

Relationship between Socio-demographic Factors and Substance Use Disorders among Patients in Selected Rehabilitation Centres in Nairobi County, Kenya

Henrietta Amen Usunobun, Naomi James, Martha Kiarie

Daystar University, Nairobi - Kenya

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ABSTRACT

Substance Use Disorders (SUDs) have become a major public health concern in Kenya, with their emergence and persistence closely linked to individuals' sociodemographic circumstances. This study examined the relationship between socio-demographic factors and SUDs among patients in selected rehabilitation centres in Nairobi County, Kenya. The objective of this study was to examine the association between socio-demographic factors and SUDs prevalence. This study employed a cross-sectional correlational design. The target population consisted of male participants aged 18–59 years in six rehabilitation centres. The sample size was 100 participants. Purposive sampling was used to select the study sites, while convenience sampling was used to select participants. Data was collected using the socio-demographic questionnaire and alcohol, smoking, and substance involvement-screening test (ASSIST). Data were analysed using SPSS (version 25), applying descriptive and inferential statistics to reveal patterns of substance use. The study found that SUD prevalence was statistically significant with religion and level of income ($p = .014$; $p = .009$), respectively, suggesting that spiritual affiliation and economic status may play important roles in shaping individuals' vulnerability to substance use. Further, the study found that substance use severity was significantly influenced by sociodemographic factors, highlighting the multifaceted nature of addiction. Hence, the study recommends that intervention programs be designed with greater sensitivity to individuals' socio-economic and cultural backgrounds. Tailored strategies that incorporate spiritual support, economic empowerment, and targeted outreach for at-risk groups may prove more effective in reducing both the prevalence and severity of SUDs within diverse populations.

Keywords: Substance Use Disorder, Socio-demographic factors, Patients, Rehabilitation Centres, Nairobi County, Kenya

INTRODUCTION

Substance Use Disorders (SUDs) are considered a chronic public health problem, as it had far-reaching physiological, psychological, and socio-economic implications (Hampton et al., 2019; UNODC, 2024). The patterns of use developed into a loss of control and compulsive use despite adverse consequences (APA, 2013; Pelloux et al., 2019), and were described by the term SUDs. Globally, SUD rates had been increasing, with high-risk mortality within the cohort of youth aged 18–30 years old and the cohort aged 15–65 years (Massah et al., 2017; NACADA, 2022; UNODC, 2024). There had been a substantial increase in the number of people with alcohol and drug use disorders since 1990, driven by population growth and aging (Degenhardt et al., 2018; UNODC, 2023, 2022). This worldwide spread of substance use was a sinister and grievous trend with significant public health implications (Volkow & Blanco, 2023; World Drug Report, 2019).

SUDs are a growing concern in Nairobi, Kenya, with factors such as urbanization, socio-demographics, and limited access to specialized treatment contributing to its prevalence. Numerous studies have consistently demonstrated that the emergence and persistence of SUDs disproportionately affect a number of demographic factors, including age, education level, sex of household members, marital status, employment status, media exposure, Income status, residential setting, and nationality (Anic & Robertson, 2020; Abajobir & Kassa, 2019;

Mestre-Bach et al., 2020; NACADA, 2022). In addition, Jaguga and Kwobah (2020) substance abuse often began during the teenage years, leading to entrenched dependency issues later in life. While Chege (2022) asserts that easy access and peer influences often led to drug use initiation during the teenage years, resulting in entrenched dependency issues later.

Furthermore, this issue was often the leading reason behind severe psychological illnesses, which pertained to whole nations and led to a range of mental health problems (Dalal, 2020; Dubey & Bakhshi, 2019; Kuyeya, 2021; Pan et al., 2020). It posed an important global public health challenge, responsible for tremendous health burdens and economic losses (Hampton et al., 2019; Paquette et al., 2019; Volkow & Blanco, 2023).

In South Korea, Kim and Cho (2020) conducted a large-scale study using data from the 2014 South Korean Working Conditions Survey, which included responses from 49,401 workers, to explore how work-life conflict (WLC) and socioeconomic status (SES) affect mental health outcomes. Their analysis, which applied logistic regression stratified by sex, revealed that both WLC and domestic demands were significantly associated with poorer mental health in both men and women. Specifically, WLC was linked to increased odds of poor mental health (OR = 1.24 for men and OR = 1.18 for women), and domestic responsibilities also showed a significant impact (OR = 1.16 for men and OR = 1.22 for women). Importantly, the study found that the relationship between WLC and mental health varied according to individuals' socioeconomic status. WLC had a stronger adverse effect among those with higher SES, as evidenced by education and income levels. For example, men with higher education had greater odds of mental health issues due to WLC (OR = 1.61) compared to those with lower education (OR = 1.51). A similar pattern was observed for income (OR = 1.44 for higher income vs. OR = 1.10 for lower income). The same trend was noted among women, suggesting that the stress of balancing work and family demands may be more psychologically burdensome for individuals in higher SES brackets, possibly due to greater role expectations or job demands. The authors concluded that efforts to promote mental health in the workplace should consider not only the impact of WLC but also the modifying role of SES. As a result, it was critical to review the socio-demographic characteristics of SUD.

In Pakistan, Memon et al. (2019) explored the socio-demographic factors linked to SUDs among individuals undergoing rehabilitation. Their study focused on how characteristics such as age, gender, education, and socioeconomic status influenced patterns of substance misuse in this population. Three hundred and eighty patients with substance abuse disorders who were enrolled in a drug rehabilitation facility and were at least 18 years old were included in this retrospective cohort study. Non-probability, sequential sampling was used to get the sample, guaranteeing that there was no gender favoritism. A pre-structured, interview-based questionnaire was used to collect data, asking about socio-demographic information, basic bio-data, and the specifics and history of the substance misuse disorder. Microsoft Excel 360 and SPSS version 21 were used to analyze the collected data. The study enrolled 380 patients, with 66.32% males and 33.68% females. The mean age of the sample was 33 years (SD \pm 9.1). A sizable percentage of responders (35%) had begun abusing drugs when they were in their teens. A small proportion of the respondents were students, accounting for 7.9%, whereas nearly half (47.11%) of the participants had attained at least a secondary level of education. The most often abused substance was heroin (47.9%), which was followed by cannabis (27.9%). Although a significant portion of subjects (9.2%) had been misusing substances for more than 16 years, the mean duration of substance misuse was between 1 and 5 years. Peer pressure and family conflicts were found to be the most frequent causes of substance misuse initiation. The study offered important new information about the socio-demographic factors that influenced SUDs. Males who were educated and working were more likely to suffer SUDs, despite what the public believed. Heroin was the most often abused substance, indicating the necessity for more stringent regulations. Peer pressure and family conflicts played a big role in the beginning of substance abuse, which highlighted the significance of focused intervention techniques.

In Nepal, Gyawali et al. (2016) examined the incidence and contributing factors of psychological distress symptoms among patients with SUDs in drug rehabilitation facilities. With a sample of 180 patients evaluated using the Kessler 6 scale (K6) to gauge distress and gather information on demographics, behavior, and psychosocial factors, the study employed a cross-sectional approach. The multivariate analysis showed that, with a mean K6 score of 12.22, 51.1% of patients experienced significant levels of psychological distress. The following factors were linked to higher levels of distress: weaker family functioning (APGAR), higher severity

of drug misuse (DAST10), lower education levels, and younger age. The study concluded that individuals with SUDs in Nepal frequently experienced significant levels of psychological distress, and that certain behavioral, psychosocial, and demographic traits may have helped identify those who were more likely to have comorbid problems. The current study assessed the association between socio-demographic factors and SUDs.

A study by Boua et al. (2021) on the prevalence and socio-demographic correlates of alcohol and tobacco use in four sub-Saharan African nations among middle-aged people. Participants in this cross-sectional, population-based study were drawn from six research sites as part of the Africa Wits-INDEPTH Partnership for Genomic Research study, and they came from both rural and urban areas. The CAGE questionnaire was utilized to further assess alcohol use, and data on tobacco and alcohol consumption patterns were collected from persons between the ages of 40 and 60. Ten thousand, seven hundred and three participants made up the study's sample, which was stratified into two groups based on location (rural and urban) and gender. To find associations with substance use patterns, socio-demographic factors such as gender, marital status, and socioeconomic level were investigated. The study found a significant relationship between substance use patterns and socio-demographic factors. Overall, substance usage habits differed significantly by gender with 33.3% of women and 68.4% of males reporting using drugs at some point in their lives. Men were substantially more likely than women to smoke (34.5%) compared to 2.1%. Women were more likely than men to use smokeless tobacco (14.4%) compared to 5.3%. Compared to women (29.3%), a greater percentage of men (60.3%) reported currently using alcohol. Men from Soweto (70.8%) and women from Nanoro (59.8%) had the highest rates of alcohol intake. Men were more likely than women to have problematic alcohol use (18.9% vs. 7.3%). Problematic drinking practices were more likely to emerge in men who were currently smokers and those who were divorced or bereaved. Men's alcohol consumption was linked to current smoking. Among men, quitting smoking was associated with being married or cohabiting, having a higher socioeconomic position, and having previously used alcohol. Regional variations in substance use patterns and prevalence were noted by the study, suggesting the impact of regional sociocultural influences. The findings of the study demonstrated notable gender differences in substance use, with men exhibiting greater prevalence rates of drinking and smoking.

In a South African study by Tindimwebwa et al. (2021), the researchers investigated how substance use is linked to demographic factors among individuals living with mental illness in the Eastern Cape. The research, which took place at the outpatient unit of a major hospital, used a pre-tested questionnaire focused on alcohol and psychoactive substance use, targeting a sample of 390 participants. Findings revealed that 64.4% of the respondents had used alcohol at some point in their lives, and 33.3% had consumed alcohol in the past year. However, only 18.5% met the criteria for risky alcohol consumption. After adjusting for multiple variables, being male, younger, and residing in rural areas remained significantly linked to risky drinking. Regarding psychoactive substances, 39.7% of participants reported having used them at some point, while 17.4% had done so in the past year. Cannabis emerged as the most frequently used drug, with 37.4% of respondents reporting lifetime use. The analysis further showed that men, younger individuals, business owners, and the unemployed were more likely to report both lifetime and recent use of psychoactive substances. The study underscores the urgent need for strengthened mental health services particularly trained personnel and better infrastructure to address co-occurring substance use and mental illness in the region.

Across eleven East African countries, Fentaw et al. (2022) conducted a comprehensive multilevel analysis examining substance use among men using nationally representative Demographic and Health Survey (DHS) data collected between 2015 and 2019. The study included data from Tanzania, Burundi, Comoros, Ethiopia, Kenya, Malawi, Rwanda, Zambia, Mozambique, Uganda, and Zimbabwe, encompassing a large sample of 55,307 male participants. Among these, 24,185 men (43.7%) reported using at least one substance, highlighting the substantial burden of substance-related behaviors in the region. The study identified several sociodemographic factors significantly associated with substance use, including age, educational attainment, marital status, employment status, household wealth index, media exposure, and place of residence. For instance, substance use was more prevalent among individuals with primary (47.7%) or secondary (29.2%) education levels, and among those residing in rural areas accounting for 64.4% of substance users. Interestingly, substance use was also higher among men with access to media, representing 82.4% of users. Age-wise, the highest prevalence was observed among younger men aged 15 to 24 years, while those over 44 years had the lowest rates of use. Chi-square analysis confirmed the statistical significance of these associations. Fentaw et al. (2022)

concluded that substance use in East Africa remains widespread and disproportionately affects vulnerable groups, particularly the rural poor, the undereducated, and adult men. These findings underscore the need for targeted public health interventions that are responsive to the social and economic realities of affected communities. The authors recommended that substance use prevention and control programs prioritize high-risk populations through context-specific strategies aimed at reducing the escalating burden of substance use across the region. This study contributes a valuable regional perspective and offers practical guidance for policymakers and healthcare providers working to mitigate substance-related harms in East African settings.

In Tanzania, Karino et al. (2023) conducted a descriptive cross-sectional study at Tanzania's Muhimbili National Hospital (MNH) in Dares Salaam between March and May 2022. The goal of the study was to determine the prevalence of substance use among individuals with mental illness and the associated risk factors. The study comprised 364 individuals who came to the outpatient clinic of the MNH Psychiatric Unit. Data was collected through in-person interviews using a standardized social demographic questionnaire and the WHO ASSIST V3.0 program. Using SPSS version 26, bivariate and multivariate regression analyses were performed to determine the association between patient characteristics and substance use. Statistical significance was defined as a p-value of less than 0.05. Being male was strongly linked to a higher chance of drug use (Adjusted Odds Ratio [AOR]: 2.133; 95% Confidence Interval [CI]: 1.258-3.619; $P=0.005$), among other characteristics that were significantly connected with substance use. Another significant effect was younger age (AOR: 3.301; 95% CI: 1.152-9.453; $P=0.026$). Substance use was significantly correlated with a family history of substance use (AOR: 3.721; 95% CI: 2.215-6.252; $P=0.001$), and individuals with a positive family history of mental illness were more likely to use substances (AOR: 2.423; 95% CI: 1.448-4.056; $P=0.001$). The findings demonstrated how common substance abuse was among MNH's mentally ill patients. Given the strong correlations with gender, age, and family history, the study emphasized the significance of frequent substance use screening in psychiatric settings.

In Ethiopia, Tessema et al. (2020) conducted a multilevel analysis of the 2016 Ethiopian Demographic and Health Survey (EDHS) to determine the prevalence and predictors of alcohol use among Ethiopian men aged 15 to 59 years. Drawing from a nationally representative sample of 12,594 adult males, the study found that 46.64% had consumed alcohol at least once in their lifetime. Using a multilevel logistic regression model to account for the hierarchical structure of the data, several factors were found to significantly predict alcohol use. Older age groups (30–44 and 45–59 years) had higher odds of alcohol consumption compared to younger men. Interestingly, individuals who followed the Orthodox religion were less likely to drink alcohol. Conversely, media exposure, khat chewing, and cigarette smoking were all positively associated with alcohol use. Men without an occupation were significantly less likely to consume alcohol, suggesting a complex interplay between employment, income, and substance use. The findings underscore the need for targeted interventions, including public health education on alcohol risks, control of media-based alcohol advertising, and integrated efforts to address co-occurring behaviors such as khat chewing and tobacco use. The study also highlighted the importance of creating employment opportunities as a potential strategy to mitigate substance use.

Furthermore, in Kenya, a descriptive cross-sectional study by Okoyo et al. (2022), conducted across Isiolo, Kajiado, Murang'a, and Nyamira counties, found a high prevalence of drug and substance abuse (DSA), with sociodemographic factors playing a critical role in influencing usage patterns. Among the 3,600 participants, DSA was more prevalent among males (94.5%), particularly those aged between 36 and 53 years. Unmarried individuals and government employees were also significantly more likely to engage in substance use. For instance, men had seven times higher odds of DSA compared to women, while unmarried people and those in government jobs had elevated risks. Packaged alcohol, cigarettes, chang'aa, and khat were the most frequently abused substances. These findings underscore how gender, marital status, age, and occupation are important predictors of substance use in Kenya. The study highlights the need for interventions that are sensitive to these sociodemographic dynamics, aligning with national efforts such as NACADA's push for evidence-based prevention strategies.

METHODOLOGY

This study adopted a cross-sectional correlational research design targeting individual aged 18 to 59 years

undergoing treatment in six of the fifteen accredited rehabilitation centers in Nairobi County, Kenya. According to Creswell (2018), this design involves collecting data from a population at a single point in time, and it is often used in social sciences, epidemiology, psychology and other fields to identify associations or correlations between variables.. Nassiuma's (2000) sample size formula was used to get the anticipated sample size. A total of 100 participants were recruited using convenience sampling, after the rehabilitation centers were purposively selected based on accessibility, ethical clearance, and willingness to participate. Data were collected using two instruments: the Socio-Demographic Questionnaire (SDQ) and the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST).

The SDQ tool collected data on participants' age, gender, religion, marital status, education level, employment status, and income level. While the ASSIST, a brief validated screening instrument designed by the World Health Organization was used to assess both lifetime and recent use of different types of substances (WHO, 2008; Humeniuk et al., 2010). The instrument has shown good psychometric reliability, with Cronbach's alpha scores of 0.74 for alcohol, 0.70 for tobacco, and 0.87 for other drugs, including within Kenyan populations (Anundo et al., 2022; Kariuki et al., 2024; Kuria et al., 2012; Muriungi & Ndeti, 2013). Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics, including frequencies and percentages, were used to summarize demographic variables, while a Chi-square test was used to analyze associations between demographic variables and substance use patterns across ten substance categories. Ethical approval for the study was obtained from the School of Applied Human Sciences, Daystar University institutional scientific and ethical review committee (DU- ISERC), and the National Commission for Science, Technology and Innovation (NACOSTI). Further administrative approval was obtained from the managers of each participating rehabilitation center. All participants were provided with detailed information about the study, and written informed consent was obtained before data collection.

FINDINGS AND DISCUSSION

Response Rates

Table 1 presents the response rate of the instruments that were distributed to the participants in this study. It provides a breakdown of the total number distributed to six rehabs and the overall percentage of instruments returned.

Table 1 Response Rate

Rehabs	Instruments	% of returned Instruments
Rehab A	18	18%
Rehab B	16	16%
Rehab C	15	15%
Rehab D	20	20%
Rehab E	15	15%
Rehab F	16	16%
Total n=6	100	100%

Table 1 presents the distribution of returned instruments across the six rehabilitation centers involved in the study. Overall, the response rates were fairly balanced, which strengthens the representativeness of the data. Rehab A accounted for 18% of the total responses, reflecting solid participation. Rehab B followed closely with 16%, while Rehab C contributed 15%, showing consistent engagement. Rehab D had the highest response rate at 20%, indicating particularly active involvement from this center. Rehab E and Rehab F recorded 15% and 16% respectively, mirroring the steady input seen across most facilities. This even spread of responses enhances the credibility of the findings, as it captures diverse perspectives from multiple treatment settings. Hence, the study's response rate for the participants was 100%. Groves et al. (2018) suggest that a response rate of 70% or

more is viewed as highly satisfactory, reflecting strong participant involvement and dependable data. This level of response enhances the likelihood that the findings accurately represent the broader target population, making it possible to draw credible conclusions and apply them to the study setting. Furthermore, the high response rate achieved in this study can be attributed to the researcher's physical distribution of questionnaires and close supervision of the process with the help of the research assistants.

Demographic Characteristics

Data was gathered under the following demographics variables: Age, Religion, Marital Status, Level of Education, Employment Status, and Level of Income. The findings for demographic characteristics are tabulated in Table 2.

Table 2 Sociodemographic Characteristics of Respondents

Variable	Category	Frequency (n)	Percent (%)
Age	18–23	21	20.8
	24–29	21	20.8
	30–35	26	25.7
	36–41	14	13.9
	42–47	12	11.9
	48–53	4	4.0
	54–59	2	2.0
Religion	Christian	86	85.1
	Muslim	3	3.0
	Hindu	1	1.0
	ATR	2	2.0
	Others	8	7.9
Marital Status	Single	52	51.5
	Married	31	30.7
	Cohabiting	7	6.9
	Widowed	1	1.0
	Divorced	9	8.9
Level of Education	University	58	57.4
	College	25	24.8
	Secondary School	16	15.8
	Primary School	1	1.0
Employment	Employed	63	62.4
	Unemployed	37	36.6
Level of Income	Less than KSH 10,000	12	11.9
	KSH 10,000–20,000	13	12.9
	KSH 21,000–30,000	9	8.9

	KSH 31,000–40,000	10	9.9
	KSH 41,000–50,000	8	7.9
	Above KSH 50,000	23	22.8
	Prefer not to answer	25	24.8

As seen in Table 2, the study found a relatively youthful sample, with the majority of participants aged between 18 and 35 years. Specifically, 20.8% were aged 18–23, another 20.8% were between 24–29, and the largest group, 25.7% fell within the 30–35 age bracket. This indicates that the highest proportion of individuals receiving treatment for substance use were young adults, highlighting the vulnerability of this demographic to substance use disorders. In terms of religious affiliation, a substantial majority (85.1%) identified as Christian, while Muslims (3.0%), Hindus (1.0%), African Traditional Religion (2.0%), and other beliefs (7.9%) made up a small portion of the sample. This reflects the dominant religious landscape of Nairobi County, where the study was conducted. Regarding marital status, slightly more than half of the participants (51.5%) were single, followed by 30.7% who were married. Smaller proportions were cohabiting (6.9%), divorced (8.9%), or widowed (1.0%). These findings suggest that a significant portion of individuals in treatment were not in formal or stable relationships, which may reflect the social disruptions often associated with substance use.

Educational attainment showed that the majority (57.4%) had a university education, and 24.8% had attended college. Fewer had only a secondary education (15.8%) or a primary school education (1.0%). This relatively high level of formal education may indicate that substance use disorders affect individuals across different educational backgrounds, including the highly educated. Employment status showed that 62.4% were employed, while 36.6% were unemployed. This distribution suggests that although a majority were engaged in some form of work, a significant portion remained economically vulnerable, potentially influencing substance use patterns and access to treatment. Finally, income levels varied, with 22.8% earning above KSH 50,000 monthly, while a substantial 24.8% chose not to disclose their income. Smaller proportions earned less than KSH 10,000 (11.9%), between KSH 10,000–20,000 (12.9%), and other intermediate brackets. The wide income spread and the reluctance of many to disclose may point to socioeconomic sensitivity surrounding income status among individuals in treatment.

Assessing the Relationship Between Sociodemographic Variables and Substance Use Disorders Among Male Patients in Selected Rehabilitation Centres In Nairobi County, Kenya.

The study sought to investigate the association between sociodemographic characteristics and the prevalence of SUDs among male patients in rehabilitation centers within Nairobi County. A Chi-square tests was used to analyze associations between demographic variables and substance use patterns across ten substance categories. The findings are tabulated in table 3.

Table 3 Association Between Sociodemographic Variables and SUD Prevalence

Sociodemographic Variable	Chi-Square Value	df	p-value
Age Group	33.903	48	0.938
Religion	81.958	32	0.000
Marital Status	19.505	32	0.959
Education Level	22.289	24	0.562
Employment Status	7.196	8	0.516
Income Level	108.453	56	0.000

Significance was determined at the 0.05 level.

According to table 3, results revealed that among the six-sociodemographic variables analyzed, only religion

and income level showed statistically significant associations with SUD prevalence. The association between religion and SUD prevalence was statistically significant, $\chi^2 (32) = 81.958, p < .001$, suggesting that participants' religious affiliations and belief may influence the likelihood of developing SUDs. This could reflect differing religious norms, beliefs, or prohibitions around substance use, as well as variations in access to social or spiritual support systems. For instance, some religious communities might emphasize abstinence and provide stronger moral or communal reinforcement against substance use, potentially buffering individuals against risk. These results align with Boua et al. (2021), who found that religiosity often acts as a protective factor in African populations, helping individuals abstain from or recover from substance use through moral guidance and community accountability.

Similarly, income level was significantly associated with SUD prevalence, $\chi^2 (56) = 108.453, p < .001$. This strong relationship implies that economic factors play a substantial role in substance use patterns. Individuals in lower-income brackets may be more exposed to stressors such as unemployment, poor living conditions, or limited access to mental health care, factors known to elevate vulnerability to substance use. Conversely, individuals in higher-income brackets might engage in substance use for different reasons, such as recreational use or social normalization, although with potentially better access to treatment resources. These findings reinforce national-level data from NACADA (2022), which showed higher rates of poly-substance use among economically disadvantaged groups. They also support earlier studies (Kim & Cho, 2020; Rahman et al., 2019) which link poverty to substance misuse through stress, reduced access to health services, and environmental exposure to drug use. Furthermore, these findings are consistent with Gyawali et al. (2016), who noted that individuals facing economic strain often experience more frequent and prolonged episodes of substance use, likely as a maladaptive coping strategy.

In contrast, age group, marital status, education level, and employment status did not show statistically significant associations with SUD prevalence (all p -values > 0.05). For example, the association between age group and SUD prevalence, $\chi^2 (48) = 33.903, p = .938$, was not significant, suggesting that in this sample, SUDs were relatively evenly distributed across age categories. This finding may point to the widespread nature of substance use across the lifespan rather than being concentrated in specific age groups.

Furthermore, the lack of significance for education level and employment status suggests that, within this population, SUD prevalence was not strongly influenced by educational attainment or current occupational engagement. Likewise, marital status did not appear to offer a protective or risk-enhancing effect in this context. This aligns with findings from Tindimwebwa et al. (2021), who evaluated 390 adults with mental illness in Eastern Cape, South Africa, and found that only sex, younger age, and rural residence were associated with higher odds of substance use. While marital status, education, and employment status were not statistically significant predictors.

Overall, these findings emphasize the complex interplay between socioeconomic and cultural variables in shaping substance use behaviors. While some demographic factors (like age and education) might traditionally be thought to influence substance use, in this context, religion and income emerged as the most salient correlates of SUD prevalence. These results may inform the development of tailored intervention strategies that consider the cultural and economic backgrounds of individuals undergoing rehabilitation.

CONCLUSION

The study concluded that to foster healthier outcomes and improve recovery trajectories, there is a need to design context-sensitive intervention strategies that consider these socio-cultural and economic dynamics. Integrating tailored support systems, including psycho-spiritual counseling that aligns with the individual's religious beliefs. In addition, organizing economic empowerment programs, within treatment frameworks may enhance the effectiveness of rehabilitation and reduce relapse rates among affected individuals.

RECOMMENDATIONS

Based on the study findings, several recommendations are proposed to support better outcomes for individuals struggling with SUDs in rehabilitation settings: first and foremost, since religion was found to be significantly

associated with substance use, rehabilitation centres should consider incorporating psycho-spiritual counselling or faith-based support systems where appropriate to help patients in recovery. For example, collaborating with religious leaders may also enhance community acceptance and engagement in treatment efforts. Furthermore, the link between income and substance use highlights the need to address economic stressors during and after treatment. Providing vocational training, financial literacy programs, or income-generating opportunities within rehabilitation frameworks may help reduce relapse by improving clients' stability and hope for the future.

Effective recovery goes beyond the individual. Family involvement, peer support networks, and community awareness campaigns can help reduce stigma, encourage early help-seeking, and sustain recovery after treatment. In addition, the government and relevant stakeholders should invest more resources in prevention and rehabilitation services, especially in underserved communities. Policies that support affordable, accessible, and continuous care will help reduce the burden of SUDs on individuals, families, and the health system at large. Additionally, using mixed methods or following participants over time through longitudinal studies can offer a clearer picture of how people's substance use and recovery journeys change, helping researchers and practitioners understand what really works in the long run.

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