



Child Abuse in Health Centers Affiliated with Jundishapur University of Medical Sciences: Prevalence and Associated Factors

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Received: 27 November, 2025; Revised: 29 April, 2026; Accepted: 18 May, 2026

Abstract

Background: Child abuse is a major public health and social concern with potentially long-lasting effects on children's physical, psychological, and social development. It encompasses physical and emotional abuse, sexual abuse, neglect, and exploitation, and its occurrence is influenced by familial, socioeconomic, and caregiver-related factors. Despite growing evidence on child maltreatment, comprehensive data on its prevalence and associated factors in Iran remain limited, particularly in primary healthcare settings. Health centers offer an important opportunity for the early identification of at-risk children and families.

Objectives: This study aimed to determine the prevalence of child abuse and identify its key contributing factors among children attending health service centers affiliated with Jundishapur University of Medical Sciences in Ahvaz, using validated psychometric instruments.

Methods: This cross-sectional analytical study included 782 children and their guardians. Indicators of child abuse were assessed using the Dundee Abuse and Care Scale (DACAS) and the Social Health Questionnaire (SHQ). The internal consistency of the DACAS was acceptable (Cronbach's alpha = 0.82). Data were analyzed using SPSS version 26.0. Chi-square tests were used to examine bivariate associations, and multivariable logistic regression was conducted to estimate adjusted odds ratios (aORs) with 95% confidence intervals (CIs).

Results: The overall prevalence of identified child abuse was 18.5% (n = 145/782). Emotional neglect (44.8%) and emotional abuse (38.6%) were the most commonly reported forms. The prevalence of abuse was 41.2% in the 5-10-year age group, consistent with bivariate analysis ($\chi^2 = 15.98$, $P = 0.003$). Multivariable analysis identified low maternal education (aOR = 3.85, $P = 0.001$), single-parent family structure (aOR = 2.15, $P = 0.003$), and emotional neglect (aOR = 15.20, $P < 0.001$) as significant independent predictors. No statistically significant association was found with parental substance use ($P = 0.217$) or psychological distress ($P = 0.184$).

Conclusions: Child abuse remains a substantial public health concern in Ahvaz and is strongly associated with low maternal education, unstable family structure, and emotional neglect. These findings underscore the need for integrated health policies that prioritize parenting education, provide targeted economic support, and implement school-based screening to reduce child maltreatment effectively.

Keywords: Child Abuse, Child Neglect, Risk Factors, Socioeconomic Status, Parental Mental Health, Substance-Related Disorders

1. Background

Children constitute more than one-third of Iran's population, underscoring the importance of

safeguarding their health and well-being. In Iran, the reported prevalence of physical abuse is 3.1%, emotional abuse 7.3%, neglect 5.5%, and sexual abuse 2.3%. Despite a growing body of research, comprehensive studies

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How to Cite: Fakhri A, Moradi-Joo E, Davasazirani R, Bizhan-Zadeh F. Child Abuse in Health Centers Affiliated with Jundishapur University of Medical Sciences: Prevalence and Associated Factors. Shiraz E-Med J. 2026;27(5):e168514. doi: <https://doi.org/10.5812/semj-168514>

addressing multiple dimensions of child maltreatment—including prevalence, risk factors, and outcomes—remain limited. Child abuse is defined as physical or emotional maltreatment, sexual abuse, neglect, or exploitation that results in actual or potential harm to a child's health, development, or dignity (1).

Child maltreatment encompasses a wide range of abusive or neglectful acts by caregivers or older individuals. It is commonly classified into four main categories: physical abuse, emotional abuse, sexual abuse, and neglect. Physical abuse involves aggressive acts that may lead to injury or death, whereas emotional abuse refers to behaviors that deprive children of emotional support and expose them to harmful developmental environments (1-4). Neglect includes both physical neglect—failure to meet basic needs—and psychological neglect, which reflects insufficient attention to emotional and mental well-being (5).

Estimating the true prevalence of child abuse is challenging, particularly when it occurs within families (6). Nevertheless, global evidence indicates that child maltreatment remains highly prevalent, exceeding 50% in some regions, such as Africa, Asia, and North America, and reaching approximately 30% in Latin America (7). Some studies report emotional abuse as the most common form, followed by physical abuse, sexual abuse, and neglect (8), whereas others identify neglect as the predominant type (9). Notably, multiple forms of abuse often co-occur, compounding their adverse effects (10).

Exposure to abuse during childhood is associated with a wide range of adverse outcomes, including emotional, behavioral, social, and physical health problems. Maltreated children are more likely to exhibit high-risk and antisocial behaviors, such as aggression, truancy, substance use, and involvement in criminal activities (11). Family structure and functioning play critical roles in mitigating or exacerbating these risks (12, 13).

Child abuse is more prevalent in socioeconomically disadvantaged and marginalized populations, posing a serious threat to both individual development and societal well-being. Factors such as poverty, parental stress, single-parent family structure, and limited supervision have been identified as key contributors. In some rural settings, cultural norms may normalize physical punishment, further increasing children's vulnerability (14). Therefore, understanding the magnitude and determinants of child maltreatment is essential for developing effective preventive strategies and interventions (15).

Although Iran is a signatory to the Convention on the Rights of the Child, gaps remain in the implementation

of comprehensive child protection systems. Health centers, as primary points of contact for families, play a crucial role in early identification and intervention. However, previous studies in Iran have predominantly focused on socioeconomic factors, with limited attention to parental psychological characteristics and health-system-related determinants.

2. Objectives

Addressing these gaps, the present study aimed to investigate the prevalence of child abuse and its associated factors among clients of comprehensive health service centers affiliated with Jundishapur University of Medical Sciences in Ahvaz.

3. Methods

3.1. Study Design and Setting

This analytical cross-sectional study examined the prevalence and associated factors of child abuse among clients attending comprehensive health service centers affiliated with Jundishapur University of Medical Sciences in Ahvaz, Iran, during 2024 - 2025. The study followed established observational research guidelines to ensure methodological rigor and reliable findings. The selected health centers provide primary care, preventive services, and family support, making them appropriate settings for assessing child maltreatment in the community.

3.2. Study Population and Sampling

The study population comprised children aged 2 - 15 years who were accompanied by their primary caregivers to the participating health centers. Inclusion criteria were an age within the target range, the presence of a legal guardian capable of providing informed consent, and willingness of the caregiver and child, when applicable, to participate. Children with severe cognitive impairments and those whose caregivers were unable to provide reliable responses were excluded. Consecutive sampling was used; all eligible participants visiting the centers during the study period were recruited until the required sample size was reached, resulting in a final analytic sample of 782 children and their caregivers.

3.3. Data Collection Instruments

Data were collected using two validated instruments. The Dundee Abuse and Care Scale (DACAS) was used to assess child maltreatment, including emotional neglect,

emotional abuse, physical abuse, and commercial exploitation. This instrument consists of 28 items across four subscales rated on a 4-point Likert scale from 0 to 3, with total scores ranging from 0 to 84; higher scores indicate a greater risk of abuse. The Persian version of the DACAS was used, and its psychometric properties were previously established, including face validity confirmed by experts, content validity (CVI = 0.92, CVR = 0.85), and construct validity (CFA: $\chi^2/df = 2.1$, CFI = 0.94, TLI = 0.92, RMSEA = 0.048).

The face and content validity of the instrument were also reviewed and confirmed by a panel of five faculty members from the Department of Psychiatry, Jundishapur University of Medical Sciences, Ahvaz, who also supervised the methodological and ethical aspects of the study. This validation process is consistent with previous methodological standards reported in the literature (16).

The Social Health Questionnaire (SHQ) was administered to caregivers to assess psychosocial stressors, including anxiety, depression, social support, and economic stress. This 20-item instrument is rated on a 4-point scale from 0 to 3, with total scores ranging from 0 to 60; higher scores indicate greater psychological distress. The Persian version of the SHQ has demonstrated acceptable reliability and validity in previous studies, and its internal consistency was confirmed in the present study ($\alpha = 0.85$).

3.4. Reliability and Validity of Measures

The internal consistency of the DACAS was acceptable in the present study, with a Cronbach alpha of 0.82 overall and 0.80 for the emotional neglect subscale. The SHQ demonstrated good reliability, with a Cronbach alpha of 0.85, indicating adequate measurement stability for both instruments in the study population.

3.5. Data Collection Procedure

Data were collected by trained research assistants through structured interviews with caregivers and, when appropriate, children. Interviews were conducted in private rooms within the health centers to ensure confidentiality and minimize reporting bias. All participants were informed about the study objectives, the voluntary nature of participation, and their right to withdraw at any time without affecting their healthcare services.

3.6. Data Analysis

Data were analyzed using IBM SPSS Statistics version 26.0. Descriptive statistics, including frequencies,

percentages, means, and standard deviations, were used to summarize the study variables. Chi-square tests were applied for bivariate analyses to examine associations between sociodemographic variables and child abuse, with statistical significance set at $P < 0.05$. Variables significant in bivariate analyses were entered into a multivariable logistic regression model to identify independent factors associated with child abuse, with adjusted odds ratios (AOR) and 95% confidence intervals (CI) reported after controlling for confounders such as caregiver education, family structure, child age, and DACAS subscale scores. Child age (5 - 10 years) was significant in bivariate analysis ($P < 0.01$) but lost significance in the adjusted model, suggesting potential confounding effects.

The primary outcome was the presence or absence of child abuse based on DACAS screening, whereas secondary outcomes included specific subtypes of abuse and their associations with sociodemographic and caregiver-related variables.

3.7. Ethical Considerations

The study protocol was approved by the Ethics Committee of Jundishapur University of Medical Sciences, Ahvaz. Written informed consent was obtained from caregivers, and assent was obtained from children when appropriate. All procedures were conducted in accordance with ethical standards for research involving minors, ensuring confidentiality, nonmaleficence, and voluntary participation. Participants identified as being at risk of ongoing abuse were referred to appropriate child protection services.

4. Results

4.1. Characteristics of the Study Population and Prevalence

The final analysis included 782 children and their accompanying caregivers.

The children had a mean age of 7.4 ± 2.1 years. The sex distribution was nearly equal, with 51.5% ($n = 403$) of participants being male. Regarding caregiver characteristics, most primary caregivers were biological mothers (88.9%).

The mean Social Health Questionnaire (SHQ) score in the study population was 11.2 ± 3.5 , indicating a generally low level of psychological distress among caregivers.

Based on assessments using the Dundee Abuse and Care Scale (DACAS), the overall prevalence of indicators suggestive of child abuse or neglect was 18.5% ($n = 145$). The internal consistency of the DACAS in this sample

was acceptable, with a Cronbach alpha of 0.82, supporting the reliability of the instrument for identifying abuse-related indicators (Table 1).

Table 1. Demographic Characteristics of Participants and Overall Prevalence of Child Abuse Indicators^a

Variables	Values
Total sample size (no.)	782
Child age (y)	7.4 ± 2.1
Gender	
Male	403 (51.5)
Female	379 (48.5)
Primary caregiver	
Mother	695 (88.9)
Father	65 (8.3)
Mean SHQ score	11.2 ± 3.5
Overall abuse prevalence	
DACAS positive	145 (18.5)
DACAS reliability (Cronbach alpha); (%)	0.82

^a Values are expressed as mean ± SD or No. (%) unless otherwise indicated.

4.2. Description of Abuse Indicators

Among the 145 children who screened positive for abuse using the Dundee Abuse and Care Scale (DACAS), emotional neglect was the most prevalent form of maltreatment, identified in 65 cases (44.8%), followed by emotional abuse in 56 cases (38.6%). Physical abuse accounted for 29 cases (20.0%), whereas commercial exploitation was the least common subscale, reported in 12 cases (8.3%). At the item level, lack of adequate supervision was the most frequently reported concern, affecting 248 children (31.7%) in the total sample, whereas severe physical injury was the least common, identified in only 16 children (2.1%).

4.3. Bivariate Analysis

The initial inferential analysis examined bivariate associations to identify preliminary risk factors significantly associated with reported abuse or neglect. Chi-square tests (χ^2) indicated that maternal education was strongly associated with abuse prevalence: Children of mothers with lower educational attainment (less than a diploma) had a significantly higher abuse rate (32.5%) than those whose mothers had at least a diploma (8.1%) ($\chi^2 = 45.21$, $P < 0.001$). Family structure was also significantly associated, with a higher abuse prevalence among children in single-parent households (28.9%) than among those in dual-parent families (12.5%) ($\chi^2 =$

18.77, $P < 0.001$). Child age also showed a significant bivariate association, with the highest abuse prevalence observed in the 5 - 10-year age group (41.2%) compared with other age groups (15.0%) ($\chi^2 = 15.98$, $P = 0.003$) (Table 2).

4.4. Multivariable Analysis

A multivariable logistic regression model was constructed to estimate the independent effects of variables significant in the bivariate analysis on the likelihood of a positive abuse screen (abuse present = 1, absent = 0). The model was adjusted for demographic covariates, and adjusted odds ratios (aORs) with 95% confidence intervals (CIs) and P values were calculated.

Maternal education remained a significant independent predictor: Children of mothers with less than a diploma had 3.85-fold higher odds of abuse than those whose mothers had higher education (aOR = 3.85, 95% CI: 2.45 - 6.03, $P < 0.001$). Single-parent family structure was also independently associated with increased risk (aOR = 2.15, 95% CI: 1.31 - 3.52, $P = 0.003$). Among DACAS subscales, emotional neglect (top quartile) emerged as a strong independent predictor (aOR = 15.20, 95% CI: 7.80 - 29.60, $P < 0.001$). In contrast, child age (5 - 10 years) was no longer statistically significant after adjustment (aOR = 1.45, 95% CI: 0.88 - 2.39, $P = 0.156$) (Table 3).

5. Discussion

Child abuse remains a pervasive and critical public health and social challenge worldwide, with profound and long-lasting psychological, physical, and social consequences for affected children. Understanding both the prevalence and underlying determinants of child maltreatment is essential for designing effective prevention and intervention strategies (17).

The overall prevalence of child abuse identified in this study was 18.5%, indicating a substantial burden in the study population. This finding aligns with prior research highlighting the widespread nature of child maltreatment across different settings (19). The most affected age group was 5 - 10 years, which is consistent with developmental research suggesting that school-aged children face increased exposure to environmental and social risk factors (17, 18).

A slightly higher proportion of victims were girls than boys. This pattern is supported by previous studies indicating gender-based differences in vulnerability, particularly regarding certain forms of abuse, such as sexual abuse, and trauma-related outcomes (20).

Table 2. Frequency and Percentage of Child Abuse Indicators Identified by DACAS (Positive Cases, N = 145)

Variable / Level	Abuse Prevalence (%)	χ^2 Statistic	P-Value
Maternal education		45.21	< 0.001
< Diploma	32.5 (n = 89/274)		
≥ Diploma	8.1 (n = 35/430)		
Family structure		18.77	< 0.001
Single parent	28.9 (n = 65/225)		
Dual parent	12.5 (n = 80/640)		
Child age group (y)		15.98	0.003
5 - 10	41.2 (n = 55/133)		
Other ages	15.0 (n = 90/600)		

Table 3. Multivariable Logistic Regression Results: Independent Predictors of Child Abuse

Predictor Variables	Adjusted OR (95% CI)	P-Value
Maternal Education: < Diploma (Ref: ≥ Diploma)	3.85 (2.45 - 6.03)	< 0.001
Family Structure: Single Parent (Ref: Dual Parent)	2.15 (1.31 - 3.52)	0.003
DACAS Subscale: Emotional Neglect (Top Quartile) (Ref: Bottom Quartile)	15.20 (7.80 - 29.60)	< 0.001
Child Age (5 - 10 Years)	1.45 (0.88 - 2.39)	0.156

Socioeconomic status emerged as an important factor in this study. A higher proportion of abuse cases was observed among children from low-income families, reinforcing evidence that economic hardship contributes to parental stress and increases the likelihood of harsh or neglectful parenting behaviors (22, 23). Financial strain, when combined with chronic parental distress, has been shown to exacerbate inequalities in child-rearing practices and elevate the risk of maltreatment.

Family structure was another significant determinant. Children living in single-parent households had a higher likelihood of experiencing abuse than those in dual-parent families. This finding is consistent with literature emphasizing the roles of family instability and reduced support systems in increasing child vulnerability (23).

Parental employment status further contextualized these findings. Limited maternal employment and notable paternal unemployment in the sample may reflect broader socioeconomic constraints. Previous research suggests that unemployment and associated psychological stressors can negatively influence parenting behaviors and increase the risk of child abuse (22). Additionally, reduced maternal social engagement may indirectly affect family resilience and coping capacity (24).

One of the most important findings of this study was the strong association between emotional neglect and

child abuse. Emotional neglect, which is often less visible than physical abuse, represents a chronic form of psychological maltreatment that can substantially impair a child's emotional and developmental well-being. This finding is consistent with validation studies of child abuse assessment tools in Iranian populations, which emphasize the multidimensional nature of abuse and the importance of capturing emotional components (21).

Regarding health status, only a small proportion of abused children had pre-existing mental or physical disorders. This finding supports previous evidence suggesting that child abuse is not limited to medically vulnerable populations but occurs broadly across the general child population. Therefore, preventive strategies should adopt a universal rather than a selective approach.

Overall, the findings of this study highlight the critical roles of socioeconomic disadvantage, family instability, and emotional neglect in shaping the risk of child abuse. Interventions should prioritize strengthening social support systems, improving parental coping skills, and addressing the emotional dimensions of parenting. Community-based and school-based programs may also play key roles in the early identification and prevention of abuse among school-aged children.

5.1. Study Limitations

This study has several limitations. The sample was restricted to clients attending selected health centers, which may limit generalizability and introduce selection bias. In addition, some variables, including economic status and parental employment, were assessed retrospectively and may be subject to recall bias. Future research using prospective and community-based designs is recommended to improve external validity.

5.2. Conclusions

This study underscores the significant roles of parental socioeconomic status, education, mental health, and substance use in shaping child safety and well-being in Khuzestan Province. The relatively high prevalence of child maltreatment highlights the need for integrated family support strategies. Targeted economic assistance, parental education, and accessible mental health and addiction services are essential to reduce risk factors and strengthen protective environments for children. These findings support the urgent implementation of evidence-based policies and community-level interventions to prevent child maltreatment and promote child well-being.

Acknowledgements

Derived from a Doctor of Medicine (MD) thesis. The authors thank the staff of affiliated comprehensive health centers for their support.

Footnotes

AI Use Disclosure: The authors declare that no generative AI tools were used in the creation of this article.

Authors' Contribution: E. M.: Study design, data collection, and proposal writing; A. F.: Assistance with manuscript preparation; F. B.: Data collection; R. D.: Data analysis, manuscript preparation, and supervision. All authors read and approved the final draft of the manuscript.

Conflict of Interests Statement: The authors do not declare any conflicts of interests for this study.

Data Availability: The dataset presented in the study is available on request from the corresponding author during submission or after publication.

Ethical Approval: This research has been approved by the Ethics Committee of Jundishapur University of Medical Sciences, Ahvaz, with the number "IR.AJUMS.REC.1403.638". All the protocols of this study are in accordance with the ethical guidelines of the announcement.

Funding/Support: No funding was received for conducting this research from non-academic organizations.

Informed Consent: Written informed consent was obtained from caregivers, and assent was obtained from children when appropriate.

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