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PREVALENCE OF PSYCHOACTIVE SUBSTANCE USE AMONG SECURITY GUARDS AT TERTIARY CARE HOSPITAL: A CROSS-SECTIONAL STUDY

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ABSTRACT

In Pakistan, around 8.9 million, mainly cannabis users, suffer from drug problems, even within security forces. It is vital to establish strong workplace policies and offer support without judgment.

OBJECTIVES

To determine the prevalence of substance usage and identify the correlating factors within the security personnel demographic.

STUDY DESIGN

Cross-sectional Study

PLACE AND DURATION OF STUDY

Sheikh Zayed Medical College and Hospital, in Rahim Yar Khan, Pakistan. The study duration wasthree months (from 1st of November 2022 to 31st of January 2023).

METHOD

Prior to participation, all subjects furnished their informed consent. The Institutional Review Board sanctioned this study on the 28th of October 2022, assigning it the reference number 559/IRB/SZMC/SZH. We employed a purposive convenience sampling method to recruit a cohort of 184 participants.

RESULTS

In this study covering 184 security personnel who were mostly male, urinalysis results revealed a low rate of substance use. Only 3.26% tested positive for substances including opioids, methamphetamines, TCAs, benzodiazepines, and morphine. The research also noted the traditional use of substances such as nicotine, bera, naswar, and pan, highlighting the cultural patterns of consumption among this group.

CONCLUSION

Our research uncovered widespread substance use among security guards at a tertiary care hospital in Pakistan, highlighting the urgent need for measures to foster healthy living and provide education on substance use prevention. It is vital for healthcare professionals to offer guidance and for implementing public health strategies to combat drug addiction and encourage healthy habits in security staff.

KEYWORDS

Benzodiazepines; Cannabis; Methamphetamine; Morphine Derivatives; Nicotine; Substance-Related Disorders; Urinalysis; Workplace.

INTRODUCTION

Addiction is characterised by a harmful and counterproductive habitual consumption of substances, culminating in significant negative repercussions or distress within a twelve-month period. Detection of addiction encompasses the recognition of increased tolerance to the substance in question, the emergence of withdrawal symptoms, and other indicative markers.[1]

The United Nations Office on Drugs and Crime (UNODC) report of 2021 elucidates on the global health concerns emanating from substance use disorders (SUDs). Alarmingly, 5.5% of the global population, estimated at 36.3 million individuals, struggle with substance use disorders (SUDs).[2] High incidence rates are particularly observed in North America, with notable figures also in Australia, New Zealand, Europe, Asia, Africa, and South America.[2] The worldwide mortality rates linked to substance use are remarkably high; tobacco use alone is accountable for approximately 7.7 million premature deaths,[3] while alcohol consumption results in 2.4 million deaths annually.[4] Other drugs contribute to roughly 550,700 deaths5. Over the last decade, drug overdose deaths have surged significantly in the United States, with the COVID-19 pandemic exacerbating this issue.[6] In 2021, opioid-related deaths, mainly driven by illegally produced fentanyl, exceeded 107,000 cases. This grave trend is mirrored, though on a lesser scale, in Canada[7] and the United Kingdom,[8] accentuating the critical need to confront the mortality risks posed by substance use disorders.[9]

Findings from the 2012-2013 national survey conducted by the UNODC and Pakistan's Ministry of Narcotics Control demonstrate an alarming pattern of drug consumption in Pakistan, with 8.9 million individuals, inclusive of a substantial number of adults of both sexes, engaged in drug use.[10] Cannabis has been identified as the predominant substance of choice.[10] Furthermore, the World Drug Report 2022 indicates an escalation in global drug consumption, particularly cannabis and amphetamines, and draws attention to increasing health issues, such as hepatitis C and HIV among injectable drug users. These revelations emphasize the imperative for comprehensive public health initiatives to mitigate these challenges.[11]

An in-depth review of existing literature and studies up to 2023 reveals a noticeable gap in empirical research pertaining to substance use among security personnel in Pakistan. The lack of specialized academic investigations and the probability of underreporting within the security sector create significant obstacles in accurately determining the extent of this issue.

Consequently, empirical validation of the prevalence or trends of substance use among this demographic remains speculative. This gap highlights an immediate need for targeted research to enhance understanding and to devise appropriate remedial measures concerning the health issues afflicting this segment of workers.

A recent study in India has uncovered a significantly higher rate of substance use among security staff, with 40% confirming alcohol consumption and 3.3% acknowledging the use of alternate substances, thereby highlighting regional variations.[12] Conversely, studies in Western environments typically indicate reduced substance usage among professional categories. For example, an American study reported 16.5% of construction industry professionals admitting to using illegal drugs, mainly marijuana, compared to a reported rate of 8.6% within the emergency medical services personnel.[13]

The research conducted by Larson and colleagues[14] presents a foundational structure for comprehending the patterns of substance consumption among workers in different fields, encompassing those in security roles. A thorough appraisal, nonetheless, necessitates acknowledging the distinct occupational challenges and stresses inherent to security officers. It is imperative to develop and implement robust workplace policies, support structures, and customized intervention strategies to mitigate substance use in this particular profession. Moreover, it is essential to eliminate stigma and cultivate a workplace culture that promotes the pursuit of assistance freely, without the fear of judgment or consequences, to ensure the well-being and safety of security staff as well as the integrity of the environments under their vigilance.

The objective of this investigation is to evaluate the prevalence of drug addiction and its correlating factors among security personnel at a tertiary care institution, with a particular emphasis on the impact of occupational factors.

METHOD

The investigation was undertaken using a cross-sectional methodology at Sheikh Zayed Medical College and Hospital in Rahim Yar Khan, Pakistan. The research cadre engaged a cohort of 184 males aged from 20 to 50 years who possessed an unblemished legal history, during the period beginning November 1, 2022, and concluding January 31, 2023. This was achieved through purposive convenience sampling techniques. Prior to participation, informed consent was meticulously secured from each subject. The eligibility criteria excluded individuals presenting with intellectual disabilities or those undergoing severe psychiatric or medical treatment. The research framework was granted sanction by the Institutional Review Board of Sheikh Zayed Medical College and Hospital, as documented under the authorization reference number 559/IRB/SZMC/SZH, issued on October 28, 2022.

The investigation focused on the statistical examination of substance use frequency and trends among security personnel in Rahim Yar Khan, Punjab, Pakistan. The research employed descriptive statistics to analyse urinalysis data collected from 184 subjects, identifying a prevalence of substance usage within a subset of the group. Findings from urine drug screenings, which were conducted using immunoassay-based methods, showed a positivity rate of 3.26% across various substances, encompassing opioids, methamphetamines, tricyclic antidepressants, benzodiazepines, and morphine. Notably, the screenings did not yield any positive results for amphetamines or cannabinoids. These outcomes call for a p-value under 0.05 to be considered statistically significant.

The investigation also reported the consumption of culturally specific recreational substances, such as nicotine, bera, naswar, and pan, indicative of a broader spectrum of substance use that falls outside the purview of standard drug testing. These conventional substances, integral to the local culture, were identified via self-reported data as opposed to urinalysis, which points to a potential requirement for more comprehensive testing methodologies to accurately evaluate the full expanse of substance use in this demographic. Security staff had less substance use but more hypertension, and obesity, which implies they're prone to chronic illnesses. Yet, few manage their blood pressure or diabetes.

RESULTS

In Punjab, Pakistan, a study focused on the demographics of security personnel. 184 guards willingly participated, completing a thorough survey given by a trained clinician. Using descriptive statistics, the study analyzed the distribution and representation of different demographic factors. Most participants were male, accounting for 94.57% (n=174), while females made up only 5.43% (n=12). Gender was found to be significantly associated with marital status ($p<0.05$).

Among the guards, the most common age group was 25-39 years, comprising 67.5% (n=124) of participants. The age group of 18-24 years accounted for 16.30% (n=30), followed by 40-49 years (15.76%, n=29) and 50 years and above (2.17%, n=4). The distribution of age across these groups was statistically significant ($p<0.05$). Geographically, most security personnel were stationed in Rahim Yar Khan, representing 98.37% (n=181) of the sample. Sadiqabad and Liaquatpur had smaller percentages of security personnel at 1.09% (n=2) and 0.54% (n=1) respectively. The differences in geographic distribution were statistically significant ($p<0.05$). Table 1 summarises the demographic characteristics of security guards.

Table 1
Demographic Characteristics of the participants

Category	Variables	Number	Percenage	P-Value
Security Guards		184	100	-
Province	Punjab			
Locations	Rahim Yar Khan	181	98.37	
	Sadiqabad	02	1.09	<0.05
	Liaquatpur	01	0.54	
Gender	Male	172	93.48	<0.05
	Female	12	6.52	
Marital Status	Married	146	79.35	<0.05
	Single	38	20.65	
Male	Married	136	79.069	-
	Single	36	20.93	
Female	Married	02	16.67	-
	Single	10	83.33	
Age Range	18-24	30	16.30	
	25-29	66	35.87	<0.05
	30-39	55	29.89	
	40-49	29	15.76	
	50 & above	4	2.17	
Age Range (Male)	18-24	30	17.24	
	25-29	62	35.63	<0.05
	30-39	54	31.03	
	40-49	24	13.79	
	50 & above	02	1.15	
Age Range (Female)	18-24	Nil	Nil	
	25-29	02	16.67	<0.05
	30-39	03	25	
	40-49	05	41.67	
	50 & above	02	16.67	

This inquiry focused on the frequency and patterns of substance abuse among security personnel in Punjab, Pakistan, and employed urinalysis to gauge the extent of this issue. The study encompassed 184 participants who were subjected to urine drug tests, capable of identifying a variety of substances such as opioids, amphetamines, cannabinoids, methamphetamines, Tricyclic Antidepressants (TCAs), benzodiazepines, and morphine. While the immunoassay-based detection kits used are known for their high sensitivity and specificity, they are prone to false-positive results from cross-reactivity. For cases where the initial screening yields a positive result, it is prudent to conduct confirmatory tests using more precise methodologies like Gas Chromatography-Mass Spectrometry (GC-MS).

Table 2
Urinary analysis Results of Substances Detected in Participants

Substances Detected	Number of Positive Results	Percentage (%)	P-Value
Opioids	1	0.54%	-
Amphetamines	0	0%	-
Cannabinoids	0	0%	-
Methamphetamines	2	1.09%	-
TCAs	3	1.63%	-
Benzodiazepines	1	0.54%	-
Morphine	2	1.09%	-

The results of the urine drug tests are compiled in Table 2. The data shows a relatively low incidence of positives: one participant (0.54%) for opioids, two (1.09%) for methamphetamines, three (1.63%) for TCAs, one (0.54%) for benzodiazepines, and two (1.09%) for morphine. Amphetamines and cannabinoids were not observed in any positive results. Collectively, positive cases constituted 3.26% of the overall tested cohort, which offers insights into the drug usage behaviour within this group. Table 3 categorises the consumption of traditional tobacco and tobacco-based products. Seven guards (3.80%) were identified as users of nicotine and bera through cigarettes and huqqa use. Also, naswar use was reported by five individuals (2.72%) and pan by one (0.54%). These traditional substances—pan, a chewable concoction; bera, a variety of smokeless tobacco; and huqqa, a tobacco smoking instrument/smoke pipe—are deeply ingrained in Pakistani culture. The investigation was unable to track the consumption of these substances due to the limitations of the testing kits utilised, suggesting the need for different testing techniques, such as breathalysers, blood analysis, or specialized assays to attain a more accurate representation.

Table 3
Recreational Substance Use Pattern among Security Guards

Substances Detected	Number of Positive Results	Percentage (%)
Nicotine and Bera	7	3.80%
Naswar	5	2.72%
Pan	1	0.54%
Shisha (smoking pipe)	0	0%

Our comprehensive review of 184 security workers' health revealed prevalent hypertension, with nearly half exhibiting elevated levels and necessitating routine health surveillance. Overweight and obesity were also common, increasing chronic disease risk, while a minority were medicated for high blood pressure and diabetes. These findings underscore the critical need for preventive health measures and lifestyle modifications within the security workforce.

DISCUSSION

An examination of the demographics of security staff in Rahim Yar Khan, Pakistan, involving 184 individuals, unveiled a pronounced disparity between genders, with males representing 94.57% and females a mere 5.43%. This substantial discrepancy exemplifies a clear case of gender segregation within occupations, accentuating the urgent requirement for policy reforms aimed at fostering diversity and ensuring equitable access to opportunities. A noteworthy

association between marital status and gender was detected ($p<0.05$), alluding to the necessity of integrating familial obligations typically borne by employees into the strategic development of workplace policies.

Regarding age distribution, there was a notable predisposition towards the age bracket of 25-39 years, constituting 67.5% of the surveyed group. This points towards a potential bias in favour of recruiting younger individuals who may be perceived as more physically fit for the role. A significant locational concentration of personnel in Rahim Yar Khan suggests distinct regional security necessities or prevailing employment patterns may be contributing to this demographic tendency ($p<0.05$). Such sociodemographic insights are imperative for the establishment of welfare and healthcare initiatives designed to elevate job satisfaction and retention among security personnel.

In addition, comparative analyses spanning regions including India, Pakistan, Iran, and Bangladesh have unveiled a consistent pattern of substance misuse among young, predominantly male security officers stationed at hospital facilities. Despite a consensus on the demographic most prone to this risk, certain studies have identified regional discrepancies, such as an elevated instance of substance misuse among older security workers in Bangladesh15. Research conducted at the international level reaffirms these patterns; however, it reveals variations indicative of the impact of region-specific factors—such as the correlation drawn between remote employment settings in Australia and increased alcohol consumption16. These data stress the imperative need for intervention programs to address substance misuse within this occupational group, tailored to suit the challenges and environments unique to each nation.

The objective of this research was to ascertain the prevalence of substance use within the security personnel sector in Pakistan. The methodology employed consisted of employing urine drug screening kits to detect the presence of narcotics. In a cohort of 184 security guards, a positivity rate of 3.26% for substances, including benzodiazepines, tricyclic antidepressants, morphine, and heroin, was observed. The research further investigated the consumption of traditional tobacco products, with the results showing that nicotine and bera usage stood at 3.80%, naswar at 2.72%, and pan at 0.54%.

It is imperative to acknowledge the limitations of these kits, which are unable to identify substances such as alcohol and some recreational drugs, necessitating the use of alternative testing methodologies for these substances. The study emphasises the critical need for accurate diagnostic tools in the field of substance use research and highlights the issue of drug use among security guards, proposing the integration of educational and preventative measures in health promotion programs.

Substantial prevalence of substance use within various occupational groups throughout Pakistan and the broader South Asian region has been documented. In Karachi, healthcare professionals exhibited a prevalence of 25%, with cannabis being the most common substance.[17] The prevalence was even higher among transportation workers in Rawalpindi and Islamabad who showed a 33.3% prevalence rate, with cannabis also cited as the prevalent narcotic.[18] These statistics raise alarms about occupational substance use as a significant public health issue within the region.

Comparable patterns have been observed in studies from India and Southeast Asia. For instance, among Indian healthcare workers, 23% reported the use of substances, predominantly alcohol, and 34.7% of transportation workers reported substance use, primarily alcohol.[19] Indian police officers reported a substance use rate of 30.5%,[20] while in Vietnam, alcohol use was reported by 35.7% of transportation workers,[21] and in Indonesia, 18.9% of police officers reported substance use.[22]

Notably, the Pakistani research focusing on security guards delineates a lower incidence of substance use in comparison to other occupational roles and geographical areas, which may imply less prevalence within this demographic in Pakistan. Nevertheless, the limitations due to the specific population and regional focus could potentially restrict the generalization of these results.

In stark contrast, an Indian study reported higher rates of substance use among security guards, with 40% admitting to alcohol consumption and 3.3% to using other substances, suggesting regional variances. Western studies generally convey lower incidences within occupational categories. For example, a United States study noted that 16.5% of construction workers admitted to using illicit drugs, mainly marijuana, and the prevalence among emergency medical services personnel was recorded at 8.6%.[23]

In Rahim Yar Khan, the focus on substance use disorders among security staff reflects a moderate incidence, at a 3.26% positivity rate. The absence of detections for substances such as amphetamines and cannabinoids could either indicate their actual absence or point to limitations with the screening process. Furthermore, self-reporting on culturally specific substance use could introduce bias into the results.

The higher reported rates of substance use in regional and international counterparts offer a comparative dimension to these findings, emphasizing regional and cultural variances that could influence the reporting of substance use. This necessitates further scrutiny of these factors.

CONCLUSION

Our research uncovered widespread substance use among security guards at a tertiary care hospital in Pakistan, highlighting the urgent need for measures to foster healthy living and provide education on substance use prevention. It is vital for healthcare professionals to offer guidance and for the implementation of public health strategies to combat drug addiction and encourage healthful habits in security staff.

CONFLICT OF INTEREST

None

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None

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