

Child neglect in Saudi Arabia

The neglected form of child maltreatment

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ABSTRACT

الأهداف: إلقاء الضوء على أنواع وخصائص الأسرة وعوامل الخطر ونتائج إهمال الأطفال في المملكة العربية السعودية.

المنهجية: أجريت مراجعة بأثر رجعي في مستشفى الملك عبد الله التخصصي للأطفال، الشؤون الصحية بوزارة الحرس الوطني، الرياض، المملكة العربية السعودية. حيث قمنا بمراجعة حالات إهمال الطفل التي تم تشخيصها من قبل الفريق المشتبه في إساءة معاملة الأطفال وإهمالهم (SCAN). واستخراج بيانات من الملفات الإلكترونية للمرضى وسجلات فريق SCAN.

النتائج: تشخيص مجموعته 309 حالة من حالات إهمال الأطفال بين عامي 2015-2019م. كان متوسط عمر الضحايا 4.4 ± 4.1 عام، وكان 51.8% من الذكور. كان إهمال الإشراف الشكل الأكثر شيوعاً (63.1%)، يليه الإهمال الطبي (39.2%)، والإهمال العاطفي (6.8%)، والإهمال الجسدي (5.5%)، والإهمال التعليمي (3.2%). كان الأطفال الذين تتراوح أعمارهم بين سنة واحدة وثلاث سنوات أكثر عرضة للوقوع ضحية للإهمال الإشرافي 3.3 مرات، وكانت الفتيات 4.5 مرات أكثر عرضة للإهمال التعليمي. كان الأطفال الذين يعيشون مع 4 أشقاء أكثر عرضة 7 مرات للإهمال الجسدي و 1.9 مرة للإهمال الطبي. وفيما يتعلق بالإهمال العاطفي، كان أطفال الآباء العاطلين عن العمل أكثر عرضة 3.5 مرات للإهمال الأبوي من أطفال الآباء العاملين. كان تفاقم المرض الأساسي (30%) والإصابات الداخلية (23.5%) من أكثر عواقب الإهمال شيوعاً. تم توثيق الوفيات المنسوبة إلى الإهمال في 8 (2.6%) أطفال.

الخلاصة: على الرغم من شيوع إهمال الأطفال في المملكة العربية السعودية، إلا أنه لم يتم التعرف عليه كسبب مهم لمرض ووفيات الأطفال. مما يشير إلى الحاجة إلى بروتوكول وطني يساعد في تحديد العائلات المعرضة للخطر من للكشف المبكر وتنفيذ برامج الوقاية.

Objectives: To shed light on types, family profiles, risk factors, and outcomes of child neglect in Saudi Arabia.

Methods: A retrospective chart review was carried out at King Abdullah Specialized Children's Hospital, Ministry of National Guard Health Affairs, Riyadh, Saudi Arabia. Cases of child neglect diagnosed by the Suspected Child Abuse and Neglect (SCAN) team were reviewed. Data were extracted from patients' electronic charts and SCAN team records.

Results: A total of 309 cases of child neglect were diagnosed between 2015-2019. Mean age of victims was 4.4 ± 4.1 years, and 51.8% were male gender.

Supervisory neglect was the most common form (63.1%), followed by medical neglect (39.2%), emotional neglect (6.8%), physical neglect (5.5%), and educational neglect (3.2%). Children between the ages of one and 3 years were 3.3 times more likely to be victims of supervisory neglect and girls were 4.5 times more likely to be victims of educational neglect. Children living with ≥ 4 siblings were 7 times more likely to be victims of physical neglect and 1.9 times of medical neglect. With regard to emotional neglect, children of unemployed fathers were 3.5 times more likely to be parentally neglected than children of employed fathers. Worsening of the underlying disease (30%) and internal injuries (23.5%) were the most common consequences of neglect. Mortality attributed to neglect was documented in 8 (2.6%) children.

Conclusion: Although child neglect is common in Saudi Arabia, it has not been recognized as an important cause of morbidity and mortality of children. This implies the need for a national protocol that would help identify high-risk families for early detection and implementation of prevention programs.

Keywords: child abuse, child neglect, child maltreatment, Saudi Arabia

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Child maltreatment is a universal problem with severe life-long consequences. It can be found in various forms; physical, sexual, emotional abuse, neglect, and even witnessing violence.¹ International reports have shown that approximately 3 out of 4 children aged 2-4 years are exposed to physical or psychological abuse by their parents and caregivers.² Various data on the widespread occurrence and prevalence of child maltreatment and its impact on victims and families are available in the Western literature. However, little has been published in Arab countries, including Saudi Arabia.³⁻⁶ Most of the data on the incidence and prevalence of child maltreatment indicated that neglect is the most common form of abuse. In the Netherlands, the overall prevalence of child maltreatment was reported to be 26-37 cases per 1000 children, with physical neglect reported at 197/1000 and emotional neglect at 484/1000, which is considered high compared to other forms of child maltreatment.⁷

Although child neglect is the most common form of maltreatment, many studies from Saudi Arabia and other countries have focused on other types of child maltreatment, such as physical and sexual abuse.^{8,9} Child neglect has been identified as a neglected form of child maltreatment by researchers in the field, and recently, few articles from the United States of America (USA) and other countries have focused on this form of abuse.¹⁰ According to the World Health Organization (WHO) report on violence and health, child neglect is defined as the failure of a parent to provide for the development of the child - where the parent is in a position to do so - in one or more of the following areas: health, education, emotional development, nutrition, shelter, and safe living conditions.¹¹

Recently, various studies have been carried out to determine family characteristics that raise suspicion of child abuse and neglect. A study carried out in Saudi Arabia in 2016, described young parents with low educational level, children living with single parents or large family size more than 6, and divorce as significant risk factors predisposing to child abuse and neglect.¹² Many child maltreatment reports exist in various child protection centers in Saudi Arabia. However, only few studies have been carried out to determine characteristics of neglect such as prevalence, risk factors, consequences, and outcomes as a separate entity. The different types, severity, risk factors, and outcomes related to neglect

cases have neither been separately identified, nor studied thoroughly in this region. Failure to identify these specific risk factors, early in the child's developmental process may have an impact on the well-being and safe guarding of children.

Different subtypes of neglect exist, such as physical, emotional, and educational neglect.¹³ In 2015, the USA Army Community investigated types, causes, and impact of child neglect, and they reported 5 types and 17 subtypes of neglect with different combinations and a wide spectrum of outcomes, it was also found that lack of supervision was the most common type.¹⁴ At the national level, in 2018, a study was carried out in Saudi Arabia to retrospectively analyze non-accidental fractures in abused children and concluded that neglect was the most common cause of non-accidental fractures, accounting for 52% of all fractures.⁸ In 2019, a meta-analysis of 15 studies on child maltreatment carried out in Saudi Arabia found that child abuse is prevalent, and physical abuse and neglect in particular were the most reported forms of abuse in all 15 studies, with an overall prevalence rate of 15%. However, the meta-analysis revealed many shortcomings in Saudi Arabian studies, including small sample sizes, limited regional applicability, and lack of a national survey. The author recommend more researches in the field in order to fill in the lack of data.^{15,16}

Although child neglect is the most common form of maltreatment and the most common type leading to morbidity and mortality, it is the least reported form by social protection agencies.¹⁷⁻¹⁹ Nowadays, attention has been directed towards the early identification and prevention of neglect, as it is the major cause of physical injury and death in children, in addition to its dismal psychological outcome. Therefore, studies are needed to examine specific risk factors and their relationship with different types of neglect in order to implement prevention programs more efficiently. The aim of this study is to identify the incidence, types and subtypes of neglect, risk factors, and family profile of neglected children in Riyadh, Saudi Arabia, in order to implement evidence-based prevention programs. In addition, this study assesses the outcomes and consequences of neglect in children, such as morbidity and mortality, in order to raise awareness of the importance of early recognition and follow-up of neglected children and their families.

Methods. This study used a cross-sectional retrospective chart review design. The inclusion criteria includes all children under the age of 14 years diagnosed with neglect by the Suspected Child Abuse and Neglect (SCAN) team at King Abdullah Specialized Children's

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Hospital (KASCH) Riyadh, Saudi Arabia over a 5-year period between 2015-2019. Any case that was not confirmed as child maltreatment by the SCAN team was excluded. All selected patients were referred to the social services department of the Ministry of Social Affairs for further home evaluation and follow-up.

The research project was reviewed and approved by King Abdullah International Medical Research Center, Riyadh, Saudi Arabia (IRB#: RC 19/298/R). No consent was needed. Hence, it is a retrospective chart review project. Confidentiality was maintained throughout the study period.

King Abdullah Specialized Children's Hospital is considered one of the largest tertiary care hospitals in Saudi Arabia. The hospital serves the population of the National Guard and their dependents, as well as referrals for patients requiring tertiary care support across the Kingdom. The SCAN team at KASCH is a multidisciplinary team established in 2005, whose primary function is to evaluate cases of child abuse seen at KASCH or referred from outpatient facilities of the National Guard Health Affairs. The team composed of a pediatrician who is the team leader and a representative from social service, mental health, nursing, and military police departments, in addition to other departments as needed according to the case being evaluated. It evaluates approximately 100-120 potential child maltreatment cases per year and is considered a referral center for complicated cases of child abuse in the country. Therefore, collecting data from this clinical child protection section, allows for large sample of cases and encourages other hospitals to create a similar clinical division.

All suspected cases of child abuse referred to KASCH (in both emergency and outpatient clinics) were reviewed by members of the SCAN team, consisting of physicians, nurses, psychologist, social workers, and military police with extensive experience in the management of child abuse and neglect cases. The SCAN team also reported all confirmed or suspected cases of child abuse and neglect to the social service departments and local law enforcement agencies in Saudi Arabia, as mandated by the Saudi National Child Protection Law.²⁰

Data was collected using electronic medical records (BESTCare) which is the National Guard's official health information system (HIS), and from the SCAN team records at KASCH, Riyadh, Saudi Arabia. Missing data from HIS and SCAN team records were obtained from the social services department, where cases forwarded for further follow-up. Data collection sheets

recorded the following information: demographic data, date of admission, type of neglect, subtype, duration of hospital stay, outcome, consequences, associated injuries and health problems, complications, perpetrators, post-injury status, and detailed family profile.

Statistical analysis. Statistical analysis of clinical, social, and economic status pertaining to child neglect data was carried out. Different types and subtypes of neglect were specified. Pearson's Chi-square test analysis was used to compare types of neglect and demographic variables. All data were analyzed using the Statistical Package for the Social Sciences, version 21.1 (IBM Corp., Armonk, NY, USA).

Results. Overall, 510 cases of child maltreatment were diagnosed by the SCAN team from January 2015 to December 2019. Of these, 309 (60.5%) cases were identified as neglect, all of which were included in the final analysis.

Table 1 shows the sociodemographic characteristics of all neglected children and their family profiles, including: age, gender, living arrangements, family size, and type of neglect. Mean age of victims was 4.4 ± 4.1 years and 51.8% were boys.

The majority (87.4%) of neglected cases lived with both parents, while 8.7% lived with a single parent. More than half (55.7%) lived in a family of ≥ 6 people (including parents), while 46.6% had ≥ 4 siblings in the family. An underlying disability was reported in only 14% of the victims of neglect. In terms of parental information, 61.5% of fathers were employed and 8.1% of mothers were employed. Supervisory neglect was the most common form of neglect accounting for 63.1%, followed by medical neglect (39.2%), emotional neglect (6.8%), physical neglect (5.5%), and educational neglect (3.2%).

Table 2 shows a more detailed examination of the relationship between different types of child neglect and demographic characteristics. Results of Chi-square tests reported a statistically significant age difference, with older children experiencing medical neglect ($p < 0.01$) and younger children experiencing supervisory neglect ($p < 0.01$). Females were more likely to experience educational neglect as compared to males ($p < 0.05$). Those living with a single parent were more likely to experience emotional neglect ($p < 0.05$). Compared to children with less than 4 siblings, those with 4 or more siblings were significantly more likely to report physical neglect ($p < 0.01$), medical neglect ($p < 0.01$), and educational neglect ($p < 0.05$). Those with history of underlying disability were more likely to experience medical neglect ($p < 0.01$; **Table 3**).

Table 1 - Demographic information on child neglect victims in Saudi Arabia (N=309).

Variables	n (%) [*]
Victim's age, mean±SD	4.4±4.1
<i>Victim's gender</i>	
Male	160 (51.8)
Female	143 (46.3)
<i>Living arrangements</i>	
Live with both parents	270 (87.4)
Live with single parent	27 (8.7)
Live with extended family member	6 (1.9)
<i>Family size (including parents)</i>	
<6	91 (29.4)
≥6	172 (55.7)
<i>Number of siblings (category)</i>	
<4	121 (39.2)
≥4	144 (46.6)
<i>Father's employment</i>	
Yes	190 (61.5)
No	110 (35.6)
<i>Mother's employment</i>	
Yes	25 (8.1)
No	276 (89.3)
<i>Victim's disability</i>	
Yes	44 (14.2)
No	259 (83.8)
<i>Types of neglect</i>	
Physical	17 (5.5)
Medical	121 (39.2)
Supervisory	195 (63.1)
Educational	10 (3.2)
Emotional	21 (6.8)

^{*}Percentages may not sum up to 100 due to missing data. Data are presented as a number and percentage (%). Pearson's Chi-square test analysis was used to compare types of neglect and demographic variables. SD: standard deviation

Figure 1 illustrates types of physical injuries reported in neglected children during the initial diagnosis. Worsening of the underlying disease was the most common physical presentation that mandated a consultation by the SCAN team and accounting for one-third (30.1%) of cases, followed by internal injuries sustained after a questionable accidental trauma at 23.5%. Other physical presentations of neglected children were as follows: burns 13.9%, ingestion and poisoning 11.3%, near drowning 5.3%, lack of vaccination 4.3%, abandonment 4%, superficial injuries and lacerations 3.6%, failure to thrive 2.6%, and suffocation 1.3%. The death of 8 (2.6%) children was attributed to neglect, while 14 (4.5%) children suffered severe injuries resulted in long-term disabilities.

Table 4 shows odds ratios (ORs) of factors associated with different types of child neglect. It was found that children living with 4 or more siblings were 7 times more likely to be victims of physical neglect and 1.9 times more likely to be victims of medical neglect. Children between the ages of 1-3 were 3.3 times more likely to be victims of supervisory neglect. Girls were 4.5 times more likely to be educationally neglected than boys. Children of unemployed fathers were 3.5 times more likely to be emotionally neglected by their parents than children of employed fathers.

Discussion. This study was designed to assess incidence of 5 types of child neglect in a large tertiary care children's hospital in Riyadh, Saudi Arabia. We found that the most common form of neglect was supervisory neglect (63.1%), followed by medical neglect (39.2%).

Table 2 - Prevalence of different types of child neglect by demographics.

Types	Age						Gender			Living arrangements				Number of siblings		
	<1	1-3	>3-5	>5-12	>12	P-value	Male	Female	P-value	Live with both parents	Live with single parent	Live with extended family members	P-value	<4	≥4	P-value
Physical	2 (4.8)	7 (5.3)	2 (8.7)	4 (4.3)	2 (14.3)	NS	10 (6.3)	7 (4.9)	NS	14 (5.2)	3 (11.1)	0 (0.0)	NS	2 (1.7)	15 (10.4)	<0.01
Medical	17 (40.5)	40 (30.5)	7 (30.4)	51 (54.8)	6 (42.9)	<0.01	68 (42.5)	53 (37.1)	NS	108 (40.0)	12 (44.4)	1 (16.7)	NS	37 (30.6)	69 (47.9)	<0.01
Supervisory	31 (73.8)	102 (77.9)	14 (60.9)	42 (45.2)	6 (42.9)	<0.01	101 (63.1)	94 (65.7)	NS	175 (64.8)	17 (63.0)	3 (50.0)	NS	85 (70.2)	86 (59.7)	NS
Educational	0 (0.0)	1 (0.8)	0 (0.0)	8 (8.6)	1 (7.1)	<0.05	2 (1.3)	8 (5.6)	<0.05	8 (3.0)	2 (7.4)	0 (0.0)	NS	1 (0.8)	9 (6.3)	<0.05
Emotional	3 (7.1)	4 (3.1)	2 (8.7)	10 (10.8)	2 (14.3)	NS	12 (7.5)	9 (6.3)	NS	15 (5.6)	5 (18.5)	1 (16.7)	<0.05	11 (9.1)	10 (6.9)	NS

Data are presented as a number and percentage (%). Pearson's Chi-square test analysis was used to compare types of neglect and demographic variables. NS: not significant

Generally, parents, guardians, babysitters, and other caregivers are expected to protect children from harmful people or situations. Researchers have confirmed that many young children are injured in their own homes due to lack of supervision.²¹⁻²⁴ Based on the literature, 'supervisory neglect' leads to more injuries and fatalities than any other form of child maltreatment.²⁵ In the USA, it is estimated that 4 children are seriously injured each day due to the direct negligence of their caregivers.²⁶ In 2012, a Canadian study found that failure to adequately supervise children caused physical harm to at least 12,793 Canadian children annually.²⁷ Moreover, unintentional injuries were the leading cause of death among children and adolescents aged 1-15 years in Canada in 2009.²⁸

Our finding suggested that there was a significant relationship between the age group and supervisory

neglect, children aged 1-3 years were 3.3 times more likely to be victims of supervisory neglect compared to older age groups. Neglected children have a higher incidence of internal injuries, superficial injuries, burn, ingestion, and poisoning compared to non-neglected children, which in some cases has a strong impact on outcomes including permanent disability, long-term hospitalization, and death.^{22-24,29} Unfortunately, reporting of supervisory neglect may be missed due to the many barriers faced by pediatricians or emergency department physicians, such as lack of knowledge and training, or fear of damaging the relationship with the child's family.³⁰ In addition, there are no specific guidelines designed or clearly defined levels of supervision designed to help physicians in reporting suspected cases of supervisory neglect in the pediatric sector or emergency department.¹⁵

Table 3 - Relationship between child neglect and underlying disability.

Types	Underlying disability		P-value
	Yes	No	
Physical	3 (6.8)	14 (5.4)	NS
Medical	29 (65.9)	92 (35.5)	<0.01
Supervisory	16 (36.4)	179 (69.1)	<0.01
Educational	0 (0.0)	10 (3.9)	NS
Emotional	5 (11.4)	16 (6.2)	NS

Data are presented as a number and percentage (%). Pearson's Chi-square test analysis was used to compare types of neglect and demographic variables. NS: not significant

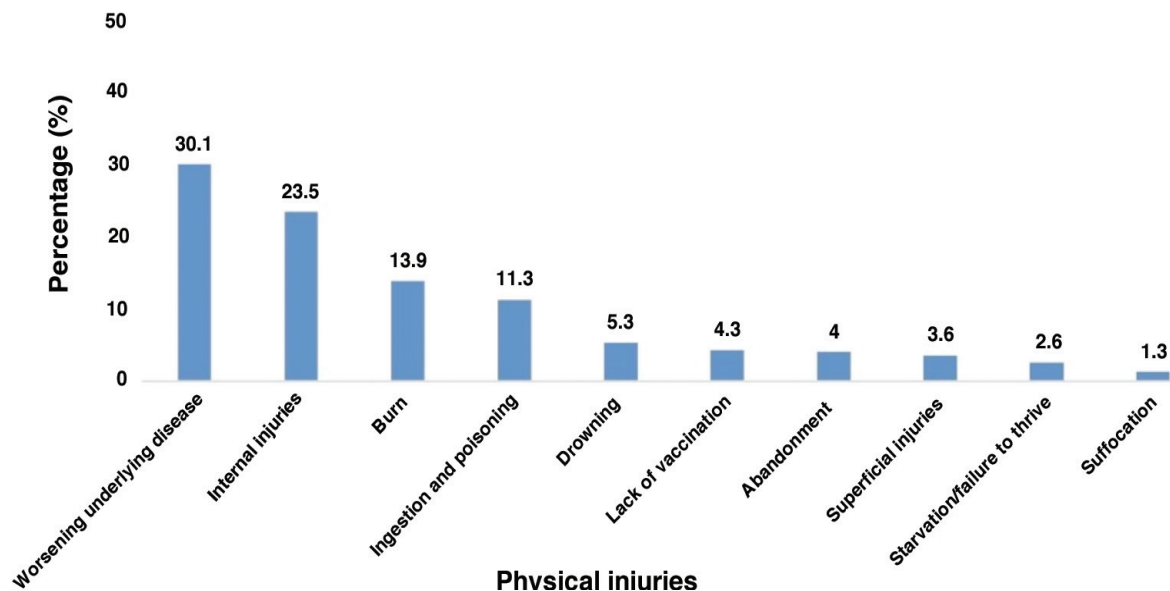


Figure 1 - Types of physical injuries reported in neglected children during the initial diagnosis.

Table 4 - Factors associated with child neglect in Saudi Arabia.

Variables	Physical (n=17)	Medical (n=121)	Supervisory (n=195)	Educational (n=10)	Emotional (n=21)
	OR (95% CI)				
<i>Victim's age*</i>					
<1	0.5 (0.0-4.5)	1.2 (0.3-4.3)	3.2 (0.8-12.3)	-	0.6 (0.0-4.8)
1-3	0.8 (0.1-4.7)	0.9 (0.2-2.9)	3.3 (1.0-11.1)	0.1 (0.0-3.1)	0.2 (0.0-1.7)
>3-5	1.4 (0.1-12.5)	0.6 (0.1-3.1)	1.6 (0.3-7.2)	-	0.9 (0.1-9.0)
>5-12	0.4 (0.0-3.0)	2.0 (0.6-6.7)	0.9 (0.2-3.1)	1.7 (0.1-16.1)	0.8 (0.1-4.8)
Victim's being female [†]	0.7 (0.2-2.0)	0.7 (0.4-1.1)	1.1 (0.6-2.0)	4.5 (1.1-22.8)	0.8 (0.3-2.1)
Number of siblings [§]	7.0 (1.5-32.9)	1.9 (1.1-3.3)	0.8 (0.4-1.4)	6.2 (0.7-52.4)	0.4 (0.1-1.3)
Father's unemployment [‡]	1.3 (0.4-3.8)	1.1 (0.6-2.1)	0.5 (0.3-1.0)	0.9 (0.2-3.8)	3.5 (1.3-9.3)

Pearson's Chi-square test analysis was used to compare types of neglect and demographic variables. *Reference is age >12, †reference is male gender, §reference is ≤4 siblings, ‡reference is father's employment, OR: odd ratio, CI: confidence interval

Large families may require more parental discipline and an increased level of parental stress, which may contribute to child abuse.³¹ As shown in this study, children with ≥4 siblings had a significantly higher rate of physical and medical neglect. The World Report on Violence and Health highlights that child abuse is 3 times more likely to be experienced in families with more than 4 children than in families with less than 4 children.^{11,21} In Saudi Arabia, a study was carried out to determine the family profiles of neglected and abused children, and they found that children living in households with ≥6 members were more likely to be abused and neglected compared to smaller families.¹² Internationally, a study was carried out in 2019 to define the association between family profiles and child neglect, and they concluded that a larger family size was associated with the risk of not being able to meet children's physical needs with the risk of supervisory neglect.¹⁴ Similarly, physical abuse and neglect were the prominent types of maltreatment among Singaporean children living with a large number of household and extended family members.³² Moreover, in a sample of 6,163 children from 112 child welfare sites across Canada, they found that families experiencing more than one type of child neglect also frequently suffered from running out of money (30.7%), household overcrowding, and unsafe housing (30.9%).³³

Children with disabilities are at increased risk of child maltreatment. In the current study, we found that children with a history of an underlying disability were more likely to experience medical neglect. Maclean et al³⁴ carried out a study in 2017 to assess the risk of maltreatment of children with disabilities (including children with intellectual disabilities, mental/behavioral problems) and found that the most common form of maltreatment was neglect. In 2015, a study

was carried out to compare the risk of maltreatment in normal and disabled children, and they concluded that the risk of maltreatment increased by 40% compared to children without birth defects. Moreover, they found a 3-6 times higher risk of medical neglect in such patients compared to normal children.³⁵ Furthermore, studies have shown that common disabilities such as Down syndrome and autism are also suffering from a mild form of neglect since these diseases are well supported socially compared to other uncommon disabilities.³⁴ Thus, further studies are needed to determine the types of disabilities most likely to be neglected.

In our study, we found that worsening of underlying diseases and lack of vaccination were the most common presentations of medical neglect. The consequences of medical neglect can be fatal. In a review of 1770 deaths due to child abuse, 72.8% were reported as neglect, and of those 8.1% were due to medical neglect.³⁶ Although medical neglect seems to be prevalent in this paper, more studies are needed to provide a universal definition of medical neglect since medical neglect can be difficult and sometimes somewhat subjective to assess what meets the minimal standard of health care that parents must provide for their children, and may depend on state laws and medical practices, as well as possibly being complicated by socioeconomic or cultural factors.³⁶

Our study shows that educational neglect is more prevalent among females than males. Although the literacy rate of Saudi females is estimated to be 92.7%, there are still families who are preventing their children from receiving proper education.³⁷ This educational disparity may be linked to the culture among certain families and regions in Saudi Arabia.³⁸ Finally, 8 children died due to neglect in our cohort and 14 suffered a major disability which indicate that neglect is not recognized yet as a major cause of mortality and

morbidity in Saudi Arabia, and prevention strategies should be proposed at all levels in the home, day care, nursery, and institutions. This demonstrates the need to consider neglect as an important form of child maltreatment and not to be neglected.

Study strength and limitations. This study addresses one type of child maltreatment which is neglect which has not been addressed as a single entity in previous studies. The sample size of 309 cases of neglect from one center gives the study significant statistical power to come up with a reasonable conclusions and correlations. Furthermore, our study has several limitations. First, the study population was restricted to an almost homogeneous social sector, namely KASCH, Riyadh, Saudi Arabia. Therefore, the results of the study may not be representative of the entire population of Saudi Arabia and do not allow for generalization of findings. Second, this is a retrospective chart review that does not capture comprehensive information on child neglect.

In conclusion, child neglect is prevalent in Saudi Arabia, with variable risk factors and high rates of morbidity and mortality, requiring increased attention from social workers, child protection workers, law enforcement personnel, and policy makers. These findings point to the need for a protocol that will help identify high-risk families for early detection and implementation of prevention programs. Prevention should be a top priority in terms of raising awareness, involving parents, and empowering teachers to resist child neglect. Preventive measures need to focus on female victims and those between the ages of 1-3. The enactment of 2 laws in Saudi Arabia (the Abuse Prevention Law in 2013 and the Child Protection Law in 2014), will enhance services and case management, thereby improving the long-term social and health wellbeing. Finally, we recommend future longitudinal studies at a national level or at multicenter level to address the impact of child neglect in Saudi Arabia.

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