Cannabis use associated with high-risk drug use among Palestinians: An emerging health risk

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ABSTRACT

INTRODUCTION The West Bank has seen an increase in cannabis use, but there are few studies on the prevalence and factors associated with tetrahydrocannabinol (THC) use among Palestinians. The aim of this study was to examine the prevalence of THC use and its associations with sociodemographic factors and its potential association with the use of alcohol, tobacco, energy drinks, coffee, and also other illicit drugs.

METHODS Male Palestinians from the West Bank were invited to give urine samples in a cross-sectional study in 2022. The study employed a self-reported questionnaire to identify participants who were current users in the last 30 days, including alcohol, illicit drugs, tobacco smoking, energy drinks, and coffee.

RESULTS The response rate was 68.2%. Out of 743 respondents, 8% declined to provide urine samples, leaving 656 participants with median age 28 years (IQR: 22–35), 24.7% single, and 20.3% illiterate. THC was found in 7.3% of the urine samples. A crude analysis of logistic regression indicated that THC was used in combination with alcohol (OR=3.62; 95% CI: 1.40–9.63, p=0.015), benzodiazepines (OR=6.42; 95% CI: 3.35–12.29, p<0.001), amphetamines OR=7.72; 95% CI: 3.89–15.32, p<0.001), and methamphetamines (OR=10.21; 95% CI: 5.1–20.41, p<0.001). Adjusted logistic regression revealed that THC use was associated with alcohol use (AOR=3.4; 95% CI: 1.56–7.38, p=0.002), benzodiazepines (AOR=2.57; 95% CI: 1.04–6.34, p=0.041), methamphetamines (AOR=3.76; 95% CI: 1.02–13.88, p<0.047), and an education level of undergraduate degree or higher (AOR=5.27; 95% CI: 1.23–22.66, p=0.018).

CONCLUSIONS These findings highlight the potential for polysubstance use and its implications for individual health outcomes. THC use associated with other drugs presents a new challenge for the health system with new emerging health issues. Further research is needed to comprehensively explore THC use in Palestine and the surrounding region, taking into account the unique sociocultural factors that may influence these behaviors.

INTRODUCTION

Cannabis has become a subject of increasing concern internationally, significantly impacting public health and social well-being. The United Nations Office on Drugs and Crime (UNODC) reported that cannabis is the most widely used illicit drug worldwide, with an estimated 192 million people using it in 2019[1]. The psychoactive component of cannabis, delta-9-tetrahydrocannabinol (THC), is responsible for the drug's mind-altering effects that individuals seek. THC use poses risks, including adverse effects on cognitive function, mental health, and physical health[2]. Moreover, long-term or heavy THC use has been associated with an increased risk of developing substance use disorders and other substance-related problems[3]. Research has shown that using cannabis may increase the likelihood of transitioning to more potent drugs like cocaine and opioids[4]. Additionally, individuals who use cannabis often use other substances[5]. Despite the growing body of research on

cannabis and THC use, there remains a gap in knowledge regarding specific psychopathological and personality characteristics associated with cannabis use[6]. Additionally, further investigation is needed to understand the long-term consequences of adolescent cannabis use on young adults' mental health and overall well-being[7]. Furthermore, the rise of high-potency THC products has indeed raised concerns about the potential health risks associated with their use. These products contain significantly higher levels of THC than traditional cannabis, which can lead to increased intoxication and potentially more severe side effects. Therefore, monitoring and understanding the risk factors associated with cannabis use is crucial for developing effective treatment, prevention, and intervention strategies.

Drug use is a growing problem in Palestine, particularly among young people and in areas of conflict and displacement[8-14]. The reasons for drug use are complex and include social, economic, and political factors. According to the UNODC report, drug use in Palestine is driven by a range of factors, including economic hardship, poor living conditions, and the psychological stress of living in a conflict zone[13]. However, further research is needed to fully understand the extent and impact of amphetamine use among Palestinians. Limited research has been conducted on THC use prevalence and risk factors in Palestine, but studies on general substance use patterns provide some insight. Recent estimates suggested that >80000 individuals use drugs in Palestine, with around 26500 considered high-risk drug (HDRU) users. This group comprised 1.8% of the males aged >15 years[13]. Despite the use of various drugs by Palestinians, cannabis, hashish, and marijuana were the most commonly used substances, followed by synthetic cannabinoids[8-14]. The lifetime prevalence of self-reported cannabis use among men aged 18–65 years was reported as 15.9%[9]. These studies found that cannabis use has become a prevalent issue in Palestine, raising concerns about its impact on the health and well-being of young individuals. When Palestinian youth became aware of the harms of cannabis, both natural and synthetic, they turned to pills instead[14]. While THC has received much attention recently, little is known about its concurrent use with other drugs. The simultaneous use of cannabis and other substances can exacerbate the potential risks associated with each substance individually. It is also essential to consider the sociocultural context and specific factors contributing to these associations in Palestine and the surrounding region. Recent studies suggested a shift from cannabis to amphetamines in the northern region of the West Bank, but whether a combination of the two drugs exists is unclear[8,11]. It has been suggested that cannabis may prolong and intensify the sensation of euphoria associated with amphetamine-like substances[15], which increases the risk of their combination. This alarming scenario raises the urgency of better monitoring THC in the Palestinian population. To develop effective prevention and intervention strategies, it is crucial to understand the risk factors associated with cannabis use and its co-occurrence with other substances. The aim of this study was to examine the prevalence of THC use and its associations with sociodemographic factors, as well as its potential association with the use of alcohol, tobacco, energy drinks, coffee, and other substances. The findings of this study will contribute to evidence-based interventions and public health efforts to tackle the prevalence and associated risks of cannabis use in Palestine.

METHODS

Study design, setting, sampling, and ethical approval

The study utilized a convenience sampling technique. Males aged ≥16 years from three large governorates in the northern region of the West Bank were personally invited to participate in a cross-sectional study in 2022. The research conducted was centered around Palestinian men who reside in the northern region of the West Bank. As part of the study, the participants were asked to complete a self-reported substance use questionnaire that assessed their consumption of various substances, including alcohol, cigarette, waterpipe and vape smoking, energy drinks, coffee, and illicit drugs. After completing the questionnaire, the respondents provided urine samples for illicit drugs analysis. The Institutional Review Board ('IRB') at An-Najah National University (ANNU) in Palestine approved the study.

Individuals who struggle with substance use may face social marginalization, which can make it difficult for them to participate in substance use studies. Some people hesitate to participate in certain studies because they fear legal consequences or feel pressured to consent. To address these concerns, we protected participants' rights and interests by personally inviting them and providing them with all the necessary information regarding the urine test. We did not use any language that could be perceived as stigmatizing or incriminating, such as mentioning drug abuse or addiction[11]. We also clarified that participation was voluntary and that individuals had the right to decline without any negative consequences. To ensure privacy and confidentiality, we used code numbers instead of names.

The recent estimates of the number of drug users is more than 80000 individuals in Palestine[13]. Based on an estimated 19% proportion of substance use[11], with a 95% confidence level and 5% precision, the minimum estimated sample size was 236 individuals. To account for incomplete questionnaires, an extra 30% was added, resulting in a total sample size of 307. To minimize the potential bias from this technique and other confounding factors that can affect THC use, such as age, education level, setting, marital status, and employment status, the researchers opted to duplicate the target sample size. The research was conducted in the northern region of the West Bank, comprising six governorates, of which three account for 80% of the local population in the north. We invited 360–370 subjects from each of these three governorates. Medical laboratories

in these governorates were used as the study setting. To maintain the study's integrity, individuals who could not provide informed consent, those who participated in the pilot study (n=30), and those who refused to provide urine samples, were not included.

Study tool, validity, reliability, and operational definitions

Participants were requested to complete a confidential self-administered questionnaire and provide urine samples. Those who were illiterate received assistance completing the questionnaire while ensuring their privacy. A self-reported substance use questionnaire was used[16], identifying participants who had consumed any substance during the previous month, such as alcohol, illicit drugs, cigarette, waterpipe and vape smoking, energy drinks, and coffee. The 12 Panel Drug Test DOA-1124-011T, a multi-line drug screen test, was utilized to analyze illicit drugs and their metabolites in urine, qualitatively[17]. The tested drugs were amphetamines (AMP), barbiturates (BAR), benzodiazepines (BENZ), cocaine (COC), ecstasy (MDMA), cannabis (THC), methadone (MTD), methamphetamines (MET), opiates (OPI), oxycodone (OXY), phencyclidine (PCP), and propoxyphene (PPX)[17]. The participant who tested positive for at least one of these drugs was classified as a drug user. Participants were divided into those aged 16–19 years, and ≥20 years. The setting was categorized as urban, rural, or refugee camps.

Table 1. Background information of male Palestinian participants aged ≥16 years in a cross-sectional study conducted in 2022 in the north of the West Bank, Palestine (N=656)

Characteristics	n (%)
Age (years)	
16–19	80 (12.2)
≥20	576 (87.8)
Setting	
Urban	156 (23.8)
Rural/refugee camps	500 (76.2)
Education level	
Illiterate	133 (20.3)
Basic (elementary/high school)	466 (71.0)
Undergraduate or higher	57 (8.7)
Marital status	
Single	180 (27.4)
Married/other	476 (72.6)
Employment status	
Employed	568 (86.6)
Unemployed	88 (13.4)

Education level was divided into three categories: illiterate, basic (elementary/high school), and undergraduate or higher. Marital status was divided into single or married/other. Employment status was categorized as employed and unemployed. Individuals were asked to report their substance use as current users, former users, or never users. The substance use was then coded either 'yes' if they were current users in the past 30 days or 'no' if they were former users or never users. Participants who were asked to report

Table 2. Self-reported substance use, and drugs tested positive in urine analysis, for male Palestinian participants aged ≥16 years in a cross-sectional study conducted in 2022 in the north of the West Bank, Palestine (N=656)

Results	n (%)
Self-reported substance use	
Cigarette smoking	
Current	411 (62.7)
Former	26 (4.0)
Waterpipe smoking	
Current	207 (31.6)
Former	56 (8.5)
Vape smoking	
Current	54 (8.2)
Former	46 (7.0)
Energy drinks	
Current	347 (52.9)
Former	48 (7.3)
Coffee use	
Current	572 (87.2)
Former	12 (1.8)
Alcohol use	
Current	29 (4.4)
Former	43 (6.6)
Illicit drug use	
Current	6 (1.0)
Former	11 (1.8)
Missing	29 (4.4)
Positive drugs tested in urine	
THC	48 (7.3)
Barbiturates	12 (1.8)
Benzodiazepines	70 (10.7)
Amphetamines	53 (8.1)
Methamphetamines	48 (7.3)

THC: delta-9-tetrahydrocannabinol.

Table 3. Logistic regression, crude analysis, of substance use and other factors associated with THC use among male Palestinian participants aged ≥16 years in a cross-sectional study conducted in 2022 in the north of the West Bank, Palestine (N=656)

Variables	Positive THC n (%)	Negative THC n (%)	OR	95% CI	p
Age (years)					
16–19	7 (14.6)	73 (12.0)	1.25	0.54–2.89	0.276
≥20 ®	41 (85.4)	535 (88.0)	1		
Education level					
Undergraduate or higher	8 (16.7)	51 (8.4)	6.69	1.71–26.23	0.006*
Basic	37 (77.1)	429 (70.5)	1.82	0.80–4.12	0.152
Illiterate ®	3 (6.3)	13 (21.4)	1		
Marital status					
Single	18 (37.5)	162 (26.6)	1.65	0.90–3.04	0.13
Married/other ®	30 (62.5)	446 (73.4)	1		
Employment status					
Employed	40 (85.1)	528 (87.3)	0.83	0.36–1.93	0.833
Unemployed ®	7 (14.9)	77 (12.7)	1		
Setting					
Refugee camp	33 (68.8)	291 (47.9)	3.43	1.31–8.96	0.012*
Village	10 (20.8)	166 (27.3)	1.88	0.91–3.92	0.091
City ®	5 (20.8)	151 (24.8)	1		
Cigarette smoking					
Yes	34 (70.8)	373 (61.8)	1.50	0.79–2.86	0.22
No ®	14 (29.2)	231 (38.2)	1		
Waterpipe smoking					
Yes	12 (25.0)	193 (31.9)	0.71	0.36–1.40	0.34
No ®	36 (75.0)	412 (68.1)	1		
Vape smoking					
Yes	6 (12.5)	47 (7.8)	1.70	0.69–4.20	0.27
No ®	42 (87.5)	558 (92.2)	1		
Energy drinks					
Yes	29 (60.4)	316 (52.2)	1.40	0.77–2.54	0.30
No ®	19 (39.6)	289 (47.8)	1		
Coffee use					
Yes	41 (85.4)	529 (87.4)	0.84	0.36–1.94	0.82
No ®	7 (14.6)	76 (12.6)	1		
Alcohol use					
Yes	6 (12.5)	23 (3.8)	3.62	1.40–9.63	0.015*
No ®	42 (87.5)	582 (96.2)	1		
Benzodiazepines					
Yes	18 (37.5)	52 (8.6)	6.42	3.35–12.29	<0.001*
No ®	30 (62.5)	556 (91.4)	1		
Amphetamines					
Yes	16 (33.3)	37 (6.1)	7.72	3.89–15.32	<0.001*
No ®	32 (66.7)	571 (93.9)	1		
Methamphetamines					
Yes	17 (35.4)	31 (5.1)	10.21	5.10–20.41	<0.001*
No ®	31 (64.6)	577 (94.9)	1		
Barbiturates					
Yes	1 (2.1)	11 (1.8)	1.16	0.15–9.14	1.00
No ®	47 (97.9)	597 (98.2)	1		

® Reference categories. THC: delta-9-tetrahydrocannabinol. *Statistical significance, at p<0.05.

their illicit drug use were given the option to categorize themselves as current user, former user, or never users.

Statistical analysis

Descriptive results of the background information and self-reported substance use are presented as frequencies and percentages. To test for significant relationships between categorical variables, the chi-squared test was used. The focus of the study was to examine the impact of using illicit drugs that tested positive in urine analysis (yes/no) on the use of THC (yes/no), the study's primary dependent variables. The study utilized crude odds ratio (OR) and adjusted OR (AOR) to determine the risk associated with THC use. The analysis took into account age, employment status, marital status, and the use of other substances such as cigarette, waterpipe and vape smoking, alcohol, energy drinks, and coffee. If a covariate had a significant p-value in the crude univariate analysis, it was included in the adjusted binary regression model. This adjustment helped to account for the potential effect of the covariate on the outcome variable and control for confounding variables. An adjusted binary logistic regression model was implemented to calculate the adjusted OR (AOR) and the 95% confidence interval (CI). The significance level was set at a $p<0.05$. All analyses were performed using IBM SPSS Statistics for Mac, version 21 (IBM Corp., Armonk, NY, USA).

RESULTS

A total of 1090 individuals were personally invited to participate in the study, with 360–370 subjects being invited from each governorate. Out of the individuals invited, 347 refused to participate in the study, while 743 individuals (68.2%) agreed to participate. However, among those who agreed to participate, 87 individuals (8%) refused to give urine samples and were excluded from the study. Therefore, the final sample size consisted of 656 respondents who agreed to participate and gave urine samples, forming the final sample size as shown in Table 1. The participants age ranged 16–58 years, with a median age of 28 years (IQR: 22–35). Of the participants, 20.3% were illiterate, and only 8.7% had an undergraduate degree or higher. The majority of the participants lived in rural areas or refugee camps (76.2%), and 27.4% were single. Additionally, 86.6% of participants reported being employed (Table 1).

Table 4. Adjusted binary logistic regression analysis examining the association between THC use and other substance use among male Palestinian participants aged ≥16 years in a cross-sectional study conducted in 2022 in the north of the West Bank, Palestine (N=656)

Variables	AOR	95% CI	p
Age (years)	**21.02**	**0.98–1.54**	**0.384**
Education level			
Undergraduate or higher	5.27	1.23–22.66	0.025*
Basic	1.93	0.75–4.95	0.70
Illiterate ®	1		
Cigarette smoking			
Yes	1.17	0.55–2.49	0.676
No ®	1		
Waterpipe smoking			
Yes	0.64	0.30–1.38	0.258
No ®	1		
Alcohol use			
Yes	3.4	1.56–7.38	0.002*
No ®	1		
Benzodiazepines			
Yes	2.57	1.04–6.34	0.041*
No ®	1		
Amphetamines			
Yes	2.4	0.71–8.13	0.161
No ®	1		
Methamphetamines			
Yes	3.76	1.02–13.88	0.047*
No ®	1		
Barbiturates			
Yes	0.14	0.013–1.431	0.097
No ®	1		

AOR: adjusted odds ratio; adjusted for age and education level. ® Reference categories. *Statistical significance, at $p<0.05$.

Self-reported substance use and urine test results for illicit drugs

Among the participants, 62.7% reported current cigarette smoking, 31.6% reported waterpipe smoking, and 8.5% reported vape smoking. Regarding beverage consumption, 87.2% of the participants reported drinking coffee, and 52.9% reported consuming energy drinks. Only 4.4% of the participants were current alcohol users, while 1.0% reported being current illicit drug users. Additionally, 1.8% of the participants reported being former illicit drug users, and 4.4% had missing information. The urine analysis revealed the presence of benzodiazepines (10.7%), amphetamines (8.1%), methamphetamines (7.3%), barbiturates (1.8%), and THC (7.3%). No other drugs tested positive (Table 2).

Logistic regression, crude analysis, of substance use and other factors associated with THC use

The percentage of THC users among participants was 7.3% (n=84). The percentage of THC use among those aged 16–19 years (8.8%) was higher than among those aged ≥20 years (7.12%), with no significant difference. The univariate analysis revealed that THC use was associated with the

use of alcohol (OR=3.62, 95% CI: 1.40–9.63, p=0.015), benzodiazepines (OR=6.42; 95% CI: 3.35–12.29, p<0.001), amphetamines (OR=7.72; 95% CI: 3.89–15.32, p<0.001), methamphetamines (OR=10.21; 95% CI: 5.1–20.41, p<0.001), among refugees compared to urban dwellers (OR=3.43; 95% CI: 1.31–8.96, p=0.012), and undergraduates compared to illiterates (OR=6.93; 95% CI: 1.71–26.23, p=0.006). No association was observed between THC use and marital status, employment status, cigarette, waterpipe, and vape smoking, and caffeine use (p>0.05) (Table 3).

Risk factors associated with THC use

The adjusted logistic regression revealed that using THC is associated with alcohol consumption (AOR=3.4; 95% CI: 1.56–7.38, p=0.002), benzodiazepines (AOR=2.57; 95% CI: 1.04–6.34, p=0.041), and methamphetamines (AOR=3.76; 95% CI: 1.02–13.88, p<0.047). Additionally, those who completed undergraduate studies were more likely to use THC than those who were illiterate (AOR=5.27; 95% CI: 1.23–22.66, p=0.025) (Table 4).

DISCUSSION

Cannabis use, like in many parts of the world, is the most commonly used illicit drug in Palestine[8,9,13]. The West Bank has experienced increased cannabis use among its youth[9,10]. However, few studies have addressed the prevalence and the associated factors of THC use among Palestinians. THC use in the study population was 7.3%, with a slightly higher prevalence among adolescents (8.8%) than in adults (7.12%), although the difference was not statistically significant. These findings provide important insights into the prevalence of THC use within this specific population. Similar prevalence rates of THC use have been reported in other studies worldwide[18,19]. These studies highlight consistent patterns of THC use across different populations. However, it is worth noting that the current prevalence rates are lower than those self-reported in previous studies[8,10-12,14]. Instead, there has been an increase in the use of high-risk drugs such as benzodiazepines and amphetamines. This is an alarming situation that requires prompt action.

Substance use disorders and experimentation with high-risk drugs such as opioids and cocaine are commonly associated with THC use[4,5]. Moreover, those who frequently use cannabis are often inclined to consume other substances as well[3]. There is limited local research on the combination of THC and other substances in Palestine. Recent studies indicate a shift from cannabis to amphetamines in the northern region of the West Bank, but whether the two drugs are used together is unclear[8,11]. This study found significant associations between THC use and alcohol consumption, benzodiazepine use, and methamphetamine use, consistent with previous international studies[20].

According to the UNODC report, there has been an increase in the trafficking of amphetamines in the region, with the drug being smuggled into the Palestinian territories[13]. It is quite alarming that methamphetamines, sometimes referred to as GG in the West Bank, are being produced and consumed as homemade narcotics in the West Bank[8]. They were not regarded as illegal narcotics until 2016[8]. According to the same UNODC report, the majority of HDRUs had benzodiazepines (74%) and amphetamines (67%) in their system. Moreover, almost one-quarter of HRDUs were found to have methamphetamines in their system[13]. In fact, 67% were polydrug users. In this study, 33.3% of THC users were found to be amphetamine users, and 35.4% were methamphetamine users. These findings are alarming. The potential adverse effects of combining amphetamine-type stimulants (ATS) and cannabis use on the development of psychiatric disorders have been well-documented[21]. Studies suggest that this combination may worsen harmful effects, such as panic and paranoia while intensifying the euphoric sensation of ATS[22,23]. The psychotomimetic properties of methamphetamines may be modulated by cannabis through activation of the CB1 receptor, which has been associated with vulnerability to schizophrenia[24]. Moreover, using THC and amphetamines simultaneously can increase subjective effects like euphoria and agitation, leading to elevated heart rate and blood pressure, thereby exacerbating cardiovascular risks[25]. The association between amphetamines or methamphetamines and cannabis use, and the potential development of psychiatric disorders among Palestinians, is a cause for concern. Further research is needed to explore these findings' implications and address this alarming situation.

In agreement with a study conducted in Jordan, THC use was associated with benzodiazepine use in this study[26]. These findings underscore the potential risks of combining THC and benzodiazepines in the area, and emphasize the need for further research in the Palestinian context. Research suggests this combination may result in intensified sedation, dizziness, confusion, and memory impairment27. The use and misuse of benzodiazepines in search of relaxation or forgetting stress-related thoughts and feelings, is common[28]. It is important to investigate the reasons behind their usage among Palestinians, individually and in combination with THC. In addition, studies found that simultaneous use of cannabis and alcohol was associated with increased impaired motor coordination, heart rate, impaired judgment, and higher levels of subjective intoxication[29,30]. It is possible that the high prevalence of THC use, either alone or in combination with other substances, may be linked to various factors, such as higher rates of mental health issues or other variables that have not yet been thoroughly examined in this study. Further research on Palestinians is necessary to investigate the motivations behind and potential side effects of combining THC with alcohol or benzodiazepines. A more comprehensive understanding of the effects of these substances on Palestinians, would enable individuals to make more informed decisions when it comes to substance use.

Considering the sociocultural context and specific factors

contributing to the associations between THC and other drugs in Palestine and the surrounding region, is important for developing effective prevention and intervention strategies tailored to the needs of the Palestinian population. This study found that individuals with higher education level, such as those who have completed undergraduate studies, were more likely to use THC than those who were illiterate. This finding aligns with international literature, as studies have shown an association between higher education level and increased substance use among specific populations[31]. However, it is crucial to consider the unique sociocultural factors that may influence this association in the Palestinian context. Other reasons for drug use, including social, economic, and political factors, need to be studied. The prevalence of drug use among young people in Palestine is influenced by the cultural stigma surrounding seeking help for mental health issues[13,9]. This stigma and the high therapy costs often prevent drug users from accessing the necessary support[13,9]. To address this issue, it is crucial to establish accessible counseling services and create a stigma-free environment that encourages individuals to seek assistance. Prevention efforts, education on substance misuse, and confidential support and treatment options, are essential components of a comprehensive approach to addressing drug use in Palestine. Targeted prevention programs are needed to address the specific challenges faced by this population.

Limitations

This study has some limitations. The results of cannabis use could be underestimated in this study for several reasons. First, the test does not detect synthetic THC. Moreover, a negative result may not necessarily indicate drug-free urine. However, it can be obtained when the drug is present but below the detection cut-off level or due to the short half-life time of the drug in the body. Finally, the high rejection rate could add to the underestimated results. This study is cross-sectional; thus, we cannot determine the causality or the direction of observed associations. While convenience sampling can effectively recruit study participants, it does not necessarily guarantee that the sample represents the studied population. Moreover, the test does not distinguish between drug use and misuse and certain medications. It is important to note that the study's results only pertain to Palestinian males and cannot be generalized to women. Therefore, it is crucial to conduct further research on the usage of THC and other substances among females. Moreover, the high prevalence of THC use alone or in combination, could be associated with several factors, including higher rates of mental health problems or other factors that have not yet been fully explored in this study. The study did not evaluate mental health symptoms or diagnoses of psychiatric conditions like depression and anxiety. Individuals with multiple psychiatric conditions are at a higher risk of polysubstance use, which may have impacted the results of this study. Despite these limitations, this is the first screening research based on urine tests that measured the prevalence of THC use and its association with other substances in the West Bank.

CONCLUSIONS

The findings from this study demonstrated a substantially increased frequency of substance use among Palestinians. The use of cannabis products among Palestinians is often linked to other drugs, highlighting the potential for polysubstance use and its implications for individual health outcomes. THC use associated with methamphetamines and the use of alcohol, amphetamines, and benzodiazepines, highlighted a new challenge for the health system with new emerging health issues. Additionally, individuals with higher education level were more likely to use THC. These findings align with international studies, indicating consistent patterns of substance use behaviors. However, further research is needed to comprehensively explore THC use in Palestine and the surrounding region, considering the unique sociocultural factors that may influence these behaviors. Investigating the reasons behind substance use among Palestinians, individually and in combination with THC, is important.

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