

Sexual transactions as a means of acquiring drugs among inmates in Papua, Indonesia

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ABSTRACT

Transactional sex has been recognized as a significant element hindering the reduction of drug usage in Papua, Indonesia. The national objective for drug usage reduction was established at 1.67% for 2024; nevertheless, this target remains unfulfilled. This research investigated the correlation between transactional sex and substance abuse among female and adolescent prisoners in Papua Province. A case-control approach was utilized, employing primary data gathered from May to September 2023 at the Special Correctional Institution for Juveniles (LPKA) and the Women's Correctional Institution (LPP) in Papua. The research population consisted of 85 offenders who were incarcerated between 2021 and 2023. A total of 26 cases (drug users) and 59 controls (non-users) were included using total sampling, in a 1:2 ratio. Data were gathered using a modified version of the Rapid Survey Questionnaire on Injecting Drug User Behavior (SCP Penasun). Analysis was conducted using STATA version 14, employing multivariate logistic regression to identify related factors. In all, 30.6% of participants were identified as drug users according to case-control selection, rather than as an estimation of population-level prevalence. Inmates who indicated participation in transactional sex exhibited increased odds of drug acquisition (adjusted OR: 1.59; 95% CI: 0.46–5.39) after controlling for work status, past-year drug usage, and duration of use. The findings suggest a possible trend of heightened drug acquisition among inmates engaged in transactional sex, although the correlation remains ambiguous. Consequently, integrated therapies targeting both substance use and sexual risk behaviors are crucial in custodial environments.

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1. Introduction

The illicit use of narcotics and psychoactive substances is widely recognised as a criminal offence, particularly when conducted without appropriate medical oversight. This form of drug use typically involves the consumption of substances such as cocaine, marijuana, heroin, and opioids without a valid prescription. The consequences of such practices pose significant public health challenges and require effective strategies for prevention and intervention [1]. The global issue of illicit drug use is considerable in scope. In 2021, it was estimated that approximately one in every 17 individuals, roughly 23% of the worldwide population aged 15 to 64 years, had engaged in illicit drug use. Furthermore, between 2011 and 2021, the total number of drug users worldwide rose by 5.8%. This trend highlights the increasing severity of this public health challenge [2]. This upward trend is mirrored in the Southeast Asia Region (SEAR), where the scale of illicit drugs has also

escalated. In 2022 alone, SEAR reported approximately 567,609 cases of illicit drugs across its member states, including Indonesia [3,4]. In the context of regional dynamics, Indonesia emerges as a pivotal destination and transit hub for illicit drug trafficking activities. Despite the nation exhibiting a reported illicit drug prevalence rate of 5.0 per 100,000 population, ranking as the second lowest in Southeast Asia and marginally exceeding that of the Philippines at 3.4 per 100,000, the issue remains a significant concern that necessitates further examination and strategic intervention [3]. National surveillance data reveal that a significant proportion of drug users in Indonesia are male, comprising 93.9% of the population. Furthermore, the data indicate that a substantial majority, approximately 90.0%, are under the age of 30. Additionally, these individuals often engage in polydrug use, which is characterized by the concurrent consumption of multiple psychoactive substances [5].

Recent data from the National Narcotics Agency (BNN) indicate fluctuating trends in drug use across recent years. Specifically, there was a 1.8% increase in usage from 2020 to 2021, followed by a slight decline of 0.1% in 2022. These patterns raise concerns regarding the national objective of reducing the prevalence of illicit drug use to 1.69% by the year 2024. The fluctuation in drug use suggests that achieving this target may present significant challenges, highlighting the need for continued monitoring and effective intervention strategies in addressing substance abuse within the population [6,7]. A key barrier is the pronounced gender disparity in drug use and related offenses. Men are consistently overrepresented, both in terms of drug consumption and involvement in drug-related crimes [8]. In 2022, for instance, male offenders accounted for 50,721 drug-related criminal cases [9], a pattern echoed in other regions such as East Africa, where 83.1% of drug users were male [10].

Indonesia has also struggled with the long-term consequences of drug use, including overdose-related fatalities and neurobehavioral impairments. These consequences are not unique to Indonesia but align with broader patterns observed throughout Southeast Asia. Within this regional landscape, a particularly concerning trend is the intersection of illicit drug use and transactional sex among incarcerated populations. In Thailand, for example, over 40% of female inmates reportedly have a history of drug use, often associated with engagement in sex work prior to incarceration [11]. Similarly, correctional facilities in the Philippines have documented high rates of methamphetamine use and sexual risk behaviors among incarcerated women [12].

Despite these parallels, Indonesia lacks adequate empirical evidence concerning the experiences of female and juvenile inmates, particularly in relation to the connection between transactional sex defined as the exchange of sex for drugs, money, or other material resources and access to illicit drugs. This gap constitutes a significant limitation in public health surveillance, presenting considerable challenges for the development of gender-responsive, evidence-based interventions in correctional settings. The shifting geographic pattern of drug distribution further exacerbates these challenges. In Indonesia, drug trafficking has expanded beyond major urban centers, with approximately 29% of narcotics circulation now taking place in rural and peri-urban areas [13]. Among the most vulnerable regions is Papua Province, which has emerged as a strategic hub for illicit drug smuggling in eastern Indonesia. Its geographic remoteness, underdeveloped infrastructure, and porous borders make it especially susceptible to trafficking activities [14]. According to the National Narcotics Agency (BNN) Papua, the prevalence of drug use in the province increased by 2.6% between 2021 and 2022, significantly exceeding the national reduction target of 1.69% by 2024 [13].

Against this backdrop, one high-risk behavior that warrants further investigation is engagement in transactional sex as a strategy to obtain drugs, particularly among marginalized populations. Studies have suggested that female inmates are more likely than male inmates to engage in such exchanges [15]. However, most of the current literature focuses either on general sexual behavior

among drug users or on how drug use influences sexual activity [16]. For example, Ditmore examined the vulnerabilities of female sex workers engaged in sex-for-drugs exchanges [17]. Despite these insights, little is known about how transactional sex serves as a direct mechanism for acquiring drugs within correctional institutions, especially in Indonesia. This study investigates the association between engagement in transactional sex and the likelihood of drug acquisition among female and juvenile inmates in Papua Province, Indonesia. Specifically, it aims to examine this relationship while accounting for key confounding variables, including employment status, drug use in the past year, and duration of drug use.

2. Method

This research utilized a primary observational case-control design, selected for its appropriateness in investigating the association between exposure (engagement in transactional sex) and outcome (drug acquisition) within a defined high-risk population. The case-control method was considered suitable due to the limited and difficult-to-access study population, facilitating effective comparisons between individuals with and without a history of drug use. Research was conducted over five months (May–September 2023) at two purposively selected correctional institutions in Papua Province, Indonesia: The Class IIA Special Child Development Institution (*Lembaga Pembinaan Khusus Anak, LPKA*) and the Class III Women's Correctional Facility (*Lembaga Pemasyarakatan Perempuan, LPP*). The selection of these institutions is based on their status as the sole state-run facilities in Papua dedicated exclusively to juvenile and female inmates, respectively. Additionally, both have indicated a consistent rise in drug-related incarcerations in recent years, highlighting their significance to the study objectives.

The study population consisted of all juvenile and female inmates incarcerated in LPKA and LPP between 2020 and 2023. A non-probability sampling method, in the form of a total sampling technique, was used to include all eligible prisoners during the study period. Participants were classified into two groups based on drug use history. The case group included 26 inmates who self-reported a history of drug use either before or during incarceration. This classification was verified through triangulation with institutional health records, behavior observation reports, and structured interviews using a validated screening instrument. The control group comprised 59 inmates who had no documented or self-reported history of drug use but were incarcerated for drug-related offenses such as trafficking, couriering, or distribution. Prison records and interview responses were used to confirm their status as non-users. This classification approach yielded a 1:2 case-to-control ratio, resulting in an overall sample size of 85 respondents. All participants provided written informed consent prior to participation.

The variables in this study were coded numerically to facilitate statistical analysis, particularly for logistic regression modelling. The dependent variable was drug use status (coded as 1 = using; 0 = not using). The main independent variable was engagement in transactional sex to obtain drugs (coded as 1 = yes; 0 = no). Several covariates were included in the model: gender (1 = male; 2 = female), marital status (1 = unmarried; 2 = married), employment status (1 = unemployed; 2 = freelance; 3 = full-time), drug use in the past year (1 = yes; 0 = no), type of drugs used (1 = cannabis; 2 = methamphetamine; 3 = cocaine; 4 = ecstasy; 5 = others), age at first drug use (1 = 11–15 years; 2 = 16–20 years; 3 = over 21 years)[18], condom use during the last sexual encounter (0 = no; 1 = yes), and type of sexual partner (1 = non-regular; 2 = regular). The categorisation of age at first drug use was based on national adolescent risk behaviour surveillance guidelines, which identify early and late adolescence as key transitional periods for substance initiation[18].

The research process began with formal submissions of ethical clearance and research proposals to both correctional institutions. Upon approval, coordination was conducted with institutional

officers to arrange schedules, designate private interview spaces, and finalize participant lists. Data were collected through structured, face-to-face interviews conducted in private rooms to ensure participant confidentiality and comfort. The instrument used was a modified version of the Rapid Behavioural Survey of Injecting Drug Users (Survei Cepat Perilaku Penasun/SCP-Penasun), developed and validated by the Indonesian National AIDS Commission (KPAN) [18]. This questionnaire has been previously used in national behavioral and HIV surveillance studies and has demonstrated good reliability and validity.

Descriptive analysis was used to summarise respondent characteristics, including frequencies and percentages for categorical variables. Bivariate analysis using the Chi-square test was conducted to examine associations between drug use and the independent or covariate variables. Multivariable logistic regression was then performed to identify significant predictors of drug use. Following the bivariate analysis, all variables with a p -value < 0.25 , along with theoretically important factors such as age and employment status, were included in the multiple logistic regression model to control for potential confounding and improve the precision of the estimated associations. This study received ethical approval from the Research Ethics Committee of the Faculty of Public Health, Cenderawasih University (Approval No. 052/KEPK-FKM UC/2023).

3. Results and Discussion

3.1. Results

The proportion of the case group, comprising inmates who used drugs, was 30.6%, while the control group, consisting of non-drug-using inmates, accounted for 69.4%, as presented in Figure 1.

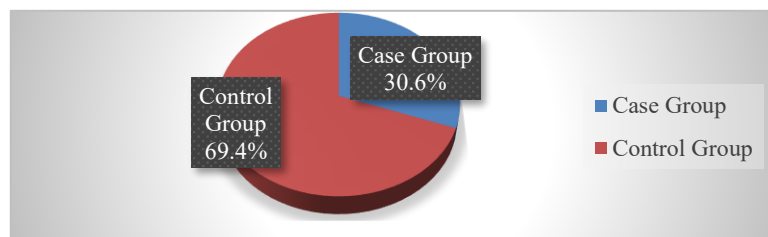


Figure 1. Proportion of case and control samples

The proportion of inmates who engaged in sexual transactions was 73.1% in the case group and 47.5% in the control group, as shown in Table 1.

Table 1. Distribution of Inmates According to Body Modification Practices

Variable			Case		Control	
			n	%	n	%
Sex Transaction	Yes		19	73.1	28	47.5
	No		7	26.9	31	52.5
Total			26	100.0	59	100.0

The proportion of male inmates was higher in the case group (50.0%) than in the control group (35.6%). Unmarried status was the most common marital status in both groups, reported by 65.4% of the case group and 52.5% of the control group. Most inmates were unemployed, comprising 76.9% in the case group and 62.7% in the control group. Drug use within the past 12 months was substantially higher in the case group (76.9%) compared to the control group (25.4%). Cannabis emerged as the most frequently used substance, reported by 76.9% of the case group and 23.7% of the control group. Initiation of cannabis use most commonly occurred between the ages of 11 and 15, as reported by 53.8% of inmates in the case group and 42.9% in the control group. Regarding the duration of drug use, 65.4% of the case group and 80.0% of the control group reported using drugs for less than one year. Additionally, 57.1% of the case group and 56.1% of the control group reported

not using condoms during their most recent sexual intercourse. Sexual activity with non-regular partners within the past year was also commonly reported, with 69.2% in the case group and 65.0% in the control group (Table 2).

Table 2. Inmate Characteristics and Behaviors: Drug Use and Sexual Activity in LPKA and LPP

Variables		Case (n=26)		Control (n=59)	
		n	%	n	%
Sex	Male	13	50.0	21	35.6
	Female	13	50.0	38	64.4
Marital status	Single	17	65.4	31	52.5
	Married	9	34.6	28	47.5
Employed	Unemployed	20	76.9	37	62.7
	Freelance	6	23.1	20	33.9
	Permanent employment	0	0.0	2	3.4
Drug use within the past 12 months	Using	20	76.9	15	25.4
	Not Using	6	23.1	44	74.6
Type of drugs used within the past 12 months	Marijuana	20	76.9	14	23.7
	Methamphetamine	1	3.9	5	8.5
	Cocain	5	19.2	7	11.9
	Ecstasy	0	0.0	1	1.7
	others	0	0.0	32	54.2
Age at first drug use (in years)	11-15	14	53.8	15	42.9
	16-20	10	38.5	18	51.4
	≥ 21	2	7.7	2	5.7
Duration of drug use (in months)	≤12	17	65.4	28	80.0
	>12	9	34.6	7	20.0
Condom use during last sexual intercourse	Not Using	8	57.1	23	56.1
	Using	6	42.8	18	43.9
Type of sexual partner	Casual	9	69.2	26	65.0
	Regular	4	30.8	14	35.0

In this study, we examined the associations between various sociodemographic, behavioural, and drug-use factors and recent illicit drug use. Participants who had engaged in sex transactions were significantly more likely to report illicit drug use compared to those who had not, with an odds ratio of 3.01 (95% CI: 1.10–8.20, $p = 0.002$). This highlights that involvement in transactional sex may serve as a key behavioural driver for drug use in this population. Sex, marital status, and employment status did not show statistically significant associations with drug use. Female participants had a slightly higher likelihood of drug use than males (OR = 1.81, 95% CI: 0.71–4.61, $p = 0.214$). At the same time, married participants and those with permanent employment also demonstrated non-significant trends toward higher odds. Recent drug use within the past 12 months emerged as a decisive risk factor. Participants reporting use had nearly ten times higher odds of illicit drug involvement compared to non-users (OR = 9.78, 95% CI: 3.31–28.9, $p = 0.001$).

Similarly, the type of drug used mattered: synthetic substances were associated with a markedly increased risk compared to natural substances (OR = 10.7, 95% CI: 3.59–31.9, $p = 0.001$). Age at first drug use, duration of use, condom use during the last sexual intercourse, and type of sexual partner did not demonstrate statistically significant associations. Specifically, early initiation of drug use (ages 11–15) served as the reference category, and comparisons with later initiation or longer duration showed no significant increase in odds. Condom use and partner type similarly did not appear to influence recent drug use patterns in this sample. Overall, these findings suggest that behavioural factors, particularly engagement in transactional sex and the use of synthetic substances, are the most salient predictors of recent drug use. Interventions targeting these high-risk behaviours could help reduce illicit drug use and its associated harms in this population, as shown in Table 3.

Table 3. Distribution of Demographic Characteristics, Past-Year Drug Use, and Sexual Behaviors among Inmates

Variables		Illicit Drug				P-Value	COR (95% CI)
		Cases		Control			
		<i>n</i>	%	<i>n</i>	%		
Sex Transaction	Yes	19	73.1	28	47.5	0.002	ref
	No	7	26.9	31	52.5		3.01 (1.10-8.20)
Sex	Male	13	50.0	21	35.6	0.214	ref
	Females	13	50.0	38	64.4		1.81 (0.71-4.61)
Marital Status	Single	17	65.4	31	52.5	0.273	ref
	Married	9	34.6	28	47.5		1.71 (0.65-4.44)
Employed	Unemployed	20	76.9	37	62.7	0.203	ref
	Permanent	6	23.1	22	37.3		1.98 (0.69-5.68)
	Employment						
Drug use within the past 12 months	Using	20	76.9	15	25.4	0.001	ref
	Not Using	6	58.8	44	74.6		9.78 (3.31-28.9)
Type of drugs used within the past 12 months	Natural substances	20	76.9	14	23.7	0.001	ref
	Synthetic substances	6	23.1	45	76.3		10.7 (3.59-31.9)
Age at first drug use (in years)	11-15	14	53.8	15	42.9	0.340	ref
	16-20	10	38.5	18	51.4		0.59 (0.21-1.72)
	≥ 21	2	7.7	2	5.7		1.07 (0.13–8.66)
Duration of drug use (in months)	≤12	17	65.4	28	80.0	0.204	ref
	>12	9	34.6	7	20.0		0.47 (0.14-1.51)
Condom use during last sexual intercourse	Not Using	8	57.1	23	56.1	0.95	ref
	Using	6	42.8	18	43.9		1.04 (0.31 –3.56)
Type of sexual partner	Casual	9	69.2	26	65.0	0.780	ref
	Regular	4	30.8	14	35.0		1.21 (0.31-4.65)

The multivariate analysis revealed that drug use within the past 12 months was the strongest predictor of current illicit drug. Detailed results are presented in Table 4.

Table 4. Multivariate Modelling Analysis

Variables		Initial Model		Final Model	
		<i>p</i>	OR (95% CI)	<i>p</i>	AOR (95% CI)
Sex Transaction	Yes	0.465	ref	0.032	ref
	No		1.64 (0.43-6.19)		1.89 (0.46-5.39)
Sex	Male	0.574	ref	-	
	Female		1.47 (0.38-5.57)		
Employed	Unemployed	0.047	ref	0.059	ref
	Permanent		4.77 (1.02-22.3)		3.57 (0.81-15.2)
	Employment				
Drug use within the past 12 months	Not using	0.029	ref	0.009	ref
	Using		4.47 (1.16-17.3)		5.23 (1.50-18.2)
Type of drugs used within the past 12 months	Natural substances	0.021	ref	-	
	Synthetic substances		4.58 (1.26-16.7)		
Duration of drug use (in months)	>12	0.052	ref	0.049	ref
	≤12		0.28 (0.04-1.09)		0.25 (0.05-1.12)

Respondents who reported drug use during this period had significantly higher odds of engaging in drug misuse compared to non-users (AOR = 5.23; 95% CI: 1.50–18.2; $p = 0.009$). In addition, engagement in transactional sex was also statistically associated with illicit drug (AOR = 1.89; 95% CI: 0.46–5.39; $p = 0.032$). The duration of drug use demonstrated a borderline significant association. Individuals who had used drugs for 12 months or less were less likely to report current illicit drug compared to those who had used for more than 12 months (AOR = 0.25; 95% CI: 0.05–1.12; $p = 0.049$), suggesting a potential protective effect of shorter drug use duration, although the wide confidence interval indicates a need for cautious interpretation. Meanwhile, permanent employment status was associated with 3.57 times higher odds of drug misuse compared to unemployment (AOR

= 3.57; 95% CI: 0.81–15.2; $p = 0.059$); however, this relationship was not statistically significant. Variables such as sex and type of drugs used were excluded from the final model due to their lack of substantial contribution to the overall model.

3.2. Discussion

Drug use should not be automatically equated with drug addiction. While addiction refers to a chronic relapsing condition marked by compulsive substance use despite harmful consequences, illicit drug use is defined more broadly as the excessive and/or improper consumption of substances that violates legal regulations [19]. Such uncontrolled use can significantly impair individual health and social functioning, which underscores the rationale behind the strict control imposed by national regulatory frameworks. Despite these regulatory efforts, drug-related offenses remain widespread across many countries, including Indonesia, cutting across both urban and rural settings. According to the Addiction Center, approximately 275,000 inmates in Indonesia are incarcerated due to drug-related offenses [4]. Our study reinforces these findings, revealing that over 30% of incarcerated individuals at the LPKA and LPP in Papua Province were detained for drug-related violations.

These findings are not unique to Indonesia. Global data similarly highlight the burden of drug misuse: a study in Iran reported that 11.9% of individuals aged over 35 had misused drugs [20]; in Nigeria, 45.7% of students admitted to illicit drug use in 2020 [21]; and in East Africa, an estimated 43.7% of the population had consumed illicit substances [22]. In Indonesia specifically, two-thirds of juvenile detainees at LPKA Keerom, Papua, were involved in drug-related cases as of 2023 [23]. The persistently high prevalence of illicit drug use in Indonesia is partially attributable to its strategic geographic location, which facilitates its role as a key transit and smuggling route for narcotics. This applies to all modes of transport—sea, land, and air [9]. Provinces such as Aceh and Papua are particularly vulnerable due to their porous borders and proximity to major trafficking routes. Aceh is located along critical maritime corridors including the Indian Ocean, the South China Sea, and the Strait of Malacca [24], while Papua shares a direct land border with Papua New Guinea and has multiple access points through sea routes [25]. These geographic realities make these provinces high-risk zones for illicit drug distribution and entry points into the Indonesian archipelago, particularly its eastern regions.

Transactional sex emerged as one of the primary factors associated with drug misuse among incarcerated women and juveniles. The analysis revealed that respondents who reported engaging in sex in exchange for money, goods, or other forms of compensation had 1.89 times higher odds of current drug use compared to those who did not engage in such activities (AOR = 1.89; 95% CI: 0.46–5.39; $p = 0.032$). Substantively, however, this finding is significant and consistent with existing empirical evidence suggesting that transactional sex often acts as a pathway to drug use, particularly among socially vulnerable populations such as sex workers, adolescent girls, and sexual minorities [26]. Within the correctional context, such behaviours may reflect pre-incarceration experiences marked by economic hardship, unequal power dynamics, and social environments that facilitate sexual exchange as a survival strategy factors collectively heighten the risk of substance misuse [27]. Theoretically, the association between transactional sex and drug use can be explained through the Risk Environment Framework, which posits that health risks are not merely the result of individual behaviours but are shaped by broader social, economic, and structural contexts [28]. In this view, transactional sex may be a manifestation of social exclusion and gender inequality that amplifies exposure to drugs, whether through coercion or voluntary engagement [29]. This finding highlights the critical need for multisectoral integration in rehabilitation and reintegration programs within correctional facilities. Gender- and trauma-informed approaches, combined with harm reduction strategies that include sexual health education, protection against sexual violence, and enhanced

social support systems, are essential to break the cycle of sexual exploitation and drug abuse among female and juvenile inmates [30].

This study identified recent drug use within the past 12 months as the strongest predictor of current illicit drug use among female and juvenile inmates in LPP and LPKA Papua. Individuals who reported drug use during this period had 5.23 times higher odds of engaging in current drug misuse compared to those who did not (AOR = 5.23; 95% CI: 1.50–18.2; $p = 0.009$). This statistically significant association, with a confidence interval that does not include 1.0, highlights the robust and reliable relationship between recent use and ongoing misuse. These findings are consistent with earlier research, which showed that recent methamphetamine use among young adults was linked to increased risk of continued drug involvement [31]. The compulsive nature of drug addiction, along with neurocognitive impairments in decision-making, may contribute to persistent use patterns among this group.

The duration of drug use demonstrated an association that approached statistical significance. Individuals who had used drugs for 12 months or less were 75% less likely to be currently engaged in substance misuse compared to those with a more extended history of use (AOR = 0.25; 95% CI: 0.05–1.12; $p = 0.049$). This finding may indicate a potential protective effect associated with shorter periods of use. However, due to the wide confidence interval and borderline significance level, the result should be interpreted with caution. The cross-sectional nature of the study also limits the ability to assess causality or temporal sequencing between exposure and outcome [32]. Environmental and social factors—such as underdeveloped physiological tolerance or the absence of entrenched usage habits among newer users—may serve as plausible explanations for this result [27].

Meanwhile, employment status was not significantly associated with current drug misuse in the final model (AOR = 3.57; 95% CI: 0.81–15.2; $p = 0.059$), although the odds ratio suggests a potential increase in risk among individuals with stable employment. This non-significance could be attributed to limited statistical power, unmeasured confounders, or variability in job types and levels of occupational stress not captured in this study. Previous literature has documented associations between work-related stress and substance use behaviors [33] however, our findings highlight the need for a more nuanced exploration of this relationship. Gender and the type of drugs used were excluded from the final model due to their limited contribution to the overall model fit. This decision was based on the results of univariate analysis, theoretical relevance, and practical considerations, including potential multicollinearity and a limited sample size, to ensure the accuracy of the multivariate model.

One of the significant strengths of this study is its focus on a marginalized and underrepresented population, female and juvenile inmates in correctional institutions, providing rare insights into the dynamics of transactional sex and substance use within detention settings. The use of multivariate logistic regression further strengthens the validity of the findings by adjusting for various confounding variables. Nevertheless, the study has several limitations. First, the small sample size reduces statistical power and contributes to wide confidence intervals, particularly for variables such as transactional sex and employment status. Second, social desirability and information biases may have occurred due to data collection taking place in an institutional environment under staff supervision, which could have potentially affected the honesty of self-reported behaviors. Third, the cross-sectional design precludes causal inference, and all identified associations should be interpreted as correlational. Fourth, residual confounding cannot be ruled out, as important variables such as mental health status, trauma history, or access to rehabilitation services were not measured. Finally, the selection of variables for the multivariate model was based on a combination of bivariate statistical significance, theoretical grounding, and technical considerations, including the consideration of multicollinearity and sample size constraints.

Given the strong association between recent drug use and current misuse, correctional interventions should prioritize screening and treatment efforts targeting new users. The association between transactional sex and substance misuse, although imprecisely estimated, underscores the need for prevention programs that address the overlapping risks of sexual exploitation and drug use. Findings related to the duration of drug use and employment status, although not statistically significant, open avenues for further research. Future studies should employ longitudinal designs with larger sample sizes to clarify the direction of these associations and explore potential mediating variables.

4. Conclusion

This study highlights that recent drug use within the past 12 months is the strongest determinant of ongoing drug misuse among inmates in Papua, Indonesia. While sexual transactions and employment status showed potential associations, these were not statistically significant after adjustment. A shorter duration of drug use appeared to reduce the risk, suggesting that the timing of interventions is critical. These findings emphasize the urgent need for evidence-based interventions targeting inmates with active drug use histories to disrupt cycles of substance dependence and related high-risk behaviors.

Correctional health programs in Papua should prioritize comprehensive screening for recent drug use upon intake and implement targeted harm-reduction strategies, including detoxification support, behavioral counseling, and relapse prevention education. Integrated programs that address both substance misuse and sexual health risks may offer synergistic benefits, particularly in a socio-cultural context where economic vulnerabilities and transactional sex intersect. Collaboration between correctional facilities, public health authorities, and community-based organizations is essential to ensure continuity of care post-release and reduce the likelihood of recidivism linked to drug-related offenses. Finally, expanding the scope of public health implications to include other consequences of drug use beyond HIV would provide a more comprehensive perspective.

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Disclosure statement/Conflict of Interest

The authors report no conflicts of interest.

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