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Original Article

Prevalence and Associates of Substance Abuse Among Street Children and Adolescents in Iran

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Abstract

Background: The issue of street children and adolescents represents a significant global challenge, often interconnected with issues such as substance abuse. The present research aims to ascertain the prevalence of substance abuse and its associated determinants within the population of street children and adolescents in Zahedan, Iran.

Methods: This cross-sectional study, conducted between December 2021 and May 2022, focused on street children and adolescents. A validated questionnaire was administered through face-to-face interviews to evaluate the prevalence of substance abuse and associated factors within this population. The collected data were analyzed using bivariable and multivariable logistic regression models. Additionally, penalized logistic regression techniques were employed in the statistical analysis.

Findings: A cohort of 200 street children, with a mean age of 13.6 years, was examined. The majority of the sample comprised male individuals (n = 156, 98.15%). The study revealed that 27% of the participants (95% confidence interval [CI]: 0.21–0.33) reported a history of substance abuse (n = 54). Key risk factors identified encompassed increasing age (odds ratio [OR] = 1.32, 95% CI: 1.12–1.55), prior detention (OR = 5.45, 95% CI: 1.92–15.42), and a family history of substance abuse (OR = 7.53, 95% CI: 3.02–18.77), indicating a heightened likelihood of substance abuse with each of these factors. The logistic regression model exhibited satisfactory predictive accuracy (area under the curve [AUC] = 0.78, 95% CI: 0.72–0.86).

Conclusion: This study identified age, a familial history of substance use, and prior incarceration as significant predictors of substance abuse among street children and adolescents. Consequently, there is a demonstrated need for focused interventions that address familial, social, and psychological determinants to mitigate substance abuse within this at-risk demographic.

Keywords: Vulnerable populations, Substance-related disorders, Homeless youth, Risk factors, Surveys and questionnaires

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Introduction

The escalating prevalence of street children and youth, a consequence of multifaceted social, economic, and political challenges, constitutes a significant global concern, particularly within developing nations.[1] Street children are broadly conceptualized as a subset of children experiencing precarious living conditions. These children may engage in transient, sustained, or permanent labor in public spaces for indeterminate durations, or they may reside on the streets, disconnected from familial support systems. Operationally, any minor whose existence and daily activities are predominantly centered within the street environments and public domains can be classified under the rubric of a street child.[2]

In 2005, United Nations Children's Fund (UNICEF) stated that obtaining a precise count of street children was not feasible. However, it is plausible that the population of these children has grown in conjunction with increasing urbanization, demographic expansion, and internal migration. Furthermore, a global rise in the number of children engaged in street labor has been observed, particularly within developing nations. The most recent demographic assessment in 2017 indicated that the total number of street children in Iran was approximately 26 000 (interquartile range (IQR) = 20 239 to 34 719).[3]

The diverse factors contributing to street children's lives or their engagement in street work encompass economic[4,5] sociocultural,[3,6,7] familial,[8,9] and individual circumstances.[10,11] Notably, substance use disorder (SUD) stands out as a critical concern affecting a substantial

proportion of this vulnerable population.[12] Evidence indicates a substantial prevalence of SUDs, including drug trafficking, within this demographic, with regional variations observed.[13,14] Research conducted in Asian and Middle Eastern countries, notably Iran, has documented SUD rates among street children and adolescents ranging from 14% to as high as 92%, encompassing substances such as tobacco, opium, cannabis, and psychotropic medications.[12,15]

Street children represent a vulnerable demographic susceptible to social detriments and SUD, posing a significant yet often overlooked public health concern. This issue is compounded by the scarcity of data concerning their living and working conditions, as well as the underlying mechanisms contributing to their compromised health status.[16,17] In Iran, the recent economic downturn has likely precipitated increased poverty among families, consequently augmenting the population of children living and working on the streets. However, the majority of research pertaining to children and adolescents in this context has predominantly focused on samples drawn from school, community, or clinical settings, with a geographical concentration in Tehran.[15] This study's findings may not be generalizable to more deprived regions, such as Sistan and Baluchestan province, where unsheltered minors experience compounded disadvantages. Factors including low socioeconomic status of parents, restricted access to essential services like healthcare and education, and the inability to meet basic needs result in pervasive issues of hunger, malnutrition, physical illness, disease susceptibility, and elevated vulnerability to human trafficking and SUDs.[18,19]

In contrast to previous studies that have primarily focused on metropolitan centers like Tehran, the present study aims to address a significant gap in the existing literature by examining the circumstances of street children in less developed and high-vulnerability regions. Moreover, the implementation of a validated survey instrument and the application of sophisticated analytical methodologies, such as penalized logistic regression to evaluate predictive variables, enhance the methodological robustness of this research, thereby yielding a more comprehensive insight into the phenomenon.

This study addresses the exigent issue of risky behaviors among street children and adolescents in Iran, a population for which precise prevalence data remains scarce due to various challenges. Recognizing this gap, the present research aims to investigate substance abuse within this vulnerable group in Zahedan. The central hypothesis posits a significant association between substance abuse and specific risk factors, namely increased age, a history of detention, and a familial background of substance use. By examining these potential correlations, the study seeks to empirically evaluate the predictive capacity of these factors in elucidating patterns of substance abuse among street children and adolescents in this geographical context.

Methods

Study Design

This cross-sectional study, conducted in Zahedan, a city in southeastern Iran, between March 2021 and May 2022, aimed to ascertain the prevalence of substance abuse and its associated factors among street children and adolescents. The study population comprised both Iranian and non-Iranian children and adolescents who spent a minimum of three hours daily working or living on the streets. A time-location based sampling method was employed, and a total of 200 street children and adolescents participated. The inclusion criteria included age 7 to 18 years, the ability to communicate effectively (i.e., without intellectual disabilities), and a daily presence of at least three hours on the streets due to work or living circumstances.

Variables and Instruments

The questionnaire employed in this study was structured into three distinct sections:

1. Demographic and Living Conditions: This section focuses on collecting data regarding the participants' age, gender, ethnicity or nationality, education level, income level, the duration of their experience with street involvement (in years), incarceration history, and any adverse childhood experiences as a significant risk factor contributing to social issues, such as substance abuse, and tobacco use among family members.
2. Substance Use and Related Behaviors: This 24-item questionnaire was employed to evaluate the use of substances, including tobacco and alcohol, among street children, adolescents, and their family members. The instrument assessed substance use by both family members (substances such as cigarettes, hookah, alcoholic beverages, smokeless tobacco, opium and syrup, heroin, hashish and marijuana, crystal methamphetamine, and ecstasy) and the participants themselves. For each substance, participants were queried regarding their lifetime prevalence of use as well as any recreational use within the 30 days preceding the assessment. Responses to these inquiries were dichotomous (i.e., "yes" or "no").
3. Adverse Childhood Experiences (ACE): To assess the prevalence of childhood maltreatment, a validated Persian adaptation of the Adverse Childhood Experiences (ACE) Questionnaire was employed. This instrument evaluates exposure to emotional, physical, and sexual abuse, alongside experiences of emotional and physical neglect during developmental years. For the purpose of efficient data collection, a condensed version of the ACE questionnaire,

specifically focusing on abuse-related categories, was utilized. The psychometric reliability of this adapted questionnaire has been previously established.[20-22]

Statistical Analysis

The data were analyzed using bivariable and multivariable logistic regression models, as well as penalized logistic regression. Initially, bivariable logistic regression was performed to explore the individual relationships between each independent variable and substance use. Subsequently, variables exhibiting a p-value < 0.2 in the bivariable analysis were included in the multivariable logistic regression model to assess their independent effects while controlling for other variables. To determine the most salient predictors, a backward elimination methodology was employed to enhance both the precision and interpretability of the model. To mitigate issues of multicollinearity among the independent variables, the most encompassing and statistically significant predictors were retained in the final model specification. The model's goodness-of-fit was evaluated using the Hosmer-Lemeshow test. Its predictive capability was assessed by calculating the area under the receiver operating characteristic (ROC) curve (AUC). Statistical analyses were conducted using SPSS (version 22) and R (version 4.1.3). For all statistical tests, the significance level was set at 0.05.

Results

This study involved a total of 200 street children and adolescents. The overall mean age (standard deviation [SD]) of the participants was 13.60 (2.57) years. Notably, participants with a history of substance abuse exhibited a significantly higher mean age (SD) of 14.74 (2.47) ($p < 0.001$). Furthermore, the mean duration of engagement in street activities among children and adolescents with a history of substance abuse was approximately one year longer compared to their counterparts without such a history. The study cohort primarily comprised male individuals, constituting 98.15% of the total participants (n = 196). Additionally, 27% of the participants (95% confidence interval [CI]: 0.21-0.33) self-reported a history of substance abuse (n = 54). A considerable proportion of the participants originated from families with a documented history of substance abuse. Among the study participants, a positive correlation was observed between older age and extended duration of street involvement with a higher likelihood of self-reported substance abuse. Table 1 presents a detailed stratification of the study's variables based on the presence or absence of substance abuse among the participants.

The probability of an individual engaging in at least one type of substance was found to increase significantly with advancing age (odds ratio [OR] = 1.32, 95% CI: 1.12–1.55), a family history of SUD (OR = 7.53, 95% CI: 3.02–18.77), and a prior history of detention (OR = 5.45, 95% CI: 1.92–15.42). While bivariate analysis revealed significant associations between SUD and other factors, such as the duration of street involvement and adverse childhood experiences, these associations did not remain significant in the multivariable regression model. This suggests that the influence of street activity duration and adverse childhood experiences on SUD risk is likely mediated by other variables and that they do not exert an independent effect (Table 2).

Table 1. Socio-demographic characteristics and living conditions of children and adolescents and their parents

Variables		At least One Substance		*P* value
		No	Yes	
		Mean ± SD		
Age (year)		13.17 ± 2.48	14.74 ± 2.47	<0.001
Time street (year)		2.73 ± 2.28	3.89 ± 3.24	0.02
Adverse childhood experiences		0.71 ± 0.69	0.97 ± 0.79	0.04
		N (%)		
Gender	Female	3 (2.10)	1 (1.90)	
	Male	143 (97.90)	53 (98.10)	0.93
Ethnicity	Sistani	8 (5.50)	2 (3.70)	
	Baluch	124 (84.90)	46 (85.20)	
	Afghan	14 (9.60)	6 (11.10)	0.84
Education level	Illiterate	68 (46.60)	19 (35.10)	
	Elementary	59 (40.40)	23 (42.60)	
	High school & diploma	19 (13.00)	12 (22.30)	0.18
History of detention	No	135 (93.10)	38 (70.40)	
	Yes	10 (6.90)	16 (29.60)	<0.001
Family history of SUD	No	72 (49.30)	8 (14.80)	
	Yes	74 (50.70)	46 (85.20)	<0.001

SD: Standard deviation; N: Frequency; SUD: Substance use disorder

The Hosmer-Lemeshow test, employed to assess the goodness-of-fit of the logistic regression model, revealed an acceptable fit at a significance level of 0.05 (chi-square = 8.01, degree of freedom [df] = 7, p = 0.33), thereby bolstering confidence in the estimated outcomes. To evaluate the model's capacity to predict SUD, an ROC was analyzed. The AUC indicated a strong predictive performance of the model. Specifically, the results demonstrated the model's effectiveness and the reliability of its predictions (AUC = 0.78, 95% CI: 0.72–0.86) (Figure 1).

Family history of SUD exhibits a strong association with both current and lifetime substance use across all substances examined in this study. Specifically, participants with familial substance use were significantly more likely to report engaging in the same substance use behaviors. For instance, the prevalence of current smoking, hookah use, and overall tobacco use was markedly elevated among individuals with a family history

Table 2. Logistic regression model with associations among substance use disorder and socio-demographic characteristics

Variables		Bivariable Logistic Regression		Multivariable Logistic Regression	
		OR (95% CI)	*P* value	OR (95% CI)	*P* value
Age		1.29 (1.13, 1.48)	<0.001	1.32 (1.12, 1.55)	0.001
Time street (year)		1.17 (1.05, 1.32)	0.007		
Adverse childhood experiences		1.62 (1.06, 2.48)	0.03		
Gender*	Female	1			
	Male	1.11 (0.11, 10.92)	0.93		
Ethnicity*	Sistani	1			
	Baluch	1.48 (0.30, 7.25)	0.63		
	Afghan	1.71 (0.28, 10.59)	0.56		
Education level	Illiterate	1			
	Elementary	1.39 (0.69, 2.81)	0.35		
	High school & diploma	2.26 (0.93, 5.47)	0.07		
History of detention	No	1		1	
	Yes	5.68 (2.39, 13.54)	<0.001	5.45 (1.92, 15.42)	0.001
Family history of SUD	No	1		1	
	Yes	5.59 (2.46, 12.68)	<0.001	7.53 (3.02, 18.77)	<0.001

*Penalized logistic regression, SE: Standard error, OR: Odds ratio, CI: Confidence interval, SUD: Substance use disorder

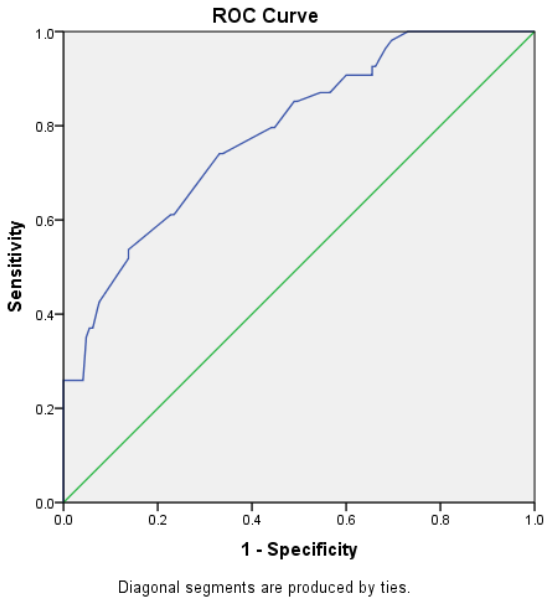

Figure 1. The receiver operating characteristic curve for the regression model of substance use disorder in street children and adolescents

of these behaviors, demonstrating statistically significant differences with p-values of < 0.001, < 0.001, and 0.009, respectively. Analogous relationships were observed for the lifetime use of these substances, with corresponding p-values of 0.002, < 0.001, and 0.006 (Table 3).

In this study examining adverse childhood experiences among street children and adolescents, findings indicate that verbal violence was the most prevalent form of maltreatment reported (64%), followed by physical violence (46%). A substantial proportion of the

Table 3. The prevalence of substance use disorder and the relationship between the use of each substance among participants with a family history of using the same substance

Current Use					*P* value
		Smoking in family			
		Yes	No	Total	
Smoking	Yes	10	6	16 (8.00)	
	No	36	148	184 (92.00)	<0.001*
		Hookah in family			
		Yes	No	Total	
Hookah	Yes	30	17	47 (23.50)	
	No	29	124	153 (76.50)	<0.001*
		Tobacco in family			
		Yes	No	Total	
Tobacco	Yes	6	1	7 (3.50)	
	No	66	127	193 (96.50)	0.009**
Ever Use					
		Smoking in family			
		Yes	No	Total	
Smoking	Yes	8	6	14 (7.00)	
	No	38	148	186 (93.00)	0.002*
		Hookah in family			
		Yes	No	Total	
Hookah	Yes	27	16	43 (21.50)	
	No	32	125	157 (78.50)	<0.001*
		Tobacco in family			
		Yes	No	Total	
Tobacco	Yes	5	0	5 (2.50)	
	No	67	128	195 (97.50)	0.006**

sample (29.5%) reported sustaining physical injuries. Furthermore, 16.5% of participants experienced forced displacement from their homes. Notably, the data revealed no reported instances of sexual abuse within this cohort.

Discussion

This research sought to examine the phenomenon of substance abuse among Iranian street children and adolescents and to ascertain the influence of pertinent variables through the application of regression modeling. The findings of this investigation indicated that the prevalence of substance abuse within this demographic was 27%. Notably, age, history of incarceration, and a familial history of substance abuse emerged as significant correlates of substance abuse in this population.

Akin to the current investigation, a study conducted by Dejman et al in 2015 indicated that 25.6% of street children in Tehran reported a history of tobacco, alcohol, and substance abuse.[15] Similarly, another study in Zahedan in the same year revealed a higher prevalence of smoking (42.6%) as the most commonly reported substance among street children. This study further noted a younger age of initiation in individuals with illiterate or deceased parents, underscoring the significant role of familial and social determinants in shaping substance use behaviors within this vulnerable population.[23] In Dhaka, Bangladesh, a study by Hossain et al in 2015 revealed that approximately 53% of street children exhibited drug addiction. Furthermore, the research indicated a positive correlation between family and social detachment and an elevated prevalence of substance abuse within this population.[24] The World Health Organization (WHO) estimates the prevalence of substance use among street children globally ranges from 25% to 90%, with a significant proportion experiencing SUDs.[25] These variations in reported figures can be attributed to cross-cultural differences and the heterogeneous availability of psychoactive substances across diverse societal contexts.

In the current research, consistent with a systematic review of Iranian street children studies[26] and numerous international studies,[12,13] a significant number of street children and adolescents, particularly younger males, were shown to be engaged in street-based activities. This involvement may be driven by economic necessity and limited financial resources. Furthermore, the results of the regression analysis suggest a statistically significant positive correlation between age and the probability of using at least one type of substance among this population. An increase of one year in age is associated with a 1.32-fold higher probability of drug use. This finding aligns with a study conducted by Ayenew et al on Ethiopian street children, which reported a 1.97 multiplicative increase in the likelihood of substance use with each additional year of age, thus corroborating the results of the current investigation.[27] The observed correlation between increasing age and elevated engagement in risky behaviors, such as substance abuse, particularly among male children and adolescents, may be attributed to factors including greater detachment from familial influence and the development of increased autonomy during this developmental stage.

Substance abuse exhibits a statistically significant positive correlation with the duration of homelessness and a history of incarceration. Specifically, the study revealed that street-dwelling children and adolescents with prior imprisonment experience a 5.45-fold increased risk of drug addiction compared to their counterparts without such a history. This finding is consistent with prior empirical investigations. For instance, a study by Kakchapati et al, focusing on street children in Nepal, also identified a significant association between a history of incarceration and substance abuse, demonstrating a 2.21 times greater likelihood of substance abuse.[28] Similarly, Sharma et al reported that a history of imprisonment elevated the probability of substance abuse by a factor of 3.3.[18] The findings of this study corroborate previous research, indicating a higher prevalence of substance abuse among street children and adolescents who have a history of detention. These results suggest that incarceration and the associated conditions of confinement may have a detrimental impact on the psychological well-being of this vulnerable population, potentially leading to substance use as a maladaptive coping mechanism for managing anxiety and stress.[29] Drawing upon findings from comparable research,[3,30] it is evident that the environment of detention frequently exposes individuals to peers involved in substance use, thereby elevating their susceptibility to substance abuse. A primary determinant of social detriments, notably substance abuse, across all age demographics is the prevalence of adverse childhood experiences. Consequently, this study considered such experiences as a relevant covariate. However, the multivariate regression analysis did not reveal a statistically significant association between adverse childhood experiences and substance abuse in this sample. This null finding may be attributable to the indirect influence of these experiences on substance abuse, potentially mediated through family members. This suggests a need for further investigation of these relationships in future research endeavors.

These findings underscore the imperative for social work interventions targeting street-affiliated children and adolescents within detention settings. Such interventions are crucial to alleviate adverse psychological sequelae and diminish the potential for substance abuse in this vulnerable population.

In formulating preventative measures and pedagogical interventions, it is crucial to recognize the fundamentally distinct objectives of the Juvenile Correction and Rehabilitation Center compared to those for adult

populations. A key principle is the educability and potential for rehabilitation among young offenders. Consequently, policymakers and the Ministry of Education bear the responsibility of establishing secure and supportive environments for this vulnerable demographic. This includes guaranteeing access to both formal and vocational education within the Juvenile Correction and Rehabilitation Center and upon their reintegration into society, as supported by prior research.[31-33]

Further analysis of the study data revealed a significant correlation between familial history of substance abuse and the elevated risk of drug addiction among street children and adolescents. Specifically, the odds of substance addiction were 7.53 times higher in street youth with a family history of substance abuse compared to their counterparts without such a familial background. This finding underscores the substantial influence of primary caregivers within the family on the vulnerability of street children and youth to substance abuse. This observation may be attributed to Zahedan's geographical location as a border city, potentially exposing street children and adolescents to a community where drug procurement, trafficking, and consumption are normalized or rationalized by family members. Consequently, this familial exposure may elevate the likelihood of substance abuse among this vulnerable population. These findings align with research conducted in Jimma[27] and western Kenya,[34] which similarly underscored the significant impact of family history on substance use initiation and patterns among street children.

This study also revealed a negligible effect of the duration of street life and adverse childhood experiences on substance abuse among street children and adolescents. This weak association may be attributable to the moderating influence of other variables examined within the study. Conversely, findings from another study revealed a significantly elevated likelihood of substance use (threefold) among children with one to five years of street exposure compared to those with less than one year.[29] Studies focusing on street children in Tehran[35] and the Philippines[12] corroborate the influence of adverse childhood experiences and the duration of street life on the development of addiction. It is posited that due to reduced supervision and greater autonomy, street children may exhibit heightened vulnerability to peer influence, potentially leading them to engage in substance use as a mechanism to avert social exclusion. Furthermore, research indicates a significantly elevated likelihood (11 times greater) of substance use among children with substance-using peers compared to those whose social circles do not include substance users.[27]

This study has several limitations. A primary concern was the potential for underreporting or biased data regarding children's substance use. This may have occurred due to legal constraints and social stigmas associated with substance use, which deter accurate disclosure. Future research could mitigate this bias and achieve a more thorough and reliable understanding of the issue by integrating qualitative methodologies with quantitative approaches. The predominantly male composition of the participant pool (98.15%) significantly constrains the generalizability of the study's findings. Furthermore, broadening the sample to encompass a more diverse spectrum of street children and adolescents from various geographical locations could facilitate more robust comparisons and enhance the generalizability of the results. Additional limitations include the potential for recall bias, wherein participants may exhibit inaccuracies in the recollection of past experiences. The cross-sectional design of the research also restricts the capacity to establish causal relationships between variables. Moreover, cultural variations and disparities in local substance use patterns have the potential to influence the outcomes, underscoring the necessity for subsequent investigations across diverse contexts. The potential for bias due to the exclusion of non-communicative children or those who declined participation out of concern for legal consequences, given the prevalence of criminalized behaviors in this age group, warrants consideration. To enhance the accuracy and generalizability of findings, it is advisable to complement quantitative investigations with qualitative research methodologies.

Conclusion

This study reveals a significant prevalence of substance use and abuse among street children and adolescents in Iran. Key risk determinants identified include age, familial history of substance use, and prior history of incarceration. These findings indicate a heightened vulnerability to substance use within this population, influenced by both familial factors and the environmental context of street life. While the study indicated weaker correlations between adverse childhood experiences and the duration of homelessness with substance abuse, it nonetheless highlights the critical role of focused intervention strategies. The findings underscore the necessity for integrated prevention and treatment programs that address both familial and social determinants of substance abuse, as well as the psychological sequelae of incarceration. This study also underscores the imperative for subsequent studies to delve deeper into these multifaceted issues across diverse settings. Such inquiry is essential for the development of more robust and context-sensitive strategies aimed at effectively addressing substance abuse among street-connected children and adolescents.

Health and education policymakers within the nation should acknowledge the heightened vulnerability of these demographic cohorts and ensure their continuous access to both formal and vocational education. Consequently, it is imperative that policymakers prioritize the reinforcement

of protective factors for these individuals and their families.

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Availability of Data and Materials
Data will be available upon request submitted to the corresponding author.

Consent for Publication
Not applicable.

Competing Interests
The authors declare no conflict of interest.

Ethical Approval
The study protocol was approved by the Ethics Committee of Kerman University of Medical Sciences(EC) (Ethics code: IR.KMU.REC. 1401.248). The objectives of the study were explained to the participants and they were assured about the anonymity of the questionnaires. Given the absence of sensitive items in the survey instrument and the practical challenges in obtaining parental consent for participants under 15 years of age, the Ethics Committee granted approval for verbal informed consent. All interviews were carried out in a private setting. They were also told that they could stop the interview whenever they wanted.

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References
1. Khezri M, Mirzazadeh A, McFarland W, Iranpour A, Shahesmaeili A, Zarei J, et al. Prevalence of substance use and associated risk factors among homeless youth in Iran: a cross-sectional study. Child Youth Serv Rev. 2020;116:105070. doi: 10.1016/j.childyouth.2020.105070.
2. Imani N, Nersisiance E. Anthropological study of street working children problem in Karaj. Journal of Social Problems of Iran. 2012;3(1):7-32. [Persian].
3. Vameghi M, Roshanfekr P, Ghaedamini Harouni G, Takaffoli M, Bahrami G. Street children in Iran: what are their living and working conditions? Findings from a survey in six major cities. Int J Environ Res Public Health. 2023;20(7):5271. doi: 10.3390/ijerph20075271.
4. Abate D, Eyeberu A, Adare D, Negash B, Alemu A, Beshir T, et al. Health status of street children and reasons for being forced to live on the streets in Harar, Eastern Ethiopia. Using mixed methods. PLoS One. 2022;17(3):e0265601. doi: 10.1371/journal.pone.0265601.
5. Endris S, Sitota G. Causes and consequences of streetism among street children in Harar city, Ethiopia. Int J Educ Lit Stud. 2019;7(2):94-9. doi: 10.7575/aiac.ijels.v.7n.2p.94.
6. Abdullah A, Huynh I, Emery CR, Jordan LP. Social norms and family child labor: a systematic literature review. Int J Environ Res Public Health. 2022;19(7):4082. doi: 10.3390/ijerph19074082.
7. de Benítez ST. State of the World's Street Children. London: Consortium for Street Children; 2011.
8. Reza MH. Poverty, violence, and family disorganization: Three "Hydras" and their role in children's street movement in Bangladesh. Child Abuse Negl. 2016;55:62-72. doi: 10.1016/j.chiabu.2016.04.001.
9. Sahoo BP. A sociological study of patterns and determinants of child labour in India. J Child Serv. 2021;16(2):132-44. doi: 10.1108/jcs-10-2020-0067.
10. Zarezadeh T. Investigating the status of the street children: challenges and opportunities. Procedia Soc Behav Sci. 2013;84:1431-6. doi: 10.1016/j.sbspro.2013.06.768.
11. Westers NJ, Plener PL. Managing risk and self-harm: keeping young people safe. Clin Child Psychol Psychiatry. 2020;25(3):610-24. doi: 10.1177/1359104519895064.
12. Njord L, Merrill RM, Njord R, Lindsay R, Pachano JD. Drug use among street children and non--street children in the Philippines. Asia Pac J Public Health. 2010;22(2):203-11. doi: 10.1177/1010539510361515.
13. Asante KO, Nefale MT. Substance use among street-connected children and adolescents in Ghana and South Africa: a cross-country comparison study. Behav Sci (Basel). 2021;11(3):28. doi: 10.3390/bs11030028.
14. Gita DU, Disassa GA, Worku BN. Street children's drug abuse and their psychosocial actualities synchronized with intervention strategies in South West Ethiopia. Int J Multicult Multirelig Underst. 2019;6(5):682-93. doi: 10.18415/ijmmu.v6i5.1170.
15. Dejman M, Vameghi M, Roshanfekr P, Dejman F, Rafiey H, Setareh Forouzan A, et al. Drug use among street children in Tehran, Iran: a qualitative study. Front Public Health. 2015;3:279. doi: 10.3389/fpubh.2015.00279.
16. Dankyi E, Huang KY. Street children in Ghana's Golden Triangle Cities: mental health needs and associated risks. Child Psychiatry Hum Dev. 2022;53(4):840-51. doi: 10.1007/s10578-021-01223-5.
17. Ewunetie AA, Alemayehu M, Endalew B, Abiye H, Gedif G, Simieneh MM. Sexual and reproductive health problems and needs of street youths in East Gojjam Zone Administrative Towns, Ethiopia: exploratory qualitative study. Adolesc Health Med Ther. 2022;13:55-66. doi: 10.2147/ahmt.S358140.
18. Sharma MK. Street children in Nepal: causes and health status. J Health Promot. 2020;8:129-40.
19. Lee J, Kim H, Rhee DE. No harmless child labor: the effect of child labor on academic achievement in francophone Western and Central Africa. Int J Educ Dev. 2021;80:102308. doi: 10.1016/j.ijedudev.2020.102308.
20. Chegeni M, Haghdoost A, Eslami Shahrbabaki M, Mangolian Shahrbabaki P, Nakhaee N. Validity and reliability of the Persian version of the adverse childhood experiences abuse short form. J Educ Health Promot. 2020;9:140. doi: 10.4103/jehp.jehp_15_20.
21. Akbarizadeh F, Soleimani A, Kachooei M, Farahani H. Relationship between mothers' adverse childhood experiences and children's psychological problems, mediated by mothers' emotional dysregulation and mental capacity. Iran

J Psychiatry Clin Psychol. 2024;30(1):2-18. doi: 10.32598/ijpcp.30.4825.1. [Persian].
22. Deinali S, Badami R, Meshkati Z, Faeghi S. Psychometric properties of the modified Persian version of adverse childhood experience questionnaire for athletes. J Res Rehabil Sci. 2020;16(1):87-94. doi: 10.22122/jrrs.v16i0.3510.
23. Ansari H, Ansari Moghaddam A, Mohammadi M, Peyvand M, Gorgij A, Shahraki Sanavi F. Health status and life situation of street children in Zahedan, southeast of Iran. Health Scope. 2015;4(4):e31077. doi: 10.17795/jhealthscope-31077.
24. Hossain MI, Ahmed Z. Social bonding and drug addiction: a study on the street children in Dhaka city. ASA Univ Rev. 2015;9(2):193-214.
25. Howe D. Child Abuse and Neglect: Attachment, Development and Intervention. Bloomsbury Publishing; 2017.
26. Vameghi M, Sajadi H, Rafiey H, Rashidian A. The socioeconomic status of street children in Iran: a systematic review on studies over a recent decade. Child Soc. 2014;28(5):352-65. doi: 10.1111/j.1099-0860.2012.00456.x.
27. Ayenew M, Kabeta T, Woldemichael K. Prevalence and factors associated with substance use among street children in Jimma town, Oromiya national regional state, Ethiopia: a community based cross-sectional study. Subst Abuse Treat Prev Policy. 2020;15(1):61. doi: 10.1186/s13011-020-00304-3.
28. Kakchapati S, Shrestha B, Li DY, Rajbhandari R, Poudel T. Drug use, injecting behaviors, and survival sex among street children and youths in Kathmandu valley, Nepal. Int J STD AIDS. 2018;29(6):588-97. doi: 10.1177/0956462417746532.
29. Travis J, McBride EC, Solomon AL. Families Left Behind: The Hidden Costs of Incarceration and Reentry. Washington, DC: Urban Institute; 2003.
30. Embleton L, Mwangi A, Vreeman R, Ayuku D, Braitstein P. The epidemiology of substance use among street children in resource-constrained settings: a systematic review and meta-analysis. Addiction. 2013;108(10):1722-33. doi: 10.1111/add.12252.
31. Fazel S, Yoon IA, Hayes AJ. Substance use disorders in prisoners: an updated systematic review and meta-regression analysis in recently incarcerated men and women. Addiction. 2017;112(10):1725-39. doi: 10.1111/add.13877.
32. Gagnon JC, Benedick AR, Mason-Williams L. Mental health interventions for youth who are incarcerated: a systematic review of literature. Am J Orthopsychiatry. 2022;92(4):391-404. doi: 10.1037/ort0000587.
33. Silverstein M, Hadland SE, Hallett E, Botticelli M. Principles of care for young adults with substance use disorders. Pediatrics. 2021;147(Suppl 2):S195-203. doi: 10.1542/peds.2020-023523B.
34. Embleton L, Ayuku D, Atwoli L, Vreeman R, Braitstein P. Knowledge, attitudes, and substance use practices among street children in Western Kenya. Subst Use Misuse. 2012;47(11):1234-47. doi: 10.3109/10826084.2012.700678.
35. Dejman M, Vameqhi M, Dejman F, Roshanfekr P, Rafiey H, Setareh Forouzan A, et al. Substance use among street children in Tehran, Iran. Int J Travel Med Glob Health. 2015;3(1):23-7. doi: 10.20286/ijtmgh-030123.