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Original Research Article

Relationship between health beliefs and drug use among adults: A cross-sectional study

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Abstract

Purpose: *To investigate the correlation between health attitudes and drug usage among participants in Aligarh district.*
Methods: *This cross-sectional study involved 446 randomly selected adults aged 18 years and older. Study instrument was a self-structured questionnaire developed based on relevant literature, and scored using a 5-point Likert scale ranging from strongly agree to strongly disagree. A higher score indicates better healthcare beliefs. Responses were compared using regression models.*
Results: *Health beliefs and drug use showed a significant positive correlation among respondents ($p < 0.001$). Also, being married, educational level, and being a student showed positive healthy-drug relationships ($p < 0.001$).*
Conclusion: *Health beliefs and drug use are positively correlated. Also, marital status, educational level, and being a student show a positive correlation with drug use. Further studies are needed to understand these relationships more comprehensively.*

Keywords: *Health beliefs, Drug use, Adults, Healthy-adults relationships*

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INTRODUCTION

Drug use significantly affects physical and mental health, leading to organ damage, addiction, mental health disorders, impaired cognitive and emotional function, and an increased risk of infectious diseases [1]. Consumption of substances such as khat, alcohol, cigarettes, and illegal drugs like hashish, cocaine, and heroin is a major public health concern, particularly for individuals aged 10 to 24 years [2,3]. In 2021, 296 million people aged from 15 to 64 used drugs, marking a 23 % increase over the past decade [4]. Global surveys, including national epidemiological studies, have documented the widespread use of substances among individuals aged 10 - 19 in India in 2019. Tobacco use stood at 16.9 %, alcohol (1.3 %), opioids (1.8 %), inhalants (1.17 %), and cannabis (0.9 %). For adults, the corresponding Figures were alcohol (5.2 %), cannabis (2.8 %), opioid (2.1 %), sedatives (1.08 %), inhalants (0.7 %), cocaine (0.18 %), and stimulants (0.12 %) [5].

Adolescence is a crucial period for shaping lifestyle directions and substantial transformations in cognitive, emotional, physical, and societal development. Substance use among young people leads to mental health issues, addiction, poor academic achievement, reduced efficiency, high rates of dropout, and a lack of discipline [6]. Drug use impacts both adolescents and adults, and beliefs and attitudes toward drugs change over time. Personal or observed negative experiences may increase awareness of these dangers, deeply influencing health beliefs related to drug use. For example, seeing a friend or family member struggle with addiction or health problems may change an individual's perception of the risks and consequences [7,8].

Public beliefs and perceptions on drug use and addiction have evolved, and addiction is regarded as a health issue rather than a proof of moral decadence. This shift has led to more empathetic responses and promoted reduction techniques, therapy, and treatment [9]. In a similar vein, the health belief model (HBM): a psychological model designed to understand and forecast health-related behaviors, advocates that perceived risks, benefits, barriers to taking action, self-efficacy, and beliefs about susceptibility to health threats influence health promotion [10]. Health beliefs among adults in India shape decision-making processes, behaviors, and attitudes toward drug use [11]. Furthermore, changes in drug regulations, such as legalization or decriminalization also affect health beliefs and behaviors among adults.

One of the aims of sustainable development goals is to mitigate the effect of substance use and improve healthcare practices among young people by enhancing preventative and therapeutic services, promoting substance abuse counseling, network-based facilities, and engagement with the adolescent health strategy [12]. However, there is still a need for further evaluation to effectively address these challenges.

Hence, understanding the cultural, social, and contextual factors influencing drug use is essential for designing targeted and culturally appropriate interventions. Also, studies addressing substance use and associated threat behaviors among young people residing in the Aligarh region of Uttar Pradesh, India, are scarce. Therefore, this study investigated the correlation between health attitudes and drug usage among participants in Aligarh district.

METHODS

Participants and sampling

A cross-sectional analytical study was conducted from June 2023 to February 2024. The study involved 446 adults identified from four sub-towns (Atrauli, Khair, Iglas, and Andla) using a stratified sampling method. The primary reason for selecting these towns was the availability of respondents in a specific location [13]. After visiting various towns in the Aligarh district, individuals were engaged through personal interactions. In total, 500 respondents were contacted, of whom 446 were considered suitable for this study. Trained researchers assisted participants who were illiterate or affected by various health conditions related to drug use as part of a single-blind randomized study.

Ethical approval

The study was approved by the Ethical Committee of All India Institute of Medical Sciences, Rishikesh, Uttarakhand, India. The study was conducted in accordance with the ethical standards outlined in the guidelines of 1964 Declaration of Helsinki and its subsequent amendments, or comparable ethical guidelines [14].

All participants provided oral informed consent before the commencement of study. Out of 500 eligible participants, 446 were confirmed as study participants, resulting in a response rate of 89.2 %. Variables such as gender and education level were not significantly different indicating that each characteristic is representative. The questionnaire and study design were reviewed and approved based on relevant literature [15].

Study instrument

The study instrument was a self-structured questionnaire on the relationship between drug use and health beliefs developed based on relevant literature. The questionnaire includes dimensions such as health beliefs and drug use. In the initial phase of the survey, seven questions were developed and scored using a 5-point Likert scale ranging from strongly agree to strongly disagree, where a higher score indicates better health care beliefs (trust established between drug users and doctors, as well as in medical care). Drug use manifests as behavior in interpersonal communication and is observed among drug users. The beliefs of drug users are linked to the enhancement of quality and cooperation in medical care concerning health beliefs. Key information of the

participants include age, gender, marital status, educational level, and professional category.

After completing the initial version of the scale, experts in health management and medical care were consulted for validation and recommendations for modifications. Following expert discussions, 5 out of 30 questions were removed, leaving 25 questions for the study. The Content Validity Index (CVI) was 0.925, indicating that each question was appropriate. Generally, initially developed questions in the questionnaire shaped the preliminary draft before selecting the assessment method. This influenced the assessment of variables and constructs. Ultimately, the questionnaire was revised by considering its content validity, face validity, and theories to implement during interviews.

Data analysis

Data was analyzed using Statistical Packages for Social Sciences (SPSS) version 19.0 (IBM, Armonk, NY, USA). Demographic variables such as age, gender, educational background, marital status, and professional category were presented in frequency and percentages. Data from drug users was employed to determine the optimal regression model. Non-response errors were assessed immediately after the questionnaires were received to prevent sampling errors from affecting the study. Based on fundamental aspects of health care beliefs, the retrieved questionnaires were classified as either early or late responses, ensuring the use of important constructs such as drug use and health beliefs. There is no statistically significant variation in early or late responses, therefore, the study sample is not influenced by non-response errors. The evaluation of the measurement model involves analyzing its internal consistency, discriminant validity, and convergent validity. To assess the convergent validity of the study instruments, the following three criteria were initially employed: Factor loadings should be significant and ≥ 0.5; Cronbach's alpha and composite reliability (CR) should be ≥ 0.60 and 0.70, respectively, and average variance extracted (AVE) should be ≥ 0.50 (in other words, the square root of AVE must be ≥ 0.71).

RESULTS

Validity and average

The average AVE for each construct was ≥ 0.5 (Table 1). This suggests that the measurement model exhibits a strong level of convergent validity. Cronbach's alpha and composite reliability (CR) correspond with these findings. As a result, the instruments used in this study met the essential criteria of factor loadings, Cronbach's alpha, and AVE. This confirms the convergent and discriminant validity as well as validating the accuracy of measurement results.

Discriminant validity

To conduct a discriminant validity test, square root of the AVE of one construct must be greater than correlation coefficient of the remaining constructs in the model. Square root of the AVE of each construct and measurement variable is greater than the correlation coefficient involving any two constructs, suggesting that this relationship study exhibits good discriminant validity (Table 2).

Baseline characteristics

Most of the drug users were male 298 (88.81), single 271 (42.60), had education up to secondary school 124 (27.80), and students 290 (65.02).

Table 1: Validity and average variable extracted

Construct	Mean	SD	Cronbach's α	CR	AVE
Health beliefs	3.628	0.695	0.984	0.479	0.931
Drug use	3.824	0.738	0.897	0.492	0.769

Table 2: Variable correlation coefficient matrix

Measure	1	2	3	4
Health beliefs	0.727			
Drug use	0.789***	0.689		

Note: ****P*** < 0.001

Table 3: Baseline characteristics of drug users (n = 446)

Variable	Item	N (%)	*P*-value
Gender	Male	298(66.81)	0.98
	Female	148(33.19)	
Age	< 20	125(28.02)	0.92
	21-30	85(19.05)	
	31-40	78(17.50)	
	41-50	87(19.50)	
	51-60	43(9.65)	
	> 61	28(6.28)	
Marital status	Bachelor	190(42.60)	0.425
	Married	175(39.24)	
	Divorced/Widower	81(18.16)	
Educational level	Middle school	103(23.10)	23.10
	Up to Senior secondary	124(27.80)	27.80
	University level	219(49.10)	49.10
Occupational structure	Student	290(65.02)	0.001***
	Private service	60(13.46)	
	Government service	54(12.10)	
	Retired person	42(9.42)	

Note: *$P \leq 0.05$ = Significant, ***$P \leq 0.01$ = Highly significant

Table 4: Regression model of the study

Control variable	Item	Drug user satisfaction	*P*-value
Reference group: Female		***0.134***	***0.902***
Age (Reference group: 31-40 Years)			
<20 years		-0.807	0.421
21-30		-0.231	0.804
41-50		0.921	0.31
51-60		-0.414	0.641
>61		-0.005	0.932
Marital status (Reference Group: Bachelor)			
	Divorced	-0.452	0.621
	Married	-2.082	0.042*
Education level (Reference Group: Middle School)			
	University	-2.235	0.027*
	Up to senior secondary	-2.015	0.042*
Occupation class (Reference Group: Government Service)			
	Retired person	1.054	0.27
	Private service	0.752	0.443
	Student	2.585	0.012*
Independent variable			
	Health beliefs	4.296	0.001***
	Drug use	4.687	0.001***
R^2		0.683	
Adjusted		0.601	
R^2		28.779	
F-value		0.001***	
P-value		0.001***	

Note: *$P \leq 0.05$ = Significant, ***$P \leq 0.01$ = Highly significant

Regression model

After controlling other constructs of the study, the relationship predicted that R^2 of drug-user and healthy relationship model was 68.3 % (F = 28.779, $p < 0.001$), clearly indicating a significant difference for this classified study. Marital status and educational level exhibited a significant correlation (t = -2.082, $p < 0.05$) between drug users and satisfaction with substance usage, without acknowledging its negative effects. Furthermore, professional structure was positively correlated with being a student (t = 2.585, $p < 0.05$), which also explains a positive healthy-drug relationship. Also, a positive correlation was developed between health beliefs and drug use (t= 4.687, $p < 0.001$). There was no significant relationship between age and health beliefs or drug use ($p > 0.05$).

DISCUSSION

In contemporary society, societal transformations and high proportion of well-educated individuals have led to higher consumer consciousness regarding their responsibilities. As a result, drug use has become more important in healthy adults. Therefore, establishing a positive relationship with healthy adults would not only increase satisfaction of drug users but also decrease the probability that medical drugs would become accessible. This study revealed that drug use and health beliefs are significant determinants in reducing drug consumption. Also, unmarried individuals are more prone to indulge in drug use. Consistent with the findings of previous studies, this result suggests that physicians' empathy may be demonstrated by the inclusion of drug users in their treatment. Physicians who use more empathic communication receive more important information from drug users about their illnesses and concerns [16].

Previous studies have synthesized studies on the determinants that impact the decision-making process of drug users regarding the establishment of a user-physician relationship. An effective patient-physician relationship and demographic variables (e.g. marital status, educational achievement, professional classification) are recognized as valuable assets in enhancing the provision and utilization of medical services for individuals who use drugs [17]. A belief between the drug users and the doctor is considered important to achieve a more effective treatment effect. As a result, medical trust may be considered an important factor in ensuring trustful communication and providing un-informed knowledge about treatment management.

Also, this study revealed that perceived benefits and barriers to substance abuse increased after intervention in the study group. Individuals tend to avoid preventive and therapeutic behaviors when they perceive them as futile. Also, a correlation was identified between alcohol advertising and heightened youth consumption. These results indicate that alcohol advertising in the media should be restricted or should more accurately depict its detrimental effects. Furthermore, it was recommended that the sale, purchase, and possession of substances be prohibited on educational premises, with a particular focus on off-campus and on-campus youth [18]. The results of this study revealed that adolescents who consistently received social support from their peers exhibited a reduced propensity for substance use. Youth who had parents, who had little understanding of their concerns were also more likely to engage in substance abuse. Parental supervision of adolescents has been shown to reduce substance use in previous studies [19]. Youth substance misuse may be influenced by factors such as inadequate parental involvement and drug use within the household [8]. Consequently, adolescents and young people may turn to substance use as a coping tool due to insecurity and lack of social support.

Previous studies have established a significant correlation between academic performance and both substance abuse and violence. Drug use among youth is pervasive, serving as an emblem of independence, solace, defiance, and maturation [20]. Results of this study revealed that there was no significant difference in violent behavior or academic performance between drug addicts and non-addicted students. However, disrespect for instructors was more prevalent among addicts. This phenomenon may be attributed to the pleasurable and gratifying effects of the immediate effect of the drug on the brain, as well as the accessibility of addictive content without resorting to violent means of acquisition or payment. Dilemma and substance abuse, however, are indicative of the developmental phases of young adulthood and adolescence and are included in the differential susceptibility to risky behavior. Substance abuse results in severe psychological issues [21]. It is essential to subject drug-using adolescents to psychological monitoring to prevent the development of potential criminal behavior. These adolescents, for instance, were unaware of any organization or individual who could assist juvenile drug addicts [20].

Social norms in smaller communities may hinder the development or commercialization of treatment programs for substance abuse, as they may be stigmatizing for potential users. Also, social stigma about substance addiction impedes the dissemination of information regarding the nature of individuals' problems and help-seeking behaviors. Religion as a tool for public health has been the subject of debate among public health specialists [22], due to the possibility that religious authorities and institutions may become the most influential actors in public health. This may lead to religious practices driving important health initiatives that should support positive healthcare guidelines and other health problems.

Limitations of the study

This study has some limitations. A cross-sectional design may not have revealed an association between substance use and related

factors, as well as data gathering from multiple published literature sources.

CONCLUSION

Health beliefs and drug use show significant positive correlation among respondents, and educational level, marital status, and being a student show significant positive healthy-drug relationships. These results may inform public health initiatives, education campaigns, and policies aimed at promoting accurate information, reducing misconceptions, and preventing drug-related harm. Further studies are needed to understand these relationships more comprehensively.

DECLARATIONS

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Ethical approval

The study was approved by the Ethical Committee of All India Institute of Medical Sciences, Rishikesh, Uttarakhand, India.

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Conflict of Interest

No conflict of interest associated with this work.

Contribution of Authors

The authors declare that this work was done by the authors named in this article and all liabilities pertaining to claims relating to the content of this article will be borne by the authors. Every author contributed to the conceptualization, data analysis, drafting, and revision of the paper, and accept responsibility for all elements of this work.

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