxiety among their wives. However, levels of anxiety had an insignificant relationship with the duration of husbands' alcohol use. Conclusion: These results have crucial implications for gradually raising awareness of the anxiety that wives experience in the context of alcohol-related disorders as well as an effort to protect and provide appropriate assessment and intervention.

Key Words: *Wives, Alcohol-related Disorders, Anxiety, and Prevalence*

INTRODUCTION

Substance-related disorders are family diseases. Wives of partner alcohol dependence are exposed constantly to physical and verbal abuse. Husband drinking problems had adverse consequences, including financial hardship, social stigma, interpersonal conflicts, and low marital satisfaction in spouses. Distressing life events may trigger negative mental health among these victimized women. The spouse's anxiety is associated with the husband's harmful consumption of alcohol, as suggested in literature. According to the Global Status Report on Alcohol and Health, the harmful use of alcohol resulted in more than 3 million deaths worldwide and 132.6 million disability-adjusted life years (DALYs) in 2016 (World Health Organization, 2018). The harmful use of alcohol has consequences for violence, injuries, mental health problems, and diseases like cancer and stroke that suffer their families, communities, and social and economic burdens in societies. Alcohol is a psychoactive substance with dependence-producing properties that has been widely used in many cultures for centuries. Ambekar et al. (2019) national survey on the extent, trends, and pattern of substance uses in India reports that over 19% use alcohol in a dependent manner.

A problematic pattern of alcohol consumption is often associated with partner violence, significant impairment in social and occupational relationships, and interpersonal conflict in the family environment. It is a matter of concern that partners have alcohol dependence syndrome and psychiatric morbidity in their spouses. A study conducted by Begam et al. (2015) showed a high level of anxiety among wives of alcohol-dependent husbands with low marital satisfaction. Similar research findings showed higher anxiety and depression in spouses of alcohol-dependent husbands as compared with those who were not alcohol-dependent.

In India, wives are the primary caregivers of their partners, and there is a sense of acceptance of the husband's abusive behavior and a willingness to bear the burden of the endless somatic and psychosocial problems (Shah et al. 2017). Sharon's (2014) study reveals that husbands' problematic drinking generated problems with neighbors, relatives, and at work. Wives of alcohol dependence have a low level of perceived quality of life compared to wives of non-alcohol dependence, who have a high level of perceived quality of life. It was evident that a major proportion of wives have psychological morbidities such as anxiety, which have clear links to the severity of alcohol dependence in husbands (Mammen et al., 2015).

Kishor et al. (2013) found that husbands' adverse consequences of being alcohol dependent are often associated with marital dissatisfaction and psychiatric morbidity. The spouse of the husband has alcohol-related disorders prevalent in psychiatric disorders, commonly being diagnosed with anxiety disorder. Marital dissatisfaction was significantly associated with husbands' severity of alcohol dependence. Also, increased duration of alcohol consumption was associated with a higher severity of alcohol dependence. Alcohol-related disorders pose serious threats to the healthy functioning of

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the family structure in a multitude of ways (Ghosh et al., 2017). The prevalence of psychiatric morbidity among wives of partners with alcohol-related disorders was 66.3%, mostly depression and anxiety disorders.

In India, spouses play a vital role in the treatment (Dandu et al., 2017). Wives of husbands who are alcohol dependent reported a poorer pattern of family interaction in the domains of social support, responsibility, communication, etc. Thus, understanding the characteristics of the drinker and their negative consequences may help to clarify the development and prevention of alcohol-related problems (Singh et al., 2009). Depression and anxiety are highly common among spouses of husbands' alcohol use disorders when compared with wives of men's non-alcohol use disorders. The social consequences of partners harmful consumption of alcohol and increased violence can lead to decreased marital satisfaction (Gandhi et al., 2017).

The adverse impact of substance uses on families, usually on female caregivers, is immense. The burden on women due to substance-abusing family members can be related to problems occurring when the user is under intoxication, behavioral consequences such as domestic violence and high-risk behaviors, social consequences like stigma and isolation, legal consequences such as crime and arrests, and emotional breakdown due to a lack of support from the spouse (Pujam et al., 2017). Considering the wide study gap, especially in the north-eastern state of Manipur, this is one of the few attempts to address a piece of scientific approach to the most vulnerable and underserved populations and assess and document the anxiety in wives of male patients with alcohol-related disorders.

Objectives of the Study

1. To estimate the frequency and pattern of anxiety among wives of patients with alcohol-related disorders.
2. To find out the association between socio-demographic variables and level of anxiety among wives of alcoholic patients.
3. To evaluate the relationship between severity of husbands' alcohol dependence and anxiety among wives.
4. To examine the duration of husbands' alcohol use and level of anxiety among wives.

METHODOLOGY

The present study was a cross-sectional study. It was conducted in the Department of Clinical Psychology and Psychiatry, Regional Institute of Medical Sciences (RIMS) Imphal, from July 2019 to July 2020. Participants were recruited from the outpatient as well as inpatient registry of these departments. The samples of the study consisted of 110 (one hundred and ten) wives as well as their husbands diagnosed with alcohol-related disorders who fulfilled the inclusion and exclusion criteria. This study had only begun after obtaining approval from the Research Ethics Board of RIMS, Imphal.

Before conducting the study, necessary permission was obtained from the concerned authority, and they were thoroughly informed about the nature of the study, which was mainly to evaluate the levels of anxiety in the wives of patients with alcohol-related disorders. Then, the researcher approached the particular participants for data collection. Informed consent was obtained from the participants, and they were assured that their confidentiality would be maintained. After the participants had given their consent, they were administered a socio-demographic data sheet and a depression, anxiety, and stress scale. They were also informed that it might take approximately 30 minutes to conduct the test.

Sample Size Calculation

The sample size was determined using the formula $n = Z^2 P (1-P)/d^2$

Where, n = sample size,

Z = Z statistic for a level of confidence

P = expected prevalence or proportion (prior information is 65% = 0.65)

d = precision (in proportion of one; if 9%, d = 0.09)

Assumptions, at 95% confidence limit, Z=1.96

Sample size $n = Z^2 P (1-P)/d^2$

$= 1.96^2 \times 0.65 (1-0.65)/0.09^2$

$= 1.96^2 \times 0.2275/0.0081$

$= 0.8739/0.0081$

$= 107.89$

$= 110$ (rounded off to nearest 10)

Sampling Method

For the present study, the purposive sampling method was used. Every wife of a husband diagnosed with alcohol-related disorders from the inpatient as well as the outpatient registry at the Department of Psychiatry and Clinical Psychology who fulfils both the inclusion and exclusion criteria was approached until the required sample size was reached. The goal of these designs is to gather the necessary data to draw conclusions. It provides researchers with the justification to generalize from their sample. The flexibility of purposive sampling allows researchers to save time and money while collecting data.

Inclusion Criteria

1) Wives of adult patients attending the Department of Psychiatry and Clinical Psychology who diagnosed with alcohol-related disorders according to the International Classification of Diseases-10 (ICD-10).

2) Age: 18 years above

3) Participants consented to the study.

Exclusion Criteria

The exclusion criteria were chronic medical conditions or severe psychiatric disorders in the patient and their spouses which were not related to alcohol ingestion and as well as their spouses not consenting for the study.

The following tools were used to collect data:

1. Socio-Demographic Datasheet

It consisted of information including the age, gender, educational status, occupational status, and other demographic information of the wives of patients with alcohol-related disorders.

2. The Depression Anxiety Stress Scale (DASS-42)

The depression-anxiety stress scale was developed by Lovibond & Lovibond (1995). The DASS assesses negative emotional symptoms by using a four-point Likert scale, ranging from 0 to 3. It has three subscales and contains 42 items, divided into 14 depression, 14 anxiety, and 14 stress items with similar content. These subscales are scored by adding the total item scores. The reliability of the scale revealed excellent Cronbach's alpha values of 0.90 for depression, 0.90 for anxiety, and 0.87 for stress domains. The scale showed good validity.

3. The severity of Alcohol Dependence Questionnaire-Community (SADQ-C)

The Severity of Alcohol Dependence Questionnaire was developed by Stockwell et al. (1994). SADQ-C assesses the degree of alcohol dependence. It has been validated in inpatient, outpatient, and community settings. Four-point Likert scale: almost never – 0, sometimes -1 Often -2, nearly always -3. An interpretation of a score of 31 or higher indicates "severe alcohol dependence", a score of 16–30 indicates "moderate dependence", and a score below 16 usually indicates only a mild physical dependency. The reliability of the scale indicated high internal reliability (Cronbach's alpha of 0.98).

Statistical Analyses

The data was being sorted, coded, and entered into the computer using Statistical Package for Social Sciences (SPSS) software version 25. On the basis of the objectives of the study, the collected data was interpreted and analyzed. The data was presented using frequency tables. Pearson's chi-square test was computed to see an association between categorical data from the contingency table. In statistical tests, the significance level was 0.05.

RESULTS

The present study was based on the primary data of 110 wives of patients with alcohol-related disorders attending the Department of Clinical Psychology and Psychiatry, RIMS, Imphal. There were four sections in the present study, viz.,

Section 1: Estimates the frequency and pattern of anxiety of the participants.

Section 2: Studies the relationship between socio-demographic variables and wives' anxiety.

Section 3: Studies the relationship between the severity of alcohol dependence and wives' anxiety. **Section 4** examines the relationship between the duration of husbands' alcohol use and wives 'anxiety.

Table 1: Showing frequency and percentage on levels of anxiety of the study samples

Levels of anxiety	Frequency	Percentage
Mild	39	35
Moderate	59	54
Severe	12	11
Total	110	100

Table 1 presents the frequencies, percentages, and patterns of anxiety among 110 respondents: 39 (35%) mild, 59 (54%) moderate, and 12 (11%) severe levels of anxiety in wives.

Table 2: Socio-demographic variables and levels of anxiety of the study samples

Socio-demographic variables	Levels of anxiety			
	Mild	**Moderate**	**Severe**	**Total**
Age of spouse of alcoholic				
Younger wives (18-45)	25 (64%)	25 (42%)	8 (67%)	58 (53%)
Older wives (above 45)	14 (36%)	34 (58%)	4 (33%)	52 (47%)
Total	39 (100%)	59 (100%)	12 (100%)	110 (100%)
Chi-square = 5.498; d.f. = 2; p-value = 0.064; Remark = Insignificant				
Educational Qualification				
Primary	16(41%)	21(36%)	5(42%)	42(38%)
Secondary	4(10%)	13(22%)	3(25%)	20(18%)
Higher secondary	12(31%)	15(25%)	3(25%)	30(27%)
Graduation	7(18%)	10(17%)	1(8%)	18(17%)
Total	39 (100%)	59 (100%)	12 (100%)	110 (100%)
Chi-square = 3.177; d.f. = 6; p-value = 0.786; Remark = Insignificant				
Types of family				
Nuclear	26(67%)	36(61%)	8(67%)	70(64%)
Joint	13(33%)	23(39%)	4(33%)	40(36%)
Total	39 (100%)	59 (100%)	12 (100%)	110 (100%)
Chi-square = 0.377; d.f. = 2; p-value = 0.828; Remark = Insignificant				
Religion				
Hindu	30 (77%)	46 (78%)	8 (67%)	84 (76%)
Christian	9 (23%)	13 (22%)	4 (33%)	26 (24%)
Total	39 (100%)	59 (100%)	12 (100%)	110 (100%)
Chi-square = 0.716; d.f. = 2; p-value = 0.699; Remark = Insignificant				
Place of residence				
Urban	12 (31%)	16 (27%)	3 (25%)	31 (28%)
Rural	27 (69%)	43 (73%)	9 (75%)	79 (72%)
Total	39 (100%)	59 (100%)	12 (100%)	110 (100%)
Chi-square = 0.222; d.f. = 2; p-value = 0.895; Remark = Insignificant				

Socio-demographic variables	Levels of anxiety			
	Mild	Moderate	Severe	Total
Monthly family income				
Rs. 10000 to 300000	25 (64%)	36 (61%)	9 (75%)	70 (64%)
Above Rs. 30000	9 (23%)	11 (19%)	3 (25%)	23 (21%)
Below Rs. 10000	5 (13%)	12 (20%)	0 (0%)	17 (15%)
Total	39 (100%)	59 (100%)	12 (100%)	110 (100%)
Chi-square = 3.577; d.f. = 2; p-value = 0.466; Remark = Insignificant				
Occupation				
Government employee	5(13%)	6(10%)	1(8%)	12(11%)
Business	10(25%)	16(27%)	1(8%)	27(25%)
Unemployed	7(18%)	19(32%)	3(26%)	29(26%)
Unskilled work	17(44%)	18(31%)	7(58%)	42(38%)
Total	39 (100%)	59 (100%)	12 (100%)	110 (100%)
Chi-square = 6.000; d.f. = 6; p-value = 0.423; Remark = Insignificant				

Table 2 displays the relationship between socio-demographic variables and the levels of anxiety among wives of alcoholic patients attending the department of psychiatry at RIMS, Imphal. The results revealed that none of the selected socio-demographic variables, such as age of spouse of an alcoholic (p-value = 0.064), educational qualification (p-value = 0.786), types of family (p-value = 0.828), religion (p-value = 0.699), place of residence (p-value = 0.895), monthly family income (p-value = 0.466), and occupation (p-value = 0.423), were found to have a significant relationship with respect to levels of anxiety.

Table 3: The severity of alcohol dependence and anxiety of the study sample

The severity of alcohol dependence	Levels of anxiety			
	Mild	Moderate	Severe	Total
Mild	21 (54%)	3 (5%)	1(8%)	25 (23%)
Moderate	16 (41%)	52 (88%)	1(8%)	69 (62%)
Severe	2 (5%)	4 (7%)	10(84%)	16 (15%)
Total	39 (100%)	59 (100%)	12 (100%)	110 (100%)

Chi-square = 84.313; d.f. = 4; p-value = 0.000; Remark = Significant

This table 3 showed that the percentage and levels of anxiety among wives of mildly alcohol dependent husbands were 23% mild, 62% moderate, and 16% severe, and for moderately alcohol dependent husbands, 41% mild anxiety, 88% moderate anxiety, and 8% severe anxiety, respectively, and for severely alcohol dependent husbands, 5% mild, 7% moderate, and 84% severe level of anxiety, respectively. The differences in percentage were maximal, and when a statistically applied chi-square test was found, there was a significant relationship between the severity of alcohol dependence and levels of anxiety in wives, as evident by a p-value of 0.000.

Table 4: Duration of alcohol use and anxiety of the study samples

Duration of alcohol use	Levels of anxiety			
	Mild	Moderate	Severe	Total
2 to 10 years	28(72%)	37 (63%)	6 (50%)	71 (65%)
11 to 20 years	6 (15%)	12 (20%)	4 (33%)	22 (20%)
20 & above	5 (13%)	10 (17%)	2 (17%)	17 (15%)
Total	39 (100%)	59 (100%)	12 (100%)	110 (100%)

Chi-square = 2.499; d.f. = 4; p-value = 0.645; Remark = Insignificant

This table 4 showed that the percentage and level of anxiety in wives for the husbands' 2 to 10 years of alcohol use were 72% mild, 63% moderate, and 50% severe levels, respectively; for 11 to 20 years of alcohol use, 15% mild, 20% moderate, and 33% severe levels, respectively; and for 20 years and above of alcohol use, 13% mild, 17% moderate, and 17% severe levels, respectively. The differences in percentage were minimal, and when a statistically applied chi-square test was applied, it was found to be an insignificant relationship between duration of alcohol use and levels of anxiety, as manifested by a p-value of 0.645.

DISCUSSION

A current study suggests that wives whose partners suffer from alcohol-related problems have a significant prevalence of anxiety. These findings, which agreed with those of earlier investigations, showed that the prevalence of psychiatric morbidity was 63.33% among spouses of alcohol-dependent men (Bagul et al., 2015). Similarly, Mammen et al. (2015) study found that anxiety and stress-related disorders comprised about 36% of the total psychiatric morbidity, and wives of men with alcohol use disorder show significantly higher rates of both depression and anxiety when compared with wives of men with non-alcohol use disorder (Rakesh et al., 2017). In addition, another comparative study by Shah et al. (2017) found that anxiety was higher in wives of alcohol-dependent men as compared to wives without alcohol dependence.

Thasnim et al. (2015) found that 65% of spouses had a psychiatric disorder (mood and anxiety disorders). In the present study, there were no significant relationships found between socio-demographic factors such as age, education, occupation, religion, types of family, place of residence, monthly income, number of children, years of marriage, age of initiation of alcohol use, and wife battering due to alcohol intoxication and levels of anxiety among wives of patients with alcohol-related disorders. This finding was contradicted by an earlier study that demonstrated that husband drug dependence and lower monthly income were common predictors of anxiety among wives of drug dependents in Iran (Noori et al., 2015). The present findings showed that there was a significant relationship between the severity of alcohol dependence among husbands and the level of anxiety among wives. It is also revealed that the higher the severity of husbands' alcohol dependence, the higher the levels of anxiety their wives experience. These findings concord with earlier research (Ghosh et al., 2017). The present findings revealed that there were no significant relationships between the duration of husbands' alcohol use and the levels of anxiety in their wives.

CONCLUSIONS

The results of this study indicated the importance of common mental health problems, especially anxiety, for spouses whose husbands have alcohol-related disorders. The research findings provide evidence that anxiety is more prevalent in the wives of patients with alcohol-related disorders. It is also revealed that the higher the severity of husbands' alcohol dependence, the higher the levels of anxiety their wives experience.

Limitations and Implications

One of the study's major shortcomings was that it used a sample that may not be representative of the broader c ommunity because it was limited to female spouses wh o were the primary caregivers for male inpatients under going treatment at a tertiary care hospital.

The present finding would serve to incrementally attempt to bring awareness of anxiety faced by the wives to protect and promote and pressing the need to provide appropriate assessment and intervention is crucial.

Conflicts of interest

The authors declared no conflict of interest.

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Effects of Self-Efficacy on Addiction Recovery and Relapse in Substance Users

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ABSTRACT

This paper examined the effects of self -efficacy (general and coping self –efficacy) on addiction recovery and relapse in substance users. The participants of the study were 100 Opiod dependence disorder diagnosed male patients, aged 21-40 years, undergoing treatment at Drug De-Addiction & Treatment Centre in Tertiary Care Hospital, Amritsar (Punjab). The General Self-Efficacy Scale developed bySchwazer and Jerusalem (1995), Drug-Taking Confidence Questionnaire developed by Sklar and Turner (1999), Brief Assessment of Recovery Capital developed by Vilsaint et al.(2017) and the AWARE Questionnaire developed by Miller and Harris (2000) were administered to the subjects to assess general self -efficacy, coping self -efficacy, recovery capital and relapse risk respectively. The obtained data was analyzed using a one-way Analysis of Variance (ANOVA). The results clearly revealed that general self -efficacy had a significant main effect on addiction recovery [$F(1, 98) = 6.96$, $p<0.01$)] but the main effect of general self -efficacy on addiction relapse was found to be statistically non-significant [$F(1, 98) = 0.79$, $p<0.01$). High scorers on general self- efficacy outperformed low scorers on addiction recovery capital. The findings also revealed that coping self- efficacy in substance users had a significant main effect on both the dependent variables, addiction recovery [$F(1, 98) = 23.28$, $p<0.01$] and relapse [$F(1, 98) = 22.06$, $p<0.01$]. High scorers on coping self- efficacy scored higher on addiction recovery capital and lower on relapse risk.

Keywords: *Addiction, General Self- Efficacy, Coping Self- Efficacy, Recovery, Relapse*

INTRODUCTION

Substance use has increased drastically in recent years, particularly in northern Indian states such as Punjab, and Amritsar being a border district, has become a hotspot for the drug trade. A recent National Study on the Prevalence and Pattern of Substance Use in India by Ambedkar A., et al. (2019) found 77 lakh "problem" opioid users in India, with heroin being the most often used opioid (1.14%).

An increasing body of research implies that a subset of substance users have a chronic condition that cycles through relapse, treatment re-entry, and recovery over several years (Anglin et al., 2001).Relapse prevention is an important part of recovery, which is perhaps the most important stage in the continuum of substance dependence.

Self-efficacy influences drug use and retention after SUD treatment, according to theoretical models of relapse prevention (Marlatt & Gordon, 1985) and stages of change for substance use disorders (DiClemente et al., 1995). According to Witkiewitz and Marlatt (2004), self-efficacy predicts post-treatment lapse or return to substance use, and more self-efficacy to stay abstinent in high-risk situations should lead to better abstinence outcomes.

In the context of addictive behaviours, the concept of perceived self-efficacy has been extensively investigated. Bandura (1995, p. 2) defined perceived self- efficacy as the "beliefs in one's ability to organize and execute the courses of action required to manage potential situations."

Self-efficacy theory in addictions suggests that successful coping in high-risk settings promotes perceived self-efficacy, which reduces relapse vulnerability (Marlatt & Gordon, 1985). Hence, coping self-efficacy is crucial for addictive behaviours.

Recovery from a substance use disorder is defined as a process of improved physical, psychological and social well-being and health after having suffered from a substance related problem. The Betty Ford Institute Consensus Panel (Betty, 2007) defined recovery as "a freely maintained lifestyle defined by sobriety, personal health and citizenship". This transition is enabled by Recovery capital. Recovery capital (RC) refers to the internal and external resources required to begin and sustain recovery (Granfield& Cloud, 1999; Cloud &Granfield, 2004).

A Relapse is a stage when a person makes a full-blown return to using drugs or alcohol after a period of sobriety. Substance addiction treatment helps people recognize advance warning signs of relapse, i.e. relapse risk to substantially minimize the chance of relapse. Relapse risk has been defined as clinical indications and symptoms that precede relapse post-treatment (Ogai et al., 2007).

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For the purpose of this study, the key variableSelf-efficacy (studied as General Self Efficacy and Coping Self Efficacy) has been chosen as an independent variable, with Recovery (recovery capital) and Relapse (relapse risk) as dependent variables.

Self-efficacy for substance/drug use influences relapse behaviour. In a study on substance users, higher self-efficacy ratings were related with abstinence and lower ones with significantly more drug use (Hagmann, 2004).Concurrently, research on substance users using situational confidence questionnaires and general self-efficacy for abstinence found that recovering addicts with greater self-efficacy scores were less likely to relapse (Ilgen et al., 2005).

Ibrahim et al. (2011) found that drug users with low self-efficacy were more likely to relapse. Higher self-efficacy was connected to longer abstinence and lower relapse risk by Kadden and Littman (2011). Similarly, Chavarria et al. (2012) discovered that increased self-efficacy reduced the chance of substance relapse.

Abdollahi and colleagues (2014) discovered a substantial correlation between drug usage and overall self-efficacy, as well as a correlation between relapse and self-efficacy. Saboula et al. (2019) observed a statistically significant positive correlation between relapse and total self-efficacy in a group of addicts investigated. These findings emphasize the importance of an individual believing that he or she can overcome the power of addiction and remain substance free.

Those who have both the essential skills and significant coping efficacy, according to Bandura (1986), are more likely to mobilize the effort required to successfully resist high-risk drinking or drug use situations.

Drug and alcohol abstinence is the most crucial behavioural change for substance abusers in recovery. Hence, self-efficacy to stay sober is crucial to recovery (Bandura, 1999).Researchers in substance abuse recovery are particularly interested in perceived abstinence self -efficacy. Abstaining from a variety of habitual behaviours, such as smoking, using illicit substances, and excessive drinking, requires self-efficacy (Lee &Oei, 1993).

Self-efficacy is the belief that an individual will be able to refrain from engaging in an undesirable action. Self-efficacy predicted opioid-dependent patient treatment outcomes (Reilly et al., 1995). Ilgen et al. (2005) found that maximum level of abstinence self-efficacy was the strongest predictor of 1 year abstinence. Self-efficacy helped substance abusers recover, according to a research done by Moos (2007).

Ilgen et al. (2007) assessed patients' self-efficacy to abstain from all substances in tempting situations (e.g., negative emotional states, negative physical states, interpersonal conflict) and found that higher self-efficacy was associated with lower alcohol and drug use. In addition, it was found that longer abstinence increases self-efficacy (Haggmann 2004; Kadden and Littmann 2011).Self-efficacy predicted decreased cocaine usage in many other researches (McKay et al., 2001; McKay, et al, 2005; Warren et al., 2007). Higher self-efficacy beliefs make people more self-protective and successful at stopping drugs, according to Nikmanesh et al. (2017).

Self-efficacy is frequently a therapy goal because it is a key indicator of recovery from substance abuse, including cocaine addiction, alcoholism, opioid addiction, and tobacco addiction (Hussain et al., 2021). In another study, Anand et al. (2022) conducted a study to predict patients' confidence in recovery and self-efficacy and foundthat self-efficacy significantly predicted patients' confidence in recovery.

Another predictor of treatment outcome that is general across substances, including cocaine, is coping self-efficacy (Baer et al., 1986; Gulliver et al., 1995; Kavanaghet al., 1996; Reilly et al., 1995; Solomon &Annis, 1990). Coping self-efficacy at intake and treatment completion predicted follow-up abstinence in cocaine-addicted individuals (Avants et al., 1996; Coon et al., 1998; Bryant et al., 1997). The cocaine addicts with high-coping self-efficacy were found to be more motivated to recover (Miller, 1991; Sklar et al., 1999; Sklar& Turner, 1999).

Not all studies, however, have established that coping self-efficacy is a predictor of outcome. Wong et al. (2004) discovered that prior abstinence, not coping self-efficacy, was a better predictor of future abstinence. These findings are consistent with those of Baer et al. (1986) and Reilly et al. (1995).

Self-efficacy i.e. confidence in future drug and alcohol use predicted relapse as well as recovery in former substance abusers (Jason et al., 2007; Jason, Olson et al., 2007; Trucco et al., 2007).

Rationale:

Given the magnitude of the drug addiction problem in India; recovery and relapse being distinct stages of addiction, and based on a theoretical framework (Model of Relapse Prevention by Marlatt & Gordon, 1985) emphasizing the importance of self -efficacy in addiction recovery and relapse, the current study was designed to investigate the effects of self -efficacy on addiction recovery and relapse in substance users.

As most studies have been conducted on alcohol users, and not much work has been done in the context of self-efficacy and drug/opioid use and very few researches

are available where self-efficacy has been studied in relation to addiction recovery, hence the present study has been conceptualized.

However, some studies have discovered that prior abstinence, and not coping self-efficacy, was found to be a stronger predictor of future abstinence (Wong et al., 2004 and Reilly et al. (1995). Hence, more research on coping self-efficacy in drug users is clearly needed.

Objectives:

The main objectives of the present study were

1. To study the effects of general self-efficacy on addiction recovery and relapse in substance users
2. To study the effects of coping self-efficacy on addiction recovery and relapse in substance users.

The following hypotheses were framedon the basis of the review of the literature and theoretical framework supporting addiction recovery and relapse prevention:

1. General Self efficacy will produce a significant effect on recovery in substance users. Specifically, those having high general self- efficacy will have high level of recovery as compared to those with low general self-efficacy.
2. General Self efficacy will have a significant effect on relapse risk in substance users. Specifically, those having high general self- efficacy will have low risk of relapse as compared to those with low general self-efficacy.
3. Coping Self efficacy will have a significant effect on recovery in substance users. Specifically, those having high coping self- efficacy will have high level of recovery as compared to those with low coping self-efficacy.
4. Coping Self efficacy will have a significant effect on relapse risk in substance users. Specifically, those having high coping self- efficacy will have low risk of relapse as compared to those with low coping self-efficacy.

METHOD

Sample

The sample comprised of 100 male subjects aged 21-40 years, diagnosed for Opiod Dependence Disorder as per ICD-10 classification, drawn from the patients seeking treatment in Drug De-Addiction & Treatment Centrein Tertiary Care Hospital, Amritsar (Punjab), over a period of about 06 months (March 2022-August, 2022) using purposive sampling method. All the subjects were from rural background and the minimum qualification was matriculation. The study included two experiments , one for general self- efficacy and other for coping self- efficacy and each experiment consisted of 100 subjects. The subjects in both experiments were divided into two groups; "high scorers" and "low scorers" in equal numbers based on the median of their total scores on the independent variable, general self -efficacy (median=34.7) /coping self -efficacy (median=55.5). Each group consisted of 50 subjects.

Inclusion Criteria

- Patients meeting the criteria of ICD-10 for opioid dependence disorder
- Patients were in age group 21-40 years and belonged to rural backgrounds
- Patients who had completed at least matriculation level of education
- Patients willing to participate in the study

Exclusion Criteria

- Patients with co-morbid physical, psychological, and psychiatric disorders were excluded from the study.

Ethical Considerations

1. Ethical clearance was obtained prior to the commencement of the study from the Institutional Ethics Committee of Guru Nanak Dev University, Amritsar, Punjab, India. A written permission was also taken from Head of Psychiatry and De-Addiction Centre, tertiary Care Centre, Amritsar, Punjab, India.
2. A written informed consent was taken from each patient who was willing to participate in the study. The participants were briefed about the purpose & method of the study as well as the content of the self -administered questionnaires prior to the start of the study.

Psychological measures used

1. **General Self Efficacy Scale (GSE)(**Schwazer and Jerusalem, 1995**),** a 10 item self- report measure of general self- efficacy was used to measure general self-efficacy. The internal reliability, i.e. Cronbach's alpha coefficient for general self-efficacy scale as reported by authorranged between 0.79-0.90 while for the present study, it was 0.82.
2. **The Drug-Taking Confidence Questionnaire (DTCQ-8D)**(Sklarand Turner, 1999)is a brief 8 item measure of coping self –efficacy for substance users to measure client's confidence in his or her abilities to cope in situations that are high risk for substance use. The internal reliability i.e. Cronbach's alpha coefficient fordrug taking confidence questionnaireas reported by author ranged between 0.79-0.95 while in the present study, it was 0.85.
3. **Brief Assessment of Recovery Capital (BARC-10)** (Vilsaint et al., 2017**),** a 10 item strength based measure

was used to measure recovery capital. The internal reliability i.e. Cronbach's alpha coefficient for Brief assessment of recovery capital as reported by author is 0.90 while in the present study, it was 0.86.

4. **The AWARE Questionnaire (Advanced Warning of Relapse)**(version 3.0) (Miller and Harris, 2000). This 28 item scale designed as a measure of the warning signs of relapse was used to measure relapse risk. The internal reliability, i.e. Cronbach's alpha coefficient forthe AWARE questionnaire as reported by author was 0.92 while in the present study, it was 0.81.

Procedure

The psychological tests were administered individually to all the participants after establishment of good rapport with them. The response sheets were scored according to the scoring instructions given in the respective manuals .On the basis of median, scores on independent variable were divided into high and low scores.

Statistical analysis and Results:

The Statistical Package for the Social Sciences for Windows was used to analyze the research data (SPSS for Windows –V 22.0). A one-way ANOVA was used to study the effects of General Self Efficacy and Coping Self Efficacy, separately on Addiction Recovery and Relapse in Substance users.

RESULTS

The results of the study are summarized in Table 1-6.

Table 1*:* Means and SDs of Addiction Recovery and Relapse scores for high and low groups on General Self Efficacy (n=50)

GROUPS	Statistics	Addiction Recovery	Addiction Relapse
HIGH GSE (n=50)	MEAN	50.056	104.000
	SD	6.1993	28.4021
LOW GSE(n=50)	MEAN	46.739	108.891
	SD	6.3366	26.2520

Table 2: Summary of One- way Analysis of Variance for Addiction Recovery in General Self Efficacy groups

Source of Variance	Sum of Squares	df	Mean Square	F	p
Between Groups	273.207	1	273.207	**6.966**	**.01**
Within Groups	3843.703	98	39.221		
Total	4116.910	99			

Table 3: Summary of One- way Analysis of Variance for Addiction Relapse in General Self Efficacy groups

Source of Variance	Sum of Squares	df	Mean Square	F	p
Between Groups	594.293	1	594.293	0.790	NS
Within Groups	73766.457	98	752.719		
Total	74360.750	99			

The results as depicted in Table No. 2 clearly revealed that general self- efficacy produced a significant effect on addiction recovery [F (1, 98) =6.96, p<0.01)]. The high scorers on general self-efficacy scored higher on addiction recovery capital as compared to low scorers (Table no.1). However, the effect of general self-efficacy was found to be statistically non-significant on addiction relapse [F (1, 98) =0.79, p<0.01)] (Table no.3).

Table 4: Means and SDs of Addiction Recovery and Relapse for high and low Coping Self Efficacy groups (n=50)

Groups	Statistics	Addiction Recovery	Addiction Relapse
HIGH DTCQ (n=50)	Mean	51.231	95.019
	SD	5.1777	24.1722
LOW DTCQ (n=50)	Mean	45.604	118.417
	SD	6.4569	25.6398

Table 5: Summary of One way Analysis of Variance for Addiction Recovery in Coping Self Efficacy Groups (n=50)

Source of Variance	Sum of Squares	df	Mean Square	F	p
Between Groups	790.200	1	790.200	**23.278**	**.001**
Within Groups	3326.710	98	33.946		
Total	4116.910	99			

Table 6: Summary of One way Analysis of Variance for Addiction Relapse in Coping Self Efficacy groups

Source of Variance	Sum of Squares	df	Mean Square	F	p
Between Groups	13664.103	1	13664.103	**22.062**	**.001**
Within Groups	60696.647	98	619.354		
Total	74360.750	99			

The results as depicted in Table no.5 clearly revealed that coping self-efficacy produced a significant effect on both the dependent variables, addiction recovery [F (1, 98) =23.28, p<0.01] and relapse [F (1, 98) =22.06, p<0.01] in substance users (Table no. 6) . The high scorers on coping self-efficacy scored higher on addiction recovery capital as compared to low scorers (Table No. 4), whereas the low scorers on coping self-efficacy had high scores on relapse risk as compared to high scorers(Table no.6).

DISCUSSION

The purpose of this study was to examine the effects of self-efficacy (general as well as coping self- efficacy) on addiction recovery and relapse in substance users. The results of the present study clearly revealed that there are significant effects of coping self-efficacy on both addiction recovery and relapse and significant effects of general self-efficacy on addiction recovery. These results are in accordance with the theoretical

models given by Marlatt and Gordon, (1985) and Witkiewitz and Marlatt (2004).

The findings of the present study, therefore, also support the previous studies where higher self-efficacy was found to be associated with less drug use (Ilgen et al.,2007) and longer periods of abstinence (Kadden&Littmann,2011). Nikmanesh et al.(2017) also found that people with higher self-efficacy beliefs are more self-protective and successful at quitting drug use.

The findings of this studyalso revealed that coping self-efficacy had a significant effect on addiction recovery, and this finding has been empirically supported in several previous studies (Avantset al., 1996; Coon et al., 1998; Bryant et al., 1997).The effect of general self -efficacy on addiction relapse was found to be statistically non-significant in this study clearly revealing that people with high general self -efficacy may not always be able to resist the potential risk situations for drug use and might relapse.

However, this study also revealed that coping self-efficacy produced a significant effect on addiction relapse. According to Bandura (1986), people with both the necessary skills and strong coping efficacy are more likely to mobilize the effort required to successfully resist situations of high-risk drinking or drug use. In the event of a slip, highly self-efficacious people are more likely to view the slip as a temporary setback and regain control, whereas those with low self-efficacy are more likely to relapse completely.

Concurrently, research on substance users using situational confidence questionnaires and general self-efficacy for abstinence discovered that higher self-efficacy scores predicted a lower likelihood of relapse for individuals in substance abuse recovery (Ilgen et al., 2005).

Ibrahim, Kumar, and Samah (2011) also found that the lower the addicts' self-efficacy level, the more likely they were to relapse. Higher levels of self-efficacy are associated with longer periods of abstinence and a lower risk of relapse (Kadden & Littman, 2011; Chavarria et al., 2012). Similarly, Saboula et al. (2019) discovered a statistically significant positive correlation between relapse and total self-efficacy in the studied addicts.

CONCLUSION

These findings clearly indicated that general self-efficacy had a significant effect on recovery in substance users but had statistically non-significant effect on addiction relapse. On the other hand, the effect of coping self-efficacy was statistically significant on addiction recovery as well as relapse among substance users.

LIMITATIONS

1. The present study was primarily based on a treatment seeking population, which may differ from the general population.
2. The fact that men were used as a sample is also one of the limitations that prevents the findings from being generalized to the rest of the population, especially females.

Significance of present Research

The investigation of critical cognitive components of relapse prevention, such as self- efficacy, and relapse risk has significant implications for developing relapse prevention strategies for reducing relapse risk and promoting recovery.

Potential Conflict of Interest

Both the authors declare that they do not have any conflicts of interest.

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Review Article

Psycho-Therapeutic Management of Internet Gaming Disorder: A Systematic Review

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ABSTRACT

The Diagnostic and Statistical Manual of Mental Disorders (DSM 5) has now included Internet Gaming disorder in section III as the condition that warrants more clinical research. Internet or Online gaming has become one of the most popular sources of entertainment among children and adolescents. It represents the fastest growing segment leading to hazards as well. In this study, existing literature on Internet Gaming Addiction and, intervention-based studies were reviewed in an attempt to systematically analyze existing psychological management. A total of 14 full-text papers were strategically chosen for review using PRISMA, adhering to the inclusion and exclusion criteria. It was observed that the majority of studies included prevention-based, CBT-based intervention, mindfulness, and targeted family-focused treatments as well. Furthermore, the majority of the studies shed light on the wise utilization of gaming rather than abstinence from the act.

Keywords: *Internet gaming disorder, systematic review, psychological management, psychotherapy, Intervention.*

INTRODUCTION

The problematic gaming was introduced in the late 1980s with the successful treatment through the promotion of self-control and interpersonal skills by "endorsing compulsive video games" (Kuczmierczyk, Walley, & Calhoun, 1987). Online gaming is becoming the most popular pastime for children and adolescents worldwide. Clinicians and empirical research suggest that some adolescents play a substantial amount of online gaming, which leads to functional impairments in daily life (Gentile, 2009; King, Delfabbro, Doh, et al., 2018; Kuss & Griffiths, 2012). In 2013, the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013) included Internet Gaming Disorder (IGD) under Section III, and the same was added to the 11th World Health Organization's classification as Gaming Disorder (WHO, 2018).

Problematic gaming has been included in the cognitive-behavioural model's application (Haagsma, Caplan, et al., 2013), which initially attempted to explain pathological Internet use (Caplan, 2010). It makes the case that problematic gaming is caused by a strong propensity for online interaction, a reliance on video games to control moods, and a lack of self-regulation, which includes a high preoccupation with gaming and obsessive use of video games. Multiple psycho-social factors thus play a vital role in its prognosis.

The increased acknowledgment of this clinical condition shifts the focus to prevention and intervention. Nonetheless, one of the most popular models for psychological treatments for internet addiction is cognitive behavioural therapy (CBT). The mentioned model has been successfully used to treat internet addiction in various trials (Young, 2013). According to this paradigm, treatment begins by concentrating on the patient's behavior before progressively altering the focus to the formation of positive cognitive assumptions (Przepiorka et al., 2014). The CBT approach also advises patients to keep a close eye on their thoughts to spot affective and environmental triggers linked to their addictive online behaviour (Khazaal et al., 2014).

METHOD

A systematic review of intervention and repulsion for Internet gaming disorder (IGD) was performed to identify what methods of treatment exist for this behavioral addiction. The Preferred Reporting Items for Systematic Reviews (PRISMA; Liberati et al. 2009) reporting checklist was followed when conducting the current systematic review. A thorough literature search was conducted for this investigation to find intervention studies. For systematic review papers, all articles published in behavioural addiction journals up until April 2023 were specifically searched. A protocol was pre-developed to document analytical methods and inclusion criteria. We utilized Scopus, which also included journals from Springer, PubMed, Elsevier, BioMed Central Ltd, Wiley, Mosby, Sage Publications, Blackwell Publishing, Emerald, Frontiers Media SA, Routledge, the American Psychological Association, Oxford University Press, Cambridge University Press, Taylor and Francis, and in some cases, it searched the journal's website for articles published in the selected journal that contained that term. (Internet gam*) OR (Behavioural Addict*) OR (Gaming Psychopathology*) OR (Gaming Psychopathology) OR (Online gam* addict*) OR (Internet gam* disorder*) OR (Gaming Addiction*) OR (Problematic Internet Gaming) OR (Video gam* addict*) OR(Problematic Gaming) OR (Problematic Online Gaming) OR (Internet Gaming

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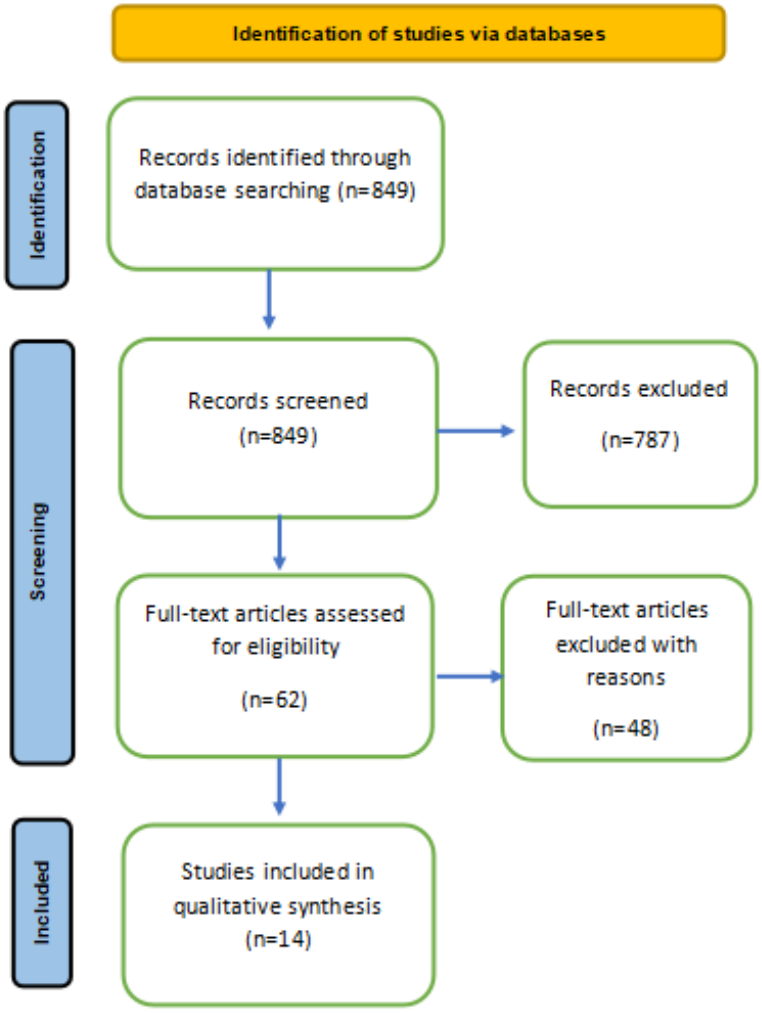
Addict*) OR (Online gaming addict*) OR (Excessive Internet Gaming) AND (Intervention*) OR (Psychotherapy*) OR (Therapy*) OR (Therapeutic Module*) OR (Therapy* Model*) OR (Eclectic Treatment*) OR (Management*) OR (Treatment*) OR (Psychological Management*) OR (Prevention*) OR (Psychological Prevention*) OR (Psychological Intervention*) OR (Behavioural Intervention*) OR (Behavioural Addiction* Intervention*) OR (Therapy Program*) OR (Clinical Intervention*)in their titles, abstracts, and/or keywords. The last search was run on April 30, 2023. From 10 years of identified records, titles, abstracts, keywords, author names and affiliations, journal names, and publications were exported to an MS Excel spreadsheet. Papers that were not related to intervention and prevention, were discarded. All review articles that at least partially highlighted psychotherapy or preventative strategies were included. For data management, data elements have been added to the MS Excel spreadsheet. The data management spreadsheet also includes the bibliographic data for the studies, the required PRISMA checklist items with some additions, and a section for reporting the PRISMA flowchart.

Figure 1: The PRISMA flow diagram for the systematic review detailing the database searches, the number of abstracts screened, and the full texts retrieve



The present study reviewed 14 papers. The study selection process has been summarized in figure 1. While the literature search using databases and search engines produced 849 items, 787 of them were disregarded because they did not focus on interventions. 48 papers were eliminated after rigorously screening the full texts of the remaining reviews because they did not match the eligibility criteria. Thus a composite of 14 full-text papers was further reviewed to understand the types of psycho-therapeutic interventions being covered and analysed.

RESULT

Table 1: Details of the reviewed research papers

Author	Publisher	Source Title	Keywords	Title
Kim, S. M., Han, D. H., Lee, Y. S., & Renshaw, P. F. (2012).	Elsevier Ltd	Computers in Human Behavior	Cognitive behavioral therapy, Online game addiction, Major depressive disorder	Combined cognitive behavioral therapy and bupropion for the treatment of problematic online game play in adolescents with the major depressive disorder"
Yao Y.-W., Chen P.-R., Li C.-S.R., Hare T.A., Li S., Zhang J.-T., Liu L., Ma S.-S., Fang X.-Y. (2017)	Elsevier Ltd	Computers in Human Behavior	Balloon analogue risk task; Delay discounting; Impulsivity; Internet gaming disorder; Intervention	"Combined reality therapy and mindfulness meditation decrease intertemporal decisional impulsivity in young adults with Internet gaming disorder"
Li W., Garland E.L., Mcgovern P., O'brien J.E., Tronnier C., Howard M.O. (2017)	Educational Publishing Foundation	Psychology of Addictive Behaviors	Internet gaming disorder; mindfulness intervention; randomized controlled trial; support group; video game addiction	"Mindfulness-oriented recovery enhancement for internet gaming disorder in U.S. adults: A stage I randomized controlled trial"
Sakuma H., Mihara S., Nakayama H., Miura K., Kitayuguchi T., Maezono M., Hashimoto T., Higuchi (2017)	Elsevier Ltd	Addictive Behaviors	Behavioral addiction; Cognitive behavioral therapy; Internet; Onset; Video game	"Treatment with the Self-Discovery Camp (SDiC) improves Internet gaming disorder"
Li W., Garland E.L., Howard M.O. (2018)	Routledge	Journal of Addictive Diseases	cognitive reappraisal; Internet gaming disorder; maladaptive cognitions; mindfulness treatment	"Therapeutic mechanisms of Mindfulness-Oriented Recovery Enhancement for internet gaming disorder: Reducing craving and addictive behavior by targeting cognitive processes"
.Krossbakken E., Torsheim T., Mentzoni R.A., King D.L., Bjorvatn B., Lorvik I.M., Pallesen S. (2018)	Akademiai Kiado Rt.	Journal of Behavioral Addictions	Parental guide; Problematic video gaming; Video game addiction	"The effectiveness of a parental guide for the prevention of problematic video gaming in children: A public health randomized" controlled intervention study
Chau, C. L., Tsui, Y. Y. Y., & Cheng, C. (2019)		Journal of Frontiers in psychology	Internet gaming disorder, gaming addiction, problematic internet use, prevention program evaluation, universal strategy, social impact, risky online behavior	"Gamification for Internet Gaming disorder prevention: Evaluation of a Wise IT-Use (WIT) program for Hong Kong primary students"
Han J., Seo Y., Hwang H., Kim S.M., Han D.H. (2020)	John Wiley and Sons Ltd	Clinical Psychology and Psychotherapy	anxiety; cognitive behavioural therapy; impulsivity; internet gaming disorder; social avoidance	"Efficacy of cognitive behavioral therapy for internet gaming disorder"
Torres-Rodríguez A., Griffiths M.D., Carbonell X., Oberst U. (2020)	Akademiai Kiado Rt.	Journal of Behavioral Addictions	Adolescence; Cognitive-behavioral therapy; Gaming disorder treatment; Internet Gaming Disorder; Video game	"Treatment efficacy of a specialized psychotherapy program for Internet Gaming Disorder"
Maden Ç., Bayramlar K., Arıcak O.T., Yagli N.V. (2022)	Elsevier Ltd	Mental Health and Physical Activity	Aerobic exercise; Anxiety; Exergame; Gaming disorder; Physical activity; Physical fitness	Effects of virtual Reality-Based Training and aerobic training on gaming disorder, physical activity, physical fitness, and anxiety: A randomized, controlled trial
Sharma M.K., Anand N., Tadpatrikar A., Marimuthu P., Narayanan G.(2022)	Elsevier Ltd	Psychiatry Research	Cognitive behaviour therapy; Internet addiction; Internet gaming disorder; Intervention program; Motivational enhancement therapy; Psychotherapy	Effectiveness of multimodal psychotherapeutic intervention for internet gaming disorder
Männikkö N., Mustonen T., Tanner N., Vähänikkilä H., Kääriäinen M. (2022)	Springer	International Journal of Mental Health and Addiction	Gaming disorder treatment; Internet gaming disorder; Therapy; Video games	Effectiveness of a Brief Group Intervention Program for Young Adults with Gaming-Related Problems
Nielsen P., Rigter H., Weber N., Favez N., Liddle H.A. (2023)	Wiley	Family Process	adolescents; gaming disorder; multidimensional family therapy; treatment innovation	In-session gaming as a tool in treating adolescent problematic gaming
Balhara Y.P.S., Sarkar S., Laspal N., Bhargava R., Yadav Z.(2023)	Elsevier Ltd	Asian Journal of Psychiatry	Gaming, Gaming disorder, Self-help, Prevention	A randomized controlled trial to assess effectiveness of GamE- an e-Health intervention to self-manage gaming with an aim to prevent gaming disorder

Note: It reports the journal's author, publisher, source title keywords, and title of the publication of included reviews.

Table 2: Treatment outcome of the research

Study	Sample			Treatment Type	Number of sessions/therapy duration	Outcome
	N	Mean Age	Diagnostic criteria			
Kim et. al., (2012)	15	14.2	DSM-4	family therapy intervention	3 Weeks	Improvement in perceived family cohesion
Yao et. al., (2017)	25	22.28	DSM-5	Reality therapy and mindfulness meditation	6 weeks, group therapy	decreased in delay discounting rate
Li W et. al. (2017)	35	25.0	DSM-5	Mindfulness-Oriented Recovery Enhancement	8 weeks 2 hours group session	MORE is a promising treatment approach
Sakuma et. al., (2017)	10	18.2	DSM-5	Personal counseling, and a workshop	14 sessions for 8 nights and 9 days, Group	Internet use per day and week in hours was significantly reduced
Li et. al., (2018)	30	25.0	DSM-5	Mindfulness-Oriented Recovery Enhancement (MORE	8-weekly, 2-hour group sessions	Decrease in maladaptive gaming-related cognitions

Study	Sample			Treatment Type	Outcome
	N	Mean Age	Diagnostic Criteria		
Krossbakken et. al., (2018)	831	10	DSM-5	A brief parental guide on "how to regulate video game behavior in children"	no evidence for the effectiveness of the psycho-educational parental guide in preventing problematic video gaming in children
Chau. et. al., (2019)	248	10.16	KIAPS	Wise IT-use (WIT) program	The risk of the disorder was reduced after the program
Han et. al., (2020)	205	25.9	DSM-5	CBT or supportive psychotherapy.	Improvement in IGD symptoms
Torres et. al., (2020)	31	15.9	DSM-5	Individualized psychotherapy treatment for IGD (PIPATIC program) and TAU	Positive effects regarding the treatment of the IGD
Maiken et. al., (2022)	44	23.8 & 22.1	DSM-5 & ICD 11 Revised	Aerobic training & Virtual Reality Training	30 min, 3 days a week for 6 weeks	VRT training & AT program in reducing the level of gaming disorder and anxiety.
M.K. Sharma et al. (2022)	33	20.25	DSM-5	Motivational enhancement strategies, cognitive restructuring, behavioral strategies and relapse prevention	ten 60-minutes sessions	Substantial change in the IGD scores
Männikkö et al., (2022)	37	23.8	Non clinical sample	Brief group intervention program	10 weekly sessions of 3 hours	Effective at reducing the severity of GD symptoms
Nielsen et al., (2022)	42	14.9	DSM-5	Multidimensional family therapy & Family therapy as usual	6 months	MDFT (with game demonstration sessions) decreased problematic gaming
Balhara et al., (2023)	30	20.8	Non clinical sample	GameE (Gaming disorder prevention & health intervention)- A digital intervention	4 sessions	Successful strategy to prevent gaming disorder

Note: The current report is on the sample (i.e., number of participants, mean age, diagnostic criteria), treatment type, number of sessions, and duration of treatment and outcomes. The outcome has indicated that conducting intervention systematically is growing over time. highlights forteen treatment studies; one is individual session based whereas the rest are group-based interventions. one study is primarily family-based and another in combination.

DISCUSSION

The young minds were born and made their way to adolescents in a world of IT devices, to the extent that they became natives of this era (Teo, 2013). But this rapidly evolving era is creating room for dysfunction and pathologies with the addition of co-morbidities. The need of the hour demands evidence-based treatment, and multiple pieces of research support the importance of psychotherapeutic treatments.

The upward graph of cases due to excessive use of the internet and online games has researchers' and clinicians' eyes on it. The rapid growth of cases of IGD worldwide automatically fuels the need for various treatment services to deal with this, and Young's Model is one of the oldest and most widely used treatment procedures in this genre. Young in 2009 proposed strategies for the treatment of online addiction (including video gaming). Several reports show the effectiveness of group CBT as a treatment for internet addiction (Du et al., 2010; Young, 2011). Hence, it concluded the efficacy and effectiveness of CBT as a treatment for online gaming addiction. Though it has been argued by a few researchers that abstinence from the internet shouldn't be the ultimate goal of the intervention, it should focus on abstinence from problematic online uses and regulate the users' internet activity (Cash et al., 2012; Khazaal et al., 2014).

Details of existing treatment studies

Existing research suggests that individuals who endorse the internet at a relatively young age are at higher risk for common internet addictions and are susceptible to the disorder once they enter adolescence. For the current research, five existing papers have mentioned psycho-therapeutic treatment for adolescents, whereas eight papers have young adults as their participants.

Most studies have indicated that males are more vulnerable and prone to developing internet addiction (IA) than females. A meta-analysis quantified the gender-relation equation wherein a random-effects model provided evidence that supports the gender-specific distinctions in IGD, where males are more prone to Internet gaming disorder than females (g = 0.479) (Su et al., 2020). An intervention study by Chau et al. (2019) included 248 primary school students from four different schools, and 56% of the participants were boys. Similarly, other studies that included both genders indicated the same. As per a recent Indian population-based intervention, the participants comprised 39 (95.89%) males and 1 (2.34%) females, indicating that males made up the majority of the study's participants. (Sharma, et. al., 2022).

The DSM-5 and ICD-11 both included and defined IGD as being presented as a repetitive pattern of persistent

gaming behavior. Clinicians and professionals both use the manuals for diagnosis. In existing studies, ten of them have used DSM-5 and one has used DSM-4, another has used DSM and ICD-11 revised, and the last has used a self-report questionnaire of the Korean Internet Addiction Proneness Scale for the diagnosis.

As per a meta-analysis using a random-effect model, it was indicated that the population has a 3.05% prevalence rate of gaming disorder worldwide (Stevens et al., 2021). The rate of IGD and co-morbid psychological pathologies is quite high; 92% of pieces of research work suggested that there's a significant correlation between anxiety, depression (89%), attention deficit hyperactivity disorder (87%), social phobia (75%), and obsessive-compulsive symptoms (Gonzalez et al., 2018). The research by Sakuma et al. in 2016 showed that six participants had psychiatric comorbidities that did not interfere with the SDLC program they were in. Six participants had ADHD, which triggered them to concentrate on stimulating phenomena, and those cases required a special amount of time for treatment (Sakuma, et. al., 2016). The research by Han, et. al. (2020), on IGD, focused on assessing IQ, attention deficit hyperactivity disorder, major depressive disorder, anxiety, and impulsivity before kick-starting the treatment procedure. For measuring the IQ, the Korean Wechsler Adult Intelligence Scale was used, and after giving supportive therapy (CBT), the symptoms of IGD and co-morbid symptoms such as attention deficit hyperactivity disorder, major depressive disorder, anxiety, and impulsivity were measured again. In Korean adolescents with problematic Internet use MDD was the most prevalent co-morbid psychiatric disorder (Kim et al., 2012). In another study using the Beck Depression Inventory and the Beck Anxiety Inventory (BAI), both clinical conditions of depression and anxiety were measured. The IGD group showed significantly lower scores after the intervention compared to the baseline (Yao et al., 2017). Anxiety is a major disorder highlighted in research by Maden et. al. (2022), assessed using the BAI. A reduction in anxiety levels was found after training.

METHOD OF TREATMENT

Various researchers applied treatment plans that best suited their samples under certain conditions. In a very recent work by Chau et al. (2019), they designed a universal prevention program called Wise IT-use, aimed to alleviate the symptoms of internet gaming disorder and risky internet behaviour in children. This was based on a psycho-educational program that encouraged the young participants to tackle societal problems and, co-morbid symptoms (e.g., depression), which developed from various problematic IT uses. Similarly, by improving students' knowledge, skills, and attitudes and equipping them with self-help strategies to monitor and regulate their gaming behaviour with the goal of preventing gaming disorder, Students were the target audience for an e-Health intervention designed to aid in the early detection and prevention of gaming disorder. The intervention was designed to last for around an hour. There were four modules in all which sought to alter abnormal cognitive processes and addictive reward processing. The symptoms of unidentified internet use problems and gaming disorders were successfully alleviated by the treatments over the course of a year. (Balhara et al. 2023)

For adolescents with IGD and co-morbid disorders, CBT is effective as a treatment procedure, and multiple pieces of research support the same. Rodriguez et. al., (2018) designed a treatment plan (PIPATIC) for adolescents with IGD and co-morbid disorders. The plan was for 6 months with 22 sessions, 45 minutes each, which comprised six modules to evaluate the changes in IGD symptoms and "psychopathology, co-morbid symptoms, emotional intelligence, self-esteem, social skills, family environment, therapeutic alliances, and change in perception". The result indicated that the PIPATIC group reported a reduction in co-morbid symptoms compared to the control group, and there was an improvement in ''identity diffusion, self-devaluation, emotional intelligence, social abilities, and reduced familial conflict''. A similar multimodal psychotherapy program makes an effort to concentrate on six major therapeutic intervention domains. This multimodal treatment approach was developed using a number of elements from evidence-based psychotherapy intervention programmes for IGD, including motivational enhancement therapy, cognitive behaviour therapy, and family therapy. (Sharma et al. 2022)

Another study by Han et al. (2020) focused on the CBT approach for the treatment of ''stress management, anxiety control, impulse control, and environmental control, including family'', where non-use of medication predicted a good prognosis and was regarded as having "no comorbidity," and people with comorbidities took the required medication. Hans's CBT program was focused on anxiety control, which could help highly anxious and introverted IGD patients improve their Internet gaming disorder symptoms. The CBT program mainly made the patients face their emotions, especially loneliness so that they could realise that loneliness may be one of the factors fueling the development of problematic internet gaming. The program also focused on developing interpersonal relationships, and better control over internet usage, which can eventually lead to life satisfaction and better

impulse control. Han's research indicated that CBT is comparatively more effective than supportive therapy, as the revised CBT program highlighted the improvement in YIAS, BAI, BIS/BAS, and SADS scores. Kim et al., (2012) conducted a study focused on CBT as the treatment plan for problematic online game play in adolescents with major depressive disorder (MDD). An experiment was conducted on two groups, one with medicines and one with a combination of medicine and CBT, the result indicated that the Med-CBT group had an improvement in the level of anxiety of the Med group participants.

Research conducted by Sakuma et al. (2016) indicated that a self-discovery camp consisting of 14 sessions of CBT with clinical psychologists and professionals was an effective treatment plan for IGD. The camp involved outdoor activities such as trekking, woodworking, cooking, and rally walking to foster a well-regulated healthy life where participants could enhance communication without the presence of the internet and digital mediums. This treatment plan led to the improvement of addictive behaviors and beneficial effects that lasted for a long time. The SDiC was a non-pharmacotherapeutic treatment with an activity program that improved the motivation of participants and improved IGD symptoms by strengthening their self-awareness and providing confidence to deal with conflicts and solve them (Sakuma et al., 2016).

Apart from CBT, other intervention techniques are proven to be effective in treating IGD symptoms, Mindfulness therapy is one of them. Li et al. (2017), in their experimental research with IGD adults, applied mindfulness intervention (MORE), and the results indicated that within 8 weeks of post-treatment, the signs of IGD symptoms got reduced visibly. Mindfulness intervention was effective with the maladaptive cognition and cravings related to internet gaming, including depressive thoughts and loneliness. In an attempt to determine if improvements in maladaptive cognitions and positive reappraisal influenced the clinical effects of mindfulness-based intervention, the researchers conducted another study in 2018 using the same data on mindfulness intervention (MORE) as a treatment for IGD symptoms. Previously, mindfulness intervention was effective in reducing the maladaptive cognitive process and acted as a craving reductive treatment by enhancing awareness but the new mediation effect in the mindfulness intervention (MORE) suggested more effectiveness in decreasing addictive tendencies toward video game playing by targeting maladaptive cognitive processes (Li et al., 2018). Mindful meditation, including body relaxation and mindful training with soothing music, encouraged participants to concentrate on their emotional awareness and adjust their mind and body in sync. The group behavioural intervention based on the WDEP model of reality therapy helped the participants with IGD symptoms control their impulsivity and decrease anxiety and severe depressive symptoms. and behavioural therapy combining reality therapy and mindfulness is even more effective in IGD severity, and this research work also highlighted the cognitive enhancement intervention as an effective treatment for IGD (Yao et al., 2017).

The biopsychosocial theory of addiction is incorporated into the IGD intervention. In a nonclinical population, the study outlined the effects of a unique group intervention for fostering mindful gaming behaviour. Measurements of gaming time, gaming-related issues, time spent on other popular leisure activities, and subjective well-being were used to evaluate the intervention's impact. Measurements were made at three different time points: baseline, right after the intervention, and six months afterward. The severity of IGD symptoms among the study participants significantly decreased (Männikkö et al., 2022). Parental and family characteristics as well as other social variables have been linked to problem gaming in adolescents (Paulus et al., 2018; Richard et al., 2020; Sugaya et al., 2019). In order to determine whether multidimensional family therapy (MDFT) reduces problem gaming, Nielsen et al. (2023) conducted a study as a randomised controlled trial contrasting MDFT with Family Therapy as Usual (FTAU). In MDFT, the therapeutic process is meticulously planned out in terms of protective and risk factors, treatment objectives, and processes for each youth and family. A proactive posture was adopted by the therapists. The therapists at FTAU are more responsive, adjusting to the family's pace, and reacting to situations as they arise. FTAU treatment frequently focuses on forming alliances and enhancing relationships and communication within the family. Sessions are held with the adolescent alone, the parents alone, and the entire family, like those in MDFT. Additionally, they concentrated on two benefits of in-session gaming: improving treatment motivation and addressing issues with family functioning. Because it enables the therapist to enter the young person's world, show interest and curiosity, and explore the reasons for gaming without passing judgment, in-session gaming may present a powerful opportunity to engage the young person in treatment. The game demonstration technique gives pertinent topical issues immediacy. Instead of focusing on past disputes there and then, this approach puts more emphasis on the present and makes it easier to examine and change faulty assumptions and attributions as well as family interactions.

Krossbakken et al. (2018) did research on children endorsing internet gaming and developed a parental

guide with clinical and professional guidance focused on "how to regulate video game behaviour in children". Self-acceptance can be viewed as one of the key factors influencing frustration tolerance, with a significant impact on performance and emotion (Tyagi, et. al., 2022). The main aim of this study was to examine the effectiveness of parenting roles in reducing gaming activity in a random sampling of children ages 8 to 12 years old. The limitation of this study was the lack of pre-tests, which precluded further investigation to determine the difference in the condition of the child's gaming activity. (Krossbakken, et. al., 2018).

In a study by Maden et al. (2022), the researchers explored the therapeutic benefits of virtual reality training and aerobics training treatments on physical activity, physical fitness, and anxiety among gamers and the differences between the treatment group and the control group. Exercise and physical activity are proven to improve psychological well-being by relieving tension and reducing anxiety. In this study, the amount of anxiety and gaming disorder was reduced by VRT training and by AT programme, which uses a routine exercise strategy. The VRT programme was also found to enhance physical fitness.

Limitations

Multiple pieces of work indicated the effectiveness of various treatment and intervention plans, but they also had some limitations. Rodriguez, et al. (2018) and Li et. al., (2017) both had small samples and control groups, which became a limitation in standardizing the outcome. Similar results were found in a research by Sharma et al. (2022), which used a single-group, open-label intervention programme involving participants that were aware of the intervention's existence and the control group was absent. Han (2019) was unable to demonstrate the actual effect of CBT without medication, and the treatment design has some selection biases. Kim et al.'s (2012) study had unavoidable gender bias as all the participants were male, so it was unclear whether the treatment plan could be effective on female gamers. Yao et al. (2017) and Chau et al. (2019) discussed the short period as a limitation of their study. Krossbakken et al. (2018) mentioned how the unavailability of the pre-test data made it sketchy to conclude the effectiveness of the treatment and intervention plans. Sakuma et al., (2016) mentioned how the participation in the self-discovering camp was voluntary and selection bias was difficult; also, the participants went through psychiatric treatment before the camping, so there was no clear evidence of pre and post-effect of the SDiC on the participants; hence, they were unable to provide sufficient statistical data-based evidence, whereas in the intervention by Männikkö et al. (2022), the post-intervention (follow-up) outcome data were gathered using a traditional mail response form, which makes it undependable.

Lastly, in all of the research, the samples were drawn from a single setting, and the findings may not be generalizable to other geographical regions. The intervention was in English and might have deterred students who were more conversant in the local language. (Balhara et al. 2023)

CONCLUSION

The Internet, or online gaming, has become one of the most popular sources of entertainment among children and adolescents. It represents the fastest-growing segment, leading to hazards as well. This study reviewed existing literature on internet gaming addiction and intervention-based studies to systematically analyze existing psychological management. A total of 62 full-text papers were chosen for review, adhering to the inclusion and exclusion criteria. Lastly, forteen intervention-based studies were reviewed, and it was observed that the majority of studies included prevention-based, CBT-based intervention, mindfulness, and targeted family-focused treatments as well. However, the existing limitations bring about an enormous and vast scope for more need-based and focused psychological interventions.

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Mr. Tony A.D. Ambadan (1981-2023)

Mr. Tony Ambadan , very active , the most simple , humble and a young member of IACP left us on 11th April ,2023; after a struggle for life for five months at Aster Medcity Hospital on 11th April, 2023.

From the beginning of his career as Clinical Psychologist, he was very active with the local 'Thrissur Forum of Clinical Psychologists' in Kerala. Though a soft spoken Clinical Psychologist; his leading role in organizing various Clinical Psychology and Mental Health related programmes was highly appreciated by all. Tony always spared time to visit and contact all younger and Elder members of the Psychology Family.

He obtained his Master's degree in Psychology from Prajyothi Niketan College, Pudukkad, Thrissur, Kerala and M.Phil. Clinical Psychology in Clinical Psychology from 'Sweekaar Academy of Rehabilitation Sciences' Secunderabad.

After com[pletion of his training , he served ; S.H.Hospital, Painkulam; Amla Institute of Medical Sciences, Thrissur; Holy Cross Hospital and Mental Health Centre , Koovapally ; St. James Hospital, Chalakudy and lastly at Little Flower Hospital, Ankamaly; as Clinical Psychologist.

Tony was married to Rincy (August, 2013) a loving and affectionate wife, who was with Tony's bedside during the period of an ordeal for five months. We all pray almighty to bless with courage to Ricny to face this loss and difficult situation of her life. Tony will be fondly remembered by all his professional colleagues and friends for the contribution to the discipline in a short span of his life.

Editor with his team highly appreciates the President Dr. Shree Lal and Treasurer Mr. Joemon of IACP Kerala for quickly arranging financial help for the treatment of Mr. Tony. They have set an example which should be followed and thoroughly practiced in IACP to help a member, who is in crisis.

With inputs from Dr. P.T. Sasi

Dr. Veerappa Kumaraiah (1942-2023)

A name of Simplicity, Love & Affection with great Professional Attire & Synonym of Behaviour Therapy & CBT in India

Born on August 10th 1942, to a poor family, in a remote village of Karnataka, Dr. Veerappa Kumaraiah was one among twelve children. His early schooling was a struggle, having to walk a few hours to reach the nearest school. He completed his Bachelor's and Master's degrees from Manasagangothri, Mysore University, and he was able to do so only because he was provided a free hostel by a magnanimous institution.

Dr. V. Kumaraiah completed his Diploma in Medical and Social Psychology (DM&SP) in the year 1968. His Ph.D. in Clinical Psychology degree was awarded at NIMHANS, in the year 1974; under the guidance of Dr. H.N. Murthy, who was instrumental in establishing the Behaviour Therapy and Biofeedback Unit- BT/BF unit (now known as the Behavioural Medicine Unit) at the Department of Clinical Psychology, NIMHANS.

Prior to joining NIMHANS as faculty in 1974, Dr. Kumaraiah worked for about a year as a lecturer in Psychology at Kalpataru College, Tiptur, Karnataka. Subsequently for six years, Dr. Kumaraiah served ICMR, as a Research Officer. He also served the Indian Institute of Management (IIM-B), Bangalore as a Research Fellow for a brief tenure of six months. Dr. Kumaraiah was deputed by the Government of India as an expert advisor in mental health to Mosul University College of Medicine, Government of Iraq from 1979 to 1982.

Dr. V Kumaraiah was one of the founders of the Behaviour Therapy and Biofeedback Unit, at the Department of Clinical Psychology, NIMHANS. He devoted four decades of his life with his sustained efforts and contributions to the growth and development of the unit, clinical services, teaching, and training; along with his colleague Dr. Haripad Mishra and later Dr. PSDV Prasada Rao. The unit is to this day recognized as one of its kind in the country, well-known for its clinical services, human resource development, and applied evidence-based research.

His areas of expertise include chronic pain and its management and stress management, coronary heart disease, diabetes, and asthma in behavioural medicine and in application of CBT to various psychiatric disorders.

A firm believer in the application of learning principles, particularly operant conditioning, and later CBT, he encouraged his students to take up new areas of research, thus leading to a large body of research on applications of CBT in various medical and psychiatric conditions, noteworthy among them being on hypertension, diabetes, pain, substance use depression, deliberate self-harm and panic disorder.

Over the four decades of his service to the Department of Clinical Psychology at NIMHANS, he mentored MPhil and PhD scholars, teaching over 2500 post-graduates. He guided 75 MPhil Dissertations in his area of expertise and mentored 16 doctoral scholars.

A keen writer himself, he actively encouraged and supported students to publish their research. He has over 192 publications in national and international journals and 10l book chapters covering the applications of CBT, Biofeedback, behaviour therapies, in medical and mental health conditions, behavioural medicine, stress management, and pain management.

Dr. Kumaraiah was the recipient of numerous prestigious awards, including the award by the Government of Iraq for basic research, an award for Endowment lectures of Madras Psychological Society in 1985, and the Resource Person award at the Vth World Congress on Pain, Government of West Germany in 1986.

A combination of Rogerian qualities of unconditional positive regard, warmth, and genuineness, along with acceptance, positive reinforcement, and trust in his students, made Dr. Kumaraiah a very popular and loved teacher. He is remembered fondly by all his students whom he taught at NIMHANS, as a dedicated, enthusiastic teacher, animated in his interactions, displaying a good sense of humour, and a readiness to learn and accept feedback from his students. He was generous as a teacher and mentor, approachable, and a kind human being above all.

Having worked with both Dr. H. Mishra and Dr. V Kumaraiah during training for qualifying degree to become a Clinical Psychologist as an M. Phil scholar, the author feels fortunate; to have had an opportunity to work under Dr. Kumaraiah for her Doctoral Degree (Ph.D.in Clinical Psychology) between 1995-1999. It gave her an opportunity to learn how Dr. Kumaraiah could be a compassionate mentor, trusting and giving both academic freedom and guidance to work on her research and learn.

He was an excellent role model to young faculty, clinical psychologists, PhD scholars, showing them the importance of respect for others and how to balance discipline and kindness. Dr. Kumaraiah would often remember his own teachers who instilled confidence in him, in particular Dr. H.N. Murthy, to whom he credits his growth and achievements.

An affectionate, warm person, Dr. V. Kumaraiah was devoted to his family, comprising of his wife Mrs. Ambika, whom he married in 1967, and his three children, two daughters and a son, all of whom are themselves highly accomplished individuals personally and professionally. He shared a very close bond with his wife Mrs. Ambika, a homemaker. She was a significant source of support for him, and the backbone of all his accomplishments. She stood by him constantly and together they raised three children. He would speak fondly of his grandchildren and would express pride and joy in their achievements.

Dr. Kumaraiah spent the years following his superannuation in 2004, doing the things he loved most, enjoying the company of his children, grandchildren, traveling around the world with family and friends, and even starting a laughter club with his neighbours and friends. Having suffered a stroke in the last four years, Dr. Kumaraiah had to reduce his travel considerably.

Dr. Kumaraiah often expressed his wish to donate towards the growth of the field of behavioural medicine, behaviour therapy and cognitive behaviour therapy. He pursued this wish actively and donated generously to set up an oration in his name to honour clinical psychologists, working and contributing to the area of therapy. The first Dr. V. Kumaraiah Oration held on August 19th, 2022, was delivered by Prof SPK Jena, the year Dr. V Kumaraiah turned 80. The second Oration was delivered by Prof Kiran Rao, former Head of the Department of Clinical Psychology, NIMHANS, on 23 August 2023.

Dr. Kumaraiah breathed his last, surrounded by his near and dear ones, following a brief illness when visiting his son and his family in Dubai on 8th April 2023. His demise is indeed a great loss to the field of clinical psychology and to the area of behavioural and cognitive behavioural therapies and behavioural medicine. He will be remembered warmly by all his students, and faculty colleagues and fellow professionals for his simplicity, for being a kind, generous and passionate teacher and a committed professional.

Dr. Paulomi M. Sudhir
Professor
Department of Clinical Psychology,
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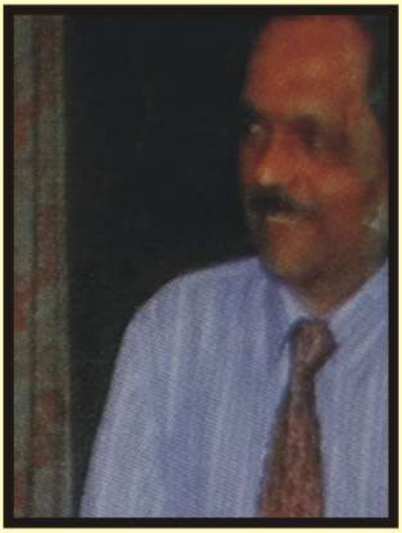

Dr. Veerappa Kumaraiah
(1942 - 2023)

Professor Veerappa Kumaraiah inaugurating the Behaviour Therapy unit of IHBAS

Professor V. Kumaraiah delivering the inaugural speech.

Mr. Tony A.D. Ambadan
(1981-2023)

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