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Research article

# Characteristic and psychosocial consequences of sexually abused children referred to a tertiary care facility in Oman: Sentinel study



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#### ABSTRACT

*Background:* Child Sexual Abuse (CSA) has been reported from different parts of the world. With regard to countries in the Arabian Gulf, there have been some anecdotal and impressionistic observations of CSA and Oman is no exception.

**Aims:** In order to lay the groundwork for empirical scrutiny of this phenomena, the present study elaborates on the description of the CSA along with exploring the socio-demographic and psychosocial consequences among children with a history of sexual abuse referred to a tertiary care center providing mental services catering to the needs of children and adolescents mental health services (CAMHS).

*Method:* 34 children referred for a one-year period to the CAMHS fulfilled the criteria for inclusion of the study. Socio-demographic, CSA, and psychosocial information were collected for each subject. Chi-square test, Fisher's exact test, and multiple logistic regression analysis was used to explore which variables associated with children having depressive symptoms.

Result: Majority of children abused were female (64.7%, n=22), age below 12 years (67.6%, n=23), and with low family income (85.3%, n=29). Multivariate analysis shows that CSA and psychological variables were significant risk factors for depression. Children who were penetrative abused were more likely (OR = 24.897, p=0.044) to have depression than non-penetrative children. Children who reported problems with sleep-wake cycles (OR = 44.636, p=0.012) were more likely to occurrence of depressive symptoms than children who reported no such problem

Conclusion: The patterns of CSA and its consequences in Oman appears to echo the trends from other parts of the world. As the country is becoming increasingly aware of the international best practice towards CSA, this study will serve as a milestone for more studies in the area using robust methodology.

#### 1. Introduction

Oman has recently ratified the *Convention on the Right of the Child* (CRC) stipulated by UN in 1996 (United Nations, Committee on the Rights of the Child, 2015). The *National Committee for Family Affairs* was established to monitor the implementation of CRC articles. As a result, many policies and programs relevant to the wellbeing of children came to the forefront (United Nations, Committee on the Rights of the Child, 2015). In order to enhance the functioning of an emerging judicial system, it is essential that the country starts to properly document the

description of CSA along with its socio-demographic information and psychosocial consequences. Among a population of 3.1 million, approximately 30.6 % of individuals in Oman fall in the 0–14 age group (Humanium, 2019) and safeguarding their wellbeing is of paramount importance. Empirical studies have indicated that most mental disorders in adulthood begin with experiences contributing to the same during childhood and adolescence (Kessler et al., 2010).

Sexual abuse of minors has been a commonly documented experience known to occur among girls and boys across different age groups and in different strata of societies regardless of ethnicity or geographical

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location (Mathews, 2019). CSA is a form of abuse in which a child is utilized for the sexual gratification of an adult or older adolescent. American Psychological Association defined CSA "as contacts between a child and an adult or other person significantly older or in a position of power or control over the child, where the child is being used for sexual stimulation of the adult or other person" (American Psychological Association, 2013). This definition of CSA also entails exposure of adult genitals to a child or exposing the child to pornography. Emerging issues of child pornography and incest are both an integral part of CSA. In western populations, 3–31% of boys have endured some form of sexual abuse during their formative years. The rate of female sexual abuse varies from 7 to 62% (Singh et al., 2014).

The characteristics of perpetrators of sexual abuse have been forthcoming in the literature. Studies have suggested that perpetrators of sexual abuse are often members of the immediate or extended family of the victim (Peterson et al., 2019). Some studies have examined whether sexual abuse is likely to occur within a family (intrafamilial) or outside the family (extrafamilial) (Johnson et al., 2016). The data appears to point to more intrafamilial trends (Al-Mahroos et al., 2005; Vega-Arce et al., 2019). These include abuse perpetrated by the father and step-father (7% of the cases), uncle or older sibling (16–42%). Teacher and coaches have been documented to also contribute CSA. Among children living in a single-parent house, marital conflict has contributed to a higher risk of sexual abuse. On the other hand, extrafamilial factors appear to play less role in child abuse. There have been a few anecdotal of CSA in Oman (Islam et al., 2013; Al-Saadoon et al., 2012). According to the print media which drew the data from in the Ministry of Social Development in Oman, 721 child abuse cases were registered 2018. Among the total number of different types of child abuse from different regions of Oman, there were 73 cases child sexual abuse (Taha, 2019). While cases of abuse are increasingly coming to the attention of the authorities, studies are needed to define the characteristics and psychosocial consequences of children who have been sexually abused. This has the potential to lay the groundwork for prevention as well as point to the types of services needed.

In order to lay the groundwork for providing more empirical data on CSA in Oman, this study will first provide a proper description of the socio-demographic information of the target samples, and followed by an exploration of the CSA and psychosocial consequences.

# 2. Methods

#### 2.1. Setting

Oman has a universal and compartmentalized healthcare system divided into primary, secondary and tertiary care (Harrison et al., 2019). The present cohort constitutes attendees referred from primary, secondary or other tertiary care centers in the country. As per Oman's healthcare system, the present hospital, Al Masarah Hospital, constitutes a tertiary care center, receiving referrals for child and adolescent mental health services (CAMHS). Al Masarah Hospital is located in the urban areas of Oman with a catchment area of all regions of Oman. In addition to referrals from a healthcare setting, the present CAMHS also received referrals of vulnerable children from other social services and public prosecution including the child protection team under the Ministry of Social Development. The referrals also come from private practitioners within the community surrounding the nation's capital, Muscat and the satellite town. There is also a significant number of self-referrals.

# 3. Study population

The CAMHS is the largest treatment program for children in the country, registering over 2300 outpatient visits annually. For the duration of the study, from January 2017 till December 2017, 34 children were referred to the present CAMHS unit equipped with full-fledged psychological, psychiatric and designed social support in tandem with

social services in the country. The inclusion criteria was there had to be documented sexual abuse during their follow-up at the primary or secondary care. All selected clients had endured sexual abuse at least once but there was no upper limit to the number of the events of abuse.

#### 4. Outcome measures

# 4.1. Socio-demographic information and description of the CSA

In addition to family income/social class (low vs high), the accompanying caregivers were asked whether the perpetrator of sexual abuse was known to the victim and whether he or she is a close relative. The caregivers were also asked to describe the place and type of abuse, number of abusers and whether the abuse was repeated. Information regarding the 'silence period', i.e. the duration of time elapsed between the occurrence of abuse and the time it became known, was sought from the accompanying caregiver.

#### 4.1.1. Quantification of depressive symptoms

With regard to psychological consequences in the presence context, depressive illness was gauged using the semi-structured interview utilizing the style and format of the *Composite International Diagnostic Interview* (CIDI) based on the International classification of Disease (ICD-10) (World Health Organization, 1992). The interview was conducted by senior child and adolescent psychiatrist who had received training in its use. The presence of depressive symptoms was done through protracted deliberation among the authors. No attempt was made to place the subjects into other diagnostic categories in order not to subject the children with protracted interview. CIDI has been employed in various cross-cultural populations including Oman (Jaju et al., 2009).

# 4.2. Quantification of psychosocial variables

In addition to the structured interview, various psychosocial variables were examined for the presence of disturbed sleep-wake cycles, irritability and aggression and secondary nocturnal enuresis. The parents were asked whether there was a deterioration in school performance after the incident of sexual abuse. The parents were also asked whether the children displayed any risk or self-harm behavior. Information regarding the presence of culturally devalued sexual behavior was also sought. All issues pertinent to conduct and functionality were dichotomized: present ('yes') or absent ('no').

# 4.3. Data analysis

Data were analyzed by SPSS 23.0 (IBM SPSS Inc. Chicago, IL, USA) and the results of those associated with depressive symptoms were displayed using descriptive statistics. First, univariate analysis was used and experience of CSA and psychosocial consequences variables were evaluated with Chi-square test and Fisher's exact test to reveal association on depression. Following this, multiple logistic regression analysis was used where depression was the dependent variable and those variables with less than or marginally at 5% in the univariate analysis were the independent variables. This analysis could address the research aim to identify the contributing variables associated with depression.

# 4.4. Ethical approval

This study was granted ethical approval from the Ministry of Health (MH/DGPS/MG117).

Participants were requested to provide written informed consent and was carried out in accordance with the Code of Ethics of the World Medical Association (Declaration of Helsinki) for human experiments.

#### 5. Results

The present study was conducted on 34 children referred to child and adolescent mental health services (CAMHS) during a one-year period. As shown in Table 1, the majority of children abused were female (64.7%, n = 22), age below 12 years (67.6%, n = 23), and with low family income (85.3%, n = 29). In their CSA information, approximately 94% (n = 32) of cases of abuse reported knew the perpetrator as a distant relative. More than 82% (n = 28) abused cases were taking place in the residence and around 29% (n = 10) were abused by a close relative at first degree level. In terms of a number of abusers, the majority (79.4%, n = 27) stated that there was only one abuser. Full sexual penetration occurred in approximately 44% (n = 15) of the cohort. In terms of the silent period, a majority (67.6%, n = 23) reported a time lapse of more than 12 months. No significant association was found on children who reported has depressive symptoms with all the CSA variables except type of abuse (OR = 24.000, p < .001) and abused by a close relative (OR = 9.000, p = 0.051).

In the psychosocial consequences the child sexual abuse variables, no significant association was found on children who reported has depressive symptoms with all psychosocial symptoms except those reported has

experienced disturbance of sleep-wake cycles (OR = 17.600, p = 0.001) and school performance has deteriorated (OR = 7.333, p = 0.030).

In the univariate analysis, type of abuse, abused by a close relative, has experienced disturbance of sleep-wake cycles, and school performance has deteriorated were significantly associated with depressive symptoms, so these four risk factors were included in the logistic regression model for further analysis. Analysis shows that children who were penetrative abused were more likely (OR = 24.897, p = 0.044) to have depression than non-penetrative children. Children who reported problems with sleep-wake cycles (OR = 44.636, p = 0.012) were more likely to occurrence of depressive symptoms than children who reported no such problem.

#### 6. Discussion

CSA is a form of abuse in which a child is utilized for the sexual gratification of an adult or older adolescent (Putnam, 2003). There are many forms of sexual abuse directed toward children, including penetration, molestation, and indecent exposure to sex activities (Robinson, 2019). Trend and types of sexual abuse of children have been reported to

Table 1. Univariate and multivariate (multiple logistic regression) analysis for depression in association of demographic, sexual abuse experiences in childhood, and psychosocial symptoms.

	Variables	Total (n = 34) ${n \text{ (\%)}}$	Depressive symptoms*		Univariate analysis		$Multivariate\ analysis^{\wedge}$	
			Yes (n = 21)	No (n = 13)				
			n (%)	n (%)	OR	<i>p</i> -value	OR	<i>p</i> -value
Demographic								
Gender	Female	22 (64.7)	19 (90.5)	3 (23.1)	31.667	<.001		
	Male	12 (35.3)	2 (9.5)	10 (76.9)				
Age (years)	<12	23 (67.6)	15 (71.4)	8 (61.5)	1.563	0.709		
	12+	11 (32.4)	6 (28.6)	5 (38.5)				
Family income	Low	29 (85.3)	19 (90.5)	10 (76.9)	2.850	0.348		
	High	5 (14.7)	2 (9.5)	3 (23.1)				
Sexual abuse experiences in childhood								
Abuser known the victim	Yes	32 (94.1)	20 (95.2)	12 (92.3)	1.667	0.999		
	No	2 (5.9)	1 (4.8)	1 (7.7)				
Place of abuse	Residence	28 (82.4)	18 (85.7)	10 (76.9)	1.800	0.653		
	Other places	6 (17.6)	3 (14.3)	3 (23.1)				
Abused by a close relative	First degree	10 (29.4)	9 (42.9)	1 (7.7)	9.000	0.051	8.865	0.256
	Distance	24 (70.6)	12 (57.1)	12 (92.3)				
Number of abusers	1	27 (79.4)	18 (85.7)	9 (69.2)	2.667	0.387		
	2+	7 (20.6)	3 (14.3)	4 (30.8)				
Type of abuse	Penetrative	15 (44.1)	14 (66.7)	1 (7.7)	24.000	<.001	24.897	0.044
	Non-penetrative	19 (55.9)	7 (33.3)	12 (92.3)				
Silence period	+1 year	23 (67.6)	17 (81.0)	6 (46.2)	4.958	0.060		
	<1 year	11 (32.4)	4 (19.0)	7 (53.8)				
Psychosocial and clinical variables	'							
The abused displaying disturbance of sleep-wake cycles	Yes	18 (52.9)	16 (76.2)	2 (15.4)	17.600	0.001	44.636	0.012
	No	16 (47.1)	5 (23.8)	11 (84.6)				
The abused school performance has deteriorated	Yes	14 (41.3)	12 (57.1)	2 (15.4)	7.333	0.030	9.475	0.133
	No	20 (58.8)	9 (42.9)	11 (84.6)				
The abused displaying culturally devalued sexual behavior	Yes	16 (47.1)	11 (52.4)	5 (38.5)	1.761	0.497		
	No	18 (52.9)	10 (47.6)	8 (61.5)				
The abused displayed irritability and aggression behavior	Yes	11 (32.4)	7 (33.3)	4 (30.8)	1.125	0.999		
	No	23 (67.6)	14 (66.7)	9 (69.2)				
The abused appears to have secondary nocturnal enuresis	Yes	7 (20.6)	6 (28.6)	1 (7.7)	4.808	0.210		
	No	27 (79.4)	15 (71.4)	12 (92.3)				
The abused frequently displayed risk behavior and self-harm behavior	Yes	7 (20.6)	6 (28.6)	1 (7.7)	4.808	0.210		
	No	27 (79.4)	15 (71.4)	12 (92.3)				

a, Fisher's Exact test; OR, Odds Ratio; \*, based on Composite International Diagnostic Interview (World Health Organization, 1992).

 $<sup>^{\</sup>wedge}$ , Exclude demographic variables, Hosmer and Lemeshow Test,  $\chi^2 = 4.643$ , p = 0.703; Cox & Snell R Square = 0.560; Sensitivity = 95.2%, Specificity = 84.6%, overall predicting power = 91.2%.

occur in all societies around the world. In societies in transition, such as Oman, there is no comprehensive survey to examine the magnitude of sexual abuse within the community. In order to lay the groundwork for such an undertaking, this study aimed to survey the characteristics of sexual abuse and its aftermath among children referred to a tertiary care centre in Oman with dedicated services for child and adolescent mental health (CAMHS).

The first aim of the present exploratory study was to summarize sociodemographic information and characteristics of abuse. From the information obtained from 34 children at the time of the study (12 months), we observed that female victims appear to be overrepresented between the ages 8 and 12. This is consistent with international data suggesting that 8–31% of the victims of sexual abuse are female in contrast to 3%–7% figure for male (Barth et al., 2013). The bulk of the present attendees of CAMHS are of high socioeconomic status. Studies from other countries suggest that sexual abuse peaks between ages 9 and 12 (Kim and Drake, 2019). The present study affirms this observation. One of the more consistent trends in the literature is that sexual abuse tends to be intrafamilial, i.e. the victim and perpetrator either live in close proximity, are closely related or are acquainted (Assink et al., 2019). There is also an indication that sexual abuse by a relative (instances of incest) tend to trigger more adverse outcomes (McClintock, 2019).

In traditional Omani society, family and, often, the extended family, is the center of an individual's life and identity (Al-Adawi, 2006). The perpetrators of sexual abuse of present attendees to CAMHS were distance relatives. Our findings indicate that abuse seems to occur in the victim's residence. The perpetrators appear to have had sexual intercourse with the victim multiple times. One thing that would require more scrutiny is to figure out why the majority of present attendees to CAMHS have had a long period of silence. It is possible that in a society where obedience to the elder is part of the social protocol, 'spilling the bean' on the bad deed of a relative might be dismissed as an unwanted intrusion in a society that upholds the importance of the extended family (Al-Adawi, 2006).

Literature is rife with the view that sexual abuse triggers a myriad of intransigent and debilitating physical, psychological or social impairment (Schwartz et al., 2019). While this study suggests that some of the attendees at CAMHS are likely to have deteriorated school performance, display culturally devalued sexual behavior, be marked with irritability, aggression, self-harm and risky behavior and nocturnal enuresis, the majority were marked with having issues with sleep-wake cycles and clinically significant depressive symptoms. These consequences of CSA among attendees of CAMHS have also been reported in many studies from different populations (Ellsworth et al., 1995; Mesman et al., 2019).

Depression, despite being amorphous, has been widely documented to be most common among victims of sexual abuse. In this study, the prevalence of depression was around 60%. This rate of depression appears to be higher than that of the national school going population in Oman (Jaju et al., 2009). The rate, however, tends to vary between studies due to the type of instruments used. Majority of available studies have used symptom checklists, which are known to give spurious results (Rogers et al., 2019). The strength of the present study is that it employed the gold standard for diagnosis of depressive symptoms. Among those studies that have employed CIDI, the present rate appears to be consistent with those from New Zealand (Fergusson et al., 2013) and USA (Molnar et al., 2001).

The related aim of this study is to explore the relationship between psychosocial consequences and depressive symptoms. Several variables were considered in this context and the results suggest that age, gender, being subjected to abuse leading to sexual intercourse, duration of silence period, repeated abuse, the presence of disturbed sleep-wake cycles and deterioration of school performance all tend to be associated with higher depressive symptoms. The data suggest, for example, that being a female indicated a 32-fold increase in the risk of developing depression when compared to males. Repeatedly abused victims showed

a 20-fold increase in the development of depression. Children attending the present CAMHS suffering from sleep disturbance and deterioration in their academic performance were at a higher risk to be marked with depressive symptoms. Attendees with a history of sexual abuse and exposed to full sexual abuse were 24 times more likely to develop depression. This study has condensed type of abuse to include either penetrative, non-penetrative or full sexual abuse. It has been previously speculated that penetrative sexual abuse tends to have higher risk factors to many adverse health outcomes (Pinhas-Hamiel et al., 2009; Almuneef, 2019). Such a view is seemingly consistent with the present data which suggests a strong link between penetrative sexual abuse and depressive symptoms. A link of similar strength was noted between other variables explored and the development of depression. It is difficult to disentangle whether these variables are additive or simply co-exist with depressive symptoms. On one hand, some consequences such as the presence of disturbed sleep-wake cycles and the deterioration of school performance could be intimately related to the presence of depression. On the other hand, these variables could exacerbate the symptoms of depression. At any rate, within the existing literature, sexual abuse tends to trigger a myriad of adverse reactions and the information found often hinges on what tools are used to solicit the adverse reaction.

Having discussed the implications of this study, some of the obvious limitations certainly need to be addressed. Logistic regression was conducted on a sample of only those reporting depression. Thus, the significant outcomes are based on a very small sample size. However, this data analysis did not observe extreme values or outliers in the continuous predictors and multicollinearity among the predictors. The generalization of this study would have fared better if more protracted measures were used for quantifying the presence of psychosocial consequences. Future studies should employ such measures in order to ensure a more robust methodology. For example, sleep disturbance could be quantified using some of the established symptom checklists. In order to establish the required trends in Oman, a community survey would be essential. Current hospital-based data do not generalize most of the existing trends in society. Disclosure of matters of sexual abuse is likely to remain concealed due to preoccupations with the possible repercussions of explicit reporting. This implies that those who end up seeking consultation are likely to be only at the "tip of the iceberg" and might just represent a self-selective group with all the limitations this might entail.

Despite the aforementioned limitations of the study, this is still one of the first studies to report such socio-demographic and descriptive information of CSA along with its psychosocial consequences among children with a history of sexual abuse referred to a tertiary care center in Oman.

# **Declarations**

# Author contribution statement

- S. Al-Adawi, M. F. Chan: Contributed reagents, materials, analysis tools or data; Analyzed and interpreted the data; Wrote the paper.
- M. Alshekaili, Y. Al Kalbani: Conceived and designed the experiments; Wrote the paper.
  - W. Hassan: Analyzed and interpreted the data; Wrote the paper.
- F. Alsulimani, S. Alkasbi: Performed the experiments; Wrote the paper.

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# Competing interest statement

The authors declare no conflict of interest.

#### Additional information

No additional information is available for this paper.

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