



Contents lists available at ScienceDirect

Child Abuse & Neglect

journal homepage: www.elsevier.com/locate/chiabuneg

Research article

Long term consequences of child sexual abuse in Saudi Arabia: A report from national study

Maha Almuneef^{a,b,c,*}^a King Abdulaziz Medical City, Ministry of National Guard- Health Affairs, Saudi Arabia^b Department of Pediatrics, King Abdullah Specialized Children Hospital, Saudi Arabia^c College of Medicine, King Saud Bin Abdulaziz University for Health Sciences (KSAU-HS), Saudi Arabia

ARTICLE INFO

Keywords:

Child sexual abuse

ACE-IQ

Saudi Arabia

ABSTRACT

Child Sexual Abuse (CSA) is a global public health problem that has been found to be linked to negative health outcomes. The aim of this study is to examine the prevalence of different forms of CSA and its impact on chronic diseases, mental health disorders, and health-risk behaviors among adults in Saudi Arabia (SA). A cross-sectional, national survey utilizing Adverse Childhood Experiences International Questionnaire (ACE-IQ) was conducted in SA. Adults (N = 10,156) aged ≥ 18 years were invited to participate. The relationship between CSA variables and outcomes were calculated. The prevalence of life time CSA was 20.8%. Participants who reported CSA had 1.7, 2.2, and 3.8 times the odds of diabetes, coronary heart disease, and obesity diagnosis respectively compared to participants with no CSA. Regarding mental health disorders, CSA had 3.0, 2.6, and 4.1 times the odds of a depression, anxiety, and other mental illness diagnosis respectively. Those reported CSA were identified as having 2.0, 5.5, 5.8, 7.9, and 7.2 times the odds of being a smoker, drinking alcohol, using drugs, out of wedlock sexual relations, and suicidal thoughts respectively. In comparing males and females with CSA, males had the highest odd ratio (5.2) for obesity among the physical and mental health disorders and female had the highest OR (10.7) in out of wedlock sexual relations among the health- risk-behaviors. CSA is a common hidden phenomenon in SA, efforts should be strengthened to increase awareness on consequences, and outcomes in order to build prevention programs.

1. Introduction

Child Sexual Abuse (CSA) is a global public health issue which includes a wide range of activities such as fondling of genitals, exposing children to adult sexual activities, involving children in prostitution or pornography, attempted intercourse or an actual intercourse (Putnam, 2003). According to WHO report in 2002, 73 million boys and 150 million girls had exposed to different forms of CSA. A meta-analysis was conducted in 2009 analyzed 65 studies in 22 countries reported the global prevalence of CSA was highest in Africa (34.4%) followed by Asia (23.9%), United States (10.1%), and Europe (9.2%). Gender differences in prevalence of CSA were noted among CSA cases in different countries. South Africa has a high prevalence of male CSA (60.9%) compared to female (43.7%) while in the United States prevalence was lower in males (7.5%) compared to females (25.3%), Australia (13% males vs. 37.8% females), Israel (15.7% vs. 30.7%), Tanzania (25% vs. 31%), and Costa Rica (12.8% vs. 32.2%) were also lower in males compared to females (Wihbey, 2011). For many reasons a significant number of cases are never reported to the authorities and, thus, remain

* Corresponding author at: National Family Safety Program, King Abdulaziz Medical City, P.O. Box 22490, MC 3202, Riyadh, 11426, Saudi Arabia.
E-mail address: muneefm@ngha.med.sa.

<https://doi.org/10.1016/j.chiabu.2019.03.003>

Received 24 March 2018; Received in revised form 16 February 2019; Accepted 4 March 2019
0145-2134/ © 2019 Elsevier Ltd. All rights reserved.

undetected which may explain the high prevalence rate compared to the incidence (Beier et al., 2009). Prevalence rates and gender differences vary between countries due to cultural beliefs and values that are reflected in disclosure and reporting rates, different methodological factors such as recruitment of the participants, development of the questionnaires, and interview process (Jumaian, 2001). Back et al. (2003) surveyed 153 women to examine differences in CSA rates and characteristics in the United States and Singapore and reported that the proportion of American women who reported a history of CSA was higher compare to that of Singaporean women (15.4% vs. 4.5%).

CSA is thought to be a precursor to mental health disorders, substance abuse disorders, suicidal behaviors and self-harm among adults (Fergusson, McLeod, & Horwood, 2013). The exact mechanism that mediates the association between CSA and mental diseases is poorly understood. Numerous studies indicate that there is substantial plasticity of the human brain as a function of adverse experiences (Heim, Mayberg, Mletzko, Nemeroff, & Pruessner, 2013). A meta-analysis was conducted during 2001 analyzed 37 studies (most were in the United States) reported a significant effect of CSA on depression, suicide, post-traumatic stress disorder (PTSD), and sexual promiscuity (Paolucci, Genuis, & Violato, 2001). Depression was found to be the most common long-term effects among CSA survivors (Hartman, Finn, & Leon, 1987). Fergusson, Boden, and Horwood, (2008) reported that those who exposed to CSA including attempted or actual sexual intercourse were 2.4 times more likely to have a mental health disorder as compared to non CSA. CSA survivors are at an increased risk of developing an alcohol dependency disorders (Zlotnick et al., 2006). Molnar, Buka, and Kessler, (2001) revealed that women with CSA have a lifetime alcohol dependence of 16% compared to 8% of non-abused women. Thirty-nine percent of men CSA victims were found to have lifetime alcohol dependence as compared to 19% of non-abused men. Regarding chronic diseases, people who reported having sexual abuse during their childhood have been found to be at higher risk for ischemic heart disease, cancer, chronic lung disease, irritable bowel syndrome, and fibromyalgia (Runyan, Wattam, Ikeda, Hassan, & Ramiro, 2002).

In the Arab world, few reports on CSA have been published. Shalhoub-Kevorkian investigated 38 cases of sexually abused Palestinian girls and reported that the majority were aged between 12 and 19 years, and the victim's father or brother was the perpetrator in most of the cases (Shalhoub-Kevorkian, 1999). Jumaian (2001) surveyed 100 male college students between 18 and 20 years in Jordan, of which 27% reported having been sexually abused before age 14 years. According to World Health Organization (2005) on CSA, 17% of Lebanese students reported experience of lifetime sexual abuse, male were more likely to report CSA as compared to female (20% vs. 15%). Al-Mahroos and Al-Amer (2011) reviewed 440 medical records of CSA cases in Bahrain from 2000 to 2009 and revealed 2.5% increase in reported cases of CSA during that period. It is noted that most of the studies in the Arab world were focusing on prevalence of CSA and gender differences, therefore there were no studies that looked at the long term consequences of CSA on physical or mental health and on the adaption of health risky behaviors.

In Saudi Arabia (SA), CSA has been understudied. A meta-analysis was conducted on CSA in SA and concluded that prevalence of CSA ranged from 15%–21% (Alsehaimi, 2016). Analysis of the National Family Safety Registry (NFSR) which collect data on child maltreatment (CM) presented to health care facilities from 2011 to 2016 revealed that 14% of reported child abuse cases were victims of CSA (National Family Safety Registry (NFSR), 2016). Saudi Child Help Line (SCHL) reported 12% CSA calls out of all the incoming child maltreatment (CM) calls in 2013–2015 (Saudi Child Helpline Annual Report, 2015). Furthermore, a population based study involving 16,010 high school students between 15 and 18 years old indicated that 13% of the studied children of the sample had experienced sexual abuse (Al-Eissa et al., 2016). Determination of true prevalence rates of CSA is difficult, as cases generally are under-reported. Alsaif et al. (2017) conducted a study regarding professionals' attitude towards reporting CSA in SA and revealed that female professionals, healthcare providers, and those who had adequate training were more likely to report CSA (high sensitivity) relative to other professionals. In SA, most of the research on CSA reported only prevalence without further analysis, such as demographics of the victims, types of CSA, and any association between CSA and chronic diseases, mental health disorders, and health-risk behaviors among adults. In the present study, we will assess the: 1) prevalence of different forms of CSA; 2) gender differences in CSA; and 3) impact of CSA on chronic diseases, mental health disorders, and health-risk behaviors among adults.

2. Methods

This study is a sub-analysis of a cross-sectional study conducted in 2013 in all 13 regions of SA to identify the prevalence of Adverse Childhood Experiences' (ACEs) and their association with chronic diseases and health-risk behaviors among adults aged 18 years or above (Almuneef et al., 2016). In order to have a representative sample, cities were selected randomly depending on the size of the region. The Arabic version of Adverse Childhood Experiences International Questionnaire (ACE-IQ) of the World Health Organization (WHO) was used. There were 13 different ACE's studied and were linked to chronic physical and mental diseases, and health-risk behaviors. For this manuscript, we further analyze CSA as one of the domains of the ACE's addressed in the questionnaire and its association with physical diseases, mental health disorder, and health-risk behaviors.

2.1. Procedures

Following the appropriate approval by the Institutional Review Board (IRB) of King Abdullah International Medical Research Center (KAIMRC), data collection team received standardized training which includes strategies for approaching participants, screening, enrollment, confidentiality, and human subject issues. Participants were enrolled from shopping centers, traditional souks, public parks, bus stops, primary care clinics, airports, and other public venues. The data collection team presented awareness materials and information about the study to the general public to encourage them to participate. All participants meeting the enrollment criteria were informed and given more details about the study. A written informed consent form was signed by each adult

who agreed to participate. After obtaining consent, self-administered - Adverse Childhood Experience International Questionnaire (ACE-IQ) were handed to the participants. However, few face to face interviews were conducted with those who were unable to read/write. The questionnaires were anonymous, and completed forms were placed by the participant in a closed box for confidentiality purposes. All participants were given the national hotline number at end of interview if they wanted any help or support regarding the consequences of abuse. Both complete (i.e. $\geq 80\%$ of the questions were answered) and incomplete data were entered into the database. It took 30–40 minutes for the participants to complete the questionnaire.

A number of steps were taken to ensure protection of confidentiality. The questionnaire did not contain the name of the participant but instead was labeled with a reconstructable personal alphanumeric identifier. All participants information entered into the database were assigned a unique ID. All data were stored in a password protected database on computers and the hard copy was stored in a locked cabinet that does not contain other data.

2.2. Measurements

Demographic variables assessed in ACE-IQ included age, gender, education, employment, and marital status. Sexual abuse was measured with four questions: *While you were growing up during the first 18 years of your life... i) did someone touch or fondle you in a sexual way when you did not want them to? ii) did someone make you touch their body in a sexual way when you did not want them to? iii) did someone attempt oral, anal, or vaginal intercourse with you when you did not want them to? and iv) did someone actually have oral, anal, or vaginal intercourses with you when you did not want them to?* Responses to these questions included – ‘many times’, ‘few times’, ‘never’, and ‘refused’. ‘Many times’ and ‘few times’ were combined in order to have positive response. If all 4 answers were negative, it was considered as no exposure to sexual abuse. Contact sexual abuse was categorized based on - a) form (penetrating vs non-penetrating); b) frequency (1–4 acts); and c) intensity (many times vs few times). Total acts of victimization was calculated by adding the number of positive response to each question and was categorized into 1,2,3, or 4 acts.

ACE-IQ was supplemented with items assessing presence of physician diagnosed chronic diseases, mental health disorders, and health-risk behaviors. Presence of chronic diseases and mental health disorders were assessed with six questions *Have you ever been diagnosed by a doctor with... i) diabetes? ii) coronary heart disease (CHD)? iii) obesity? iv) depression? v) anxiety? and vi) other mental illnesses?* All participant were informed to report only the physician diagnosis of physical or mental diseases and not the participant opinion about having or not having the disease. Presence of health-risk behaviors were assessed with five questions - *Are you currently or have you previously been...i) smoking? ii) drinking alcohol regularly? iii) using drugs? iv) have out of wedlock sexual relations? and v) suicidal thoughts?* Participants had the option of answering ‘yes’, ‘no’, or ‘refuse’ to these questions.

2.3. Data analysis

The first step of the analysis was the descriptive analysis regarding their socio-demographic status. The frequency of CSA forms and intensity were calculated. The association between sexual abuse and gender was evaluated using chi-square test. Multivariate logistic regression analysis was conducted to examine the relationship between sexual abuse (independent variable) and chronic diseases, mental health disorders, and health-risk behaviors as the dependent variables (1 = Yes and 0 = No). We included in the model the following relevant covariates: age, gender, education, and marital status which were expected to impact the dependent variables. A significance level of 0.05 was used for all statistical tests. All data were analyzed using SPSS version 20.0. (SPSS Inc., 2013).

3. Results

There were 11,674 respondents and after eliminating questionnaires with missing responses, the final sample included 10,156 adults with completion rate of 87%. The demographic information collected included age, gender, level of education, and marital status. The mean age of our sample was 34.3 \pm 11, with 52.1% males and were most likely to be married (58.7%), while (41.3%) were single, divorced, or widowed. The majority had completed either college, university or graduate studies (41.3%), while (36.4%) finished high school, and (22.3%) did not finish their primary education. Comparing our demographics to available national census data for Saudi population (General Authority for Statistics Kingdom of Saudi Arabia, 2016), our sample is a representative sample of Saudi people in terms of gender and marital status. However, the percentage of participants who are college educated were higher in our sample compared to the general population. According to the 2016 census, the college graduate are only 22% of the population whereas our sample have 41.3% college graduate. This indicate that college educated people tend to have faith in research and therefore respond better to these surveys in public places.

The prevalence of life time CSA (contact form) was 20.8%. Male represented a rate of 12.1% and female 8.7%. Approximately, ten percent of the participants reported experience of penetrating sexual abuse, and 11.2% reported non-penetrating CSA. Regarding frequency, 6% reported experience of all 4 acts of contact sexual abuse included in the questionnaire, 3.2% reported 3 acts, 5% reported 2 acts, and 6.6 reported only 1 act. For intensity, 6.8% experienced contact sexual abuse many times during the first eighteen years of their life, and 14% experience it few times only (one or two times).

Significant gender difference was found in terms of prevalence of different types of sexual abuse. Generally, all forms of contact CSA were reported more frequently in males compared to females. Males reported higher prevalence of being touched or fondled in a sexual way (19.1% vs. 15.8%, $p < 0.05$), made him touch perpetrator's body in sexual way (17.0% vs. 13.1%, $p < 0.05$), being attempted intercourse (14.1% vs. 9.5%, $p < 0.05$), and being actually had intercourse (12.7% vs. 8.2%, $p < 0.05$). Similar trends

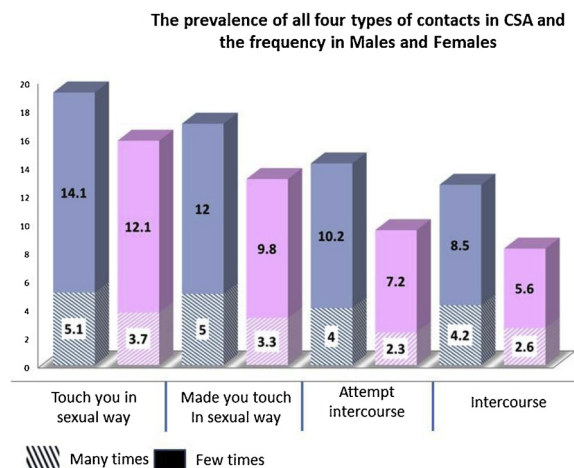


Fig. 1. Participants' response to questions on sexual abuse *.

($p < 0.05$) were found in terms of intensity (many times and few times) of sexual abuse (Fig. 1).

A more detailed examination of the relationship between CSA and self-reported chronic diseases, mental health, and health-risk behaviors in comparison to non-abused individuals is shown in Table 1. Participants who reported any CSA form were more likely to have chronic diseases, mental health disorders, and health-risk behaviors as compared to those who didn't report CSA ($p < 0.01$). In terms of forms (penetrating vs. non-penetrating) and intensity (many times vs. few times), participants who reported experience of sexual abuse 'penetrating' and 'many times' were more likely to have chronic diseases, mental health disorders, and health-risk behaviors as compared to those who reported 'non-penetrating' and 'few times' ($p < 0.01$) (Table 2).

Logistic regression for CSA and chronic diseases, mental health disorders, and health-risk behaviors are shown in Figs. 2 and 3. Participants who experienced CSA were 1.7 (95% CI 1.5–1.9) times more likely to have diabetes, 2.2 (95% CI 1.5–2.3) times more likely to have coronary heart disease (CHD), and 3.8 (95% CI 2.5–5.3) times more likely to have obesity compared to non-sexually abused individuals. Regarding mental health disorders, the odds ratio for depression was 3.0 (95% CI 2.6–3.5), anxiety was 2.6 (95% CI 2.3–3.1), and mental illness was 4.1 (95% CI 2.9–4.5). Furthermore, in terms of health-risk behaviors, participants who reported CSA had a higher likelihood of smoking (OR = 2.0; 95% CI: 1.6–2.1); drinking alcohol (OR = 5.5; 95% CI: 4.2–5.9); using drugs (OR = 5.8; 95% CI: 3.9–5.9); out of wedlock sexual relations (OR = 7.9; 95% CI: 5.6–8.4); and suicidal thoughts (OR = 7.2; 95% CI: 4.8–7.7) compared to non-CSA and after adjusting for age, gender, education, and marital status. In comparing the outcomes among males and females, it is noted that male obesity had the highest odd ratio among the physical and mental health diseases outcomes (OR = 5.2; 95% CI: 3.6–7.5) and females out of wedlock sexual relationship had the highest odd ratio among the evaluated health risk behaviors (OR = 10.7; 95% CI: 8.2–13.9).

Gender specific relationship of the impact of CSA on chronic diseases, mental health disorders, and health-risk behaviors in adults after adjusting for age, education, and marital status is shown in Figs. 2 and 3. When compared with participants with no sexual abuse, men who reported ever being sexual abused had the highest likelihood of diabetes (OR = 2.1; 95% CI: 1.7–2.6), CHD (OR = 2.6; 95% CI: 1.9–3.5), and obesity (OR = 5.2; 95% CI: 3.6–7.5). For sexually abused women, the odds ratio for chronic diseases were compared to men - diabetes was 1.4 (95% CI 1.1–1.8), CHD was 2.1 (95% CI: 1.5–2.9); and obesity was 2.7 (95% CI: 1.9–3.9). In contrast, women who experienced having sexual abuse had the highest likelihood of depression (OR = 3.3; 95% CI: 2.6–4.2), anxiety (OR = 2.9; 95% CI: 2.4–3.6), and other mental illnesses (OR = 4.6; 95% CI: 3.6–5.8). While for CSA men, the odds

Table 1

Relationship of child sexual abuse with chronic diseases, mental health, and health-risk behaviors.

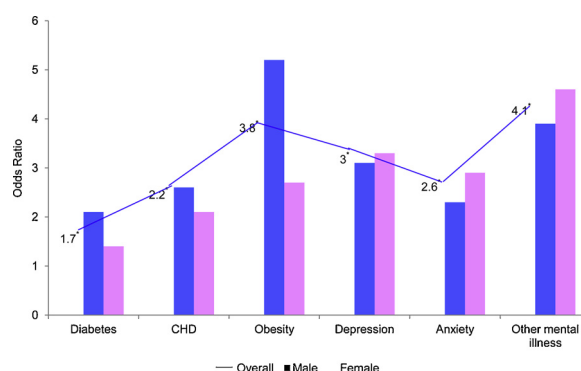
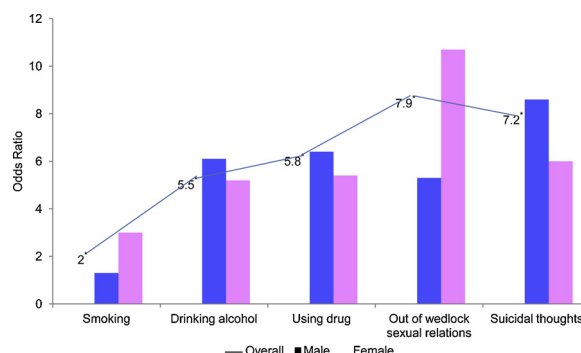
Outcome*	CSA	No CSA	Total
Diabetes	462 (23.6)	1115 (16.1)	1577 (17.7)
CHD	176 (9.2)	358 (5.2)	534 (6.1)
Obesity	166 (8.5)	214 (3.1)	380 (4.3)
Depression	465 (23.7)	634 (9.2)	1099 (12.4)
Anxiety	600 (30.3)	989 (14.3)	1589 (17.9)
Other mental illness	380 (19.5)	463 (6.7)	843 (9.6)
Smoking	972 (49.3)	2356 (34.0)	3328 (37.3)
Drinking alcohol	406 (20.6)	326 (4.7)	732 (8.2)
Using drugs	379 (19.4)	319 (4.6)	698 (7.9)
Out of wedlock sexual relations	729 (38.6)	716 (10.7)	1445 (16.9)
Suicidal thoughts	416 (21.4)	318 (4.6)	734 (8.4)

* $p < 0.01$.

Table 2

Relationship of child sexual abuse (in terms of forms and intensity) with chronic diseases, mental health, and health-risk behaviors.

Outcome	CSA form		CSA intensity	
	Penetrating	Non-penetrating	Many times	Few times
Diabetes	230 (26.2)*	232 (21.5)	71 (25.0)	292 (22.1)
CHD	119 (14.2)**	57 (5.3)	33 (12.1)*	93 (7.1)
Obesity	111 (12.7)**	55 (5.1)	29 (10.3)*	80 (6.0)
Depression	238 (27.0)**	227 (21.0)	70 (24.5)	295 (22.1)
Anxiety	273 (31.0)	327 (29.8)	76 (26.9)	391 (29.1)
Other mental illness	237 (26.9)**	143 (13.4)	60 (21.1)*	208 (15.7)
Smoking	448 (50.8)	524 (48.0)	141 (49.6)	639 (47.5)
Drinking alcohol	246 (27.8)**	160 (14.7)	69 (23.9)*	232 (17.3)
Using drug	236 (27.1)**	143 (13.2)	76 (26.7)**	194 (14.6)
Out of wedlock sexual relations	422 (48.8)**	307 (29.9)	124 (44.3)**	433 (33.9)
Suicidal thoughts	268 (30.6)**	148 (13.9)	75 (26.9)**	228 (17.2)

* $p < 0.05$.** $p < 0.01$.**Fig. 2.** Effect of child sexual abuse on chronic diseases and mental health disorders by gender of the participants [‡].[‡]Adjusted for age, socio-economic status.**Fig. 3.** Effect of child sexual abuse on health risk behaviors by gender of the participants [‡].[‡]Adjusted for age, socio-economic status.

ratio of reporting depression was slightly lower at 3.1 (95% CI 2.5–3.8), anxiety was 2.3 (95% CI 1.9–2.8), and other mental illnesses was 3.9 (95% CI 3.1–4.9) (Fig. 3). Regarding health-risk behaviors, sexual abused men had the highest likelihood of drinking alcohol (OR = 6.1; 95% CI: 4.9–7.6); using drug (OR = 6.4; 95% CI: 5.2–8.0) and suicidal thoughts (OR = 8.6; 95% CI: 6.6–11.1). While for women, the odds ratio for health-risk behaviors were lower, for drinking alcohol was 5.2 (95% CI 3.7–7.2); using drug was 5.4 (95% CI: 3.9–7.4) and suicidal thoughts was 6.0 (95% CI: 4.7–7.8). However, sexual abused women had the highest likelihood of out of wedlock sexual relations (OR = 10.7; 95% CI: 8.2–13.9) while for CSA men, the odds ratio for out of wedlock sexual relations was only 5.3 (95% CI: 4.4–6.3) (Fig. 3).

4. Discussion

This study focuses on the contact form of CSA and its long term consequences on adulthood. The results of the study indicates that contact CSA is a prevalent phenomenon in SA. The prevalence of (20.8%) falls within the range (7%–27%) reported by numerous studies conducted in other countries of the Middle East and North Africa (MENA) region such as Egypt, Jordan, and Tunisia (Al-Fayez, Ohaeri, & Gado, 2012) and comparable to global estimate of 17.3% reported by Global School of Health and Science (GSHS). Most of the sexually abused children in the conservative Arab cultures do not disclose their experience as they are scared that their families will be dishonored or they will reject them. Therefore, getting the prevalence of CSA by asking adults anonymously about their childhood may be a better estimation of CSA compared to national registry or asking children directly. In a national prevalence population based survey using ICAST –CH tools conducted in 2016 in Saudi Arabia on children between 15–18 years old, the rate of CSA was 13%, this variation in prevalence between our study and the prevalence survey may indicate that children are reluctant to disclose child sexual abuse compared to adults (Al-Eissa et al., 2016).

In our reports, CSA was more common in boys compared to girls (12.1% vs. 8.7%) and this is comparable to Zeira, Astor, and Benbenishty, (2002) in Israel where Arab boys tended to experience CSA more than Arab girls. Other studies found no gender differences, or reported a higher rate of victimization for girls compared to boys. Haj-Yahia and Tamish (2001) revealed that the frequency is similar for both genders in Palestine. Usta and Farver (2010) reported no gender differences in Lebanon. Barth, Bermetz, Heim, Trelle, and Tonia, (2013) conducted a meta-analysis assessing current prevalence of sexual abuse worldwide among children < 18 years and the results showed that 13% of girls and 9% of boys experienced some forms of contact sexual abuse. Finkelhor (1994) reported 7% of female and 3% of male experienced CSA based on a review of surveys from 21 predominantly high and middle income countries. There are some underlying reasons for low prevalence of CSA among girls in Arab countries compared to boys. First, there are restriction for girls going unattended outside of homes due to cultural norms and values. Therefore, they are less likely to be exposed to non-familial perpetration, but this will not affect familial perpetration which is responsible for the majority of child sexual abuse (Beier, 2018). Second, CSA is a very sensitive issue in Arab and Muslim society stigmatizing the whole family including family honor, fame, and respect and girls who disclose this experience, risk being blamed and their virginity will be questioned. The lack of reporting of CSA for cultural reasons in order to protect the family and (not the children) will have an impact on the fact that this will promote offenders to abuse children, because they never fear consequences. Many sexual abusers commit CSA for reasons (e.g. general antisocial tendencies, high sex drive, and temporary disinhibition due to substance use) other than pedophilia (Seto, 2008). According to Beier (1998), the offenders for CSA can be divided into two groups - a) offenders for whom CSA was a 'compensatory act' in order to make up for an actually-desired relationship with an age appropriate person; and b) offenders for whom a primary interest in the child exists. Due to this male predominance of victimization in our report, we assume that most of the offenders are predominantly non- pedophilic, and sexual abuse of a child serve as a surrogate for a sexual relationship with partners of the same age. Non- pedophilic are not interested in anal penetration, and likely most of the offenses against boys in the Arab region are substitute of acts for men who would prefer to have intercourse with women but are not allowed to do so because of cultural restrictions. This gender variations necessitate further investigation to determine whether there is an actual difference between western and Arab countries or if this is due to underreporting of CSA by Arab girls and women due to stigma associated with this disclosure. This should prompt professionals to increase awareness concerning paraphilia and to inform the public about the background of sexual offending against children. The public need to know that pedophilia and non-preferential offenders is an ongoing threat for Arabian children, which should definitely be addressed in all by preventive measures against CSA.

Research indicates that victims of CSA have been found to be at higher risk for alcohol and drug use, depression, anxiety, suicidal ideation, eating disorder, panic disorder, and post-traumatic stress disorder (PTSD) (Miller, Dove, & Miller, 2007). This relationships may results from harmful behaviors adopted as coping mechanisms. The impacts of CSA on mental health appeared similar although prevalence varied in different parts of the world, with the effect being worse in relation to the duration and degree of severity of CSA (The United Nations Children's Fund, 2005). Child Sexual Abuse as a stressor, initiates a cascade of neurohumoral and physiological responses and leads to impaired brain development. Recent studies have reported an association between CSA and alteration of brain structure and function which leads to major mental deterioration in adulthood and to adoption of risky behaviors as survival tools (Heim, Shugart, Craighead, & Nemeroff, 2010). Consistent with Molnar et al. (2001) report, our results provide a gender difference in the relationship between CSA victimization and health risk behaviors. In our study, men reported higher rates of externalizing behaviors such as smoking, drinking alcohol, and using drugs, whereas, women reported higher rates of internalizing behavior such as depression and anxiety, with one exception, women who are exposed to CSA tend to have higher rates of out of wedlock sexual relationship compared to men (Almuneef, ElChoueiry, Saleheen, & Al-Eissa, 2017). This is considered as unusually eccentric phenomenon in a very conservative society that have some restrictions on women activities and relations. Previous research found that women are more inclined to blame themselves or be blamed following victimization and are more likely to exhibit internalizing behaviors after being abused (Walker, Carey, Mohr, Stein, & Seedat, 2004). In contrast, men who experienced sexual abuse during childhood were more likely to exhibit externalizing behaviors including drinking alcohol and using drugs (Chandy, Blum, & Resnick, 1996). Therefore, screening strategies for CSA experience should be applied among adults with mental health disorders and adoptive health-risk behaviors. Substance abuse prevention programs and policies should target men who reported experience of CSA. In contrast, increased mental health services and awareness campaign aiming at reducing mental health disorders could target women with a history of CSA. Implementation of programs, policies, and laws might strength and support the families, address the underlying social and community factors and can significantly reduce CSA.

This is the first study in this region that focuses not only on prevalence but also on the gender difference in terms of outcome and consequences of contact CSA. According to our high prevalence rate of CSA, we need more services and more attention of social

workers, domestic violence and child protection workers, law enforcement personnel, educators, and policy makers in SA. CSA is evidently a traumatic experience and associated with many adverse consequences throughout the life and this can be reduced significantly by implementing programs, policies, and laws which strengthen and support the family, and address the underlying risks factors. In SA, the law for prevention of violence and abuse, and child rights law were approved during 2013 and 2014 respectively. It is worth mentioning that these two legislations mandated reporting child maltreatment cases by professionals to the authorities and it also criminalize abuse that affect the wellbeing of children. Advocate for proper implementation of these laws may improve service and case management such as psychotherapy and early intervention with Cognitive Behavioral Therapy CBT for children. Direct reporting of CSA was initiated via child helpline in 2013 and a major campaign was conducted at public schools to encourage students to report all forms of violence they face. This may ease the pressure on them by reporting of abuse and getting guidance on how to deal with it and where they can get the psychological and social support. There were no preventive programs targeting offenders in the country, but a program such as 'Prevention Project Dunkelfeld' (PPD) was launched in 2005 in Germany in order to prevent CSA by way of therapy. A media campaign was launched in order to encourage self-identified, judicially unknown pedophiles to seek professional help with view to avoiding CSA and Child Pornography Offences (CPO) (Beier et al., 2015). Awareness on the importance of reporting CSA and the subsequent intervention should be emphasized in order to avoid the long term consequences of getting physical diseases, mental illnesses and encounter a health-risk behaviors. Another adequate community-based referral system should be established that is accessible to all children and their parents. Furthermore, more awareness should be given to parents about boys protection outside homes as they were predominantly the victim of CSA. Awareness on sexual education in schools for both genders should also be increased. Finally, future longitudinal study should be implemented to understand the causal relationship between CSA and chronic diseases, mental health disorders, and health-risk behaviors among adults.

This study has some limitations. First, as self-reported questionnaire was used in this study, so reliability of the responses are limited and recall bias cannot be excluded. Second, study outcomes are general indicators of health and wellbeing rather than specific measures of physical or mental health disorders, and health-risk behaviors. Third, cross-sectional design cannot determine causal relationship; however, it only reveals associations. Fourth, potentially sensitive information with regard to socially sanctioned behavior may affect responses.

5. Conclusion

CSA is a common hidden phenomenon in SA especially among boys, efforts should be strengthened to increase awareness on the risk factors, consequences, and outcome in order to build prevention programs to stop CSA from happening.

References

- Al-Eissa, M., Saleheen, H., AlMadani, S., AlBuhairan, F., Weber, A., Fluke, J., et al. (2016). Determining prevalence of maltreatment among children in the kingdom of Saudi Arabia. *Child: Care, Health and Development*, 42(4), 565–571.
- Al-Fayez, G., Ohaeri, J., & Gado, O. (2012). Prevalence of physical, psychological, and sexual abuse among a nationwide sample of Arab high school students: Association with family characteristics, anxiety, depression, self-esteem, and quality of life. *Social Psychiatry and Psychiatric Epidemiology*, 47(1), 53–66.
- Al-Mahroos, F. T., & Al-Amer, E. (2011). Reported child sexual abuse in Bahrain: 2000-2009. *Annals of Saudi Medicine*, 31, 376–382.
- Almuneef, M., Hollinshead, D., Saleheen, H., AlMadani, S., Derkash, B., AlBuhairan, F., et al. (2016). Adverse childhood experiences and association with health, mental health, and risky behavior in the kingdom of Saudi Arabia. *Child Abuse & Neglect*, 60, 10–17.
- Almuneef, M., ElChoueiry, N., Saleheen, H. N., & Al-Eissa, M. (2017). Gender-based disparities in the impact of adverse childhood experiences on adult health: Findings from a national study in the Kingdom of Saudi Arabia. *International of Journal Equity and Health*, 16(1), 90.
- Alsaifi, D., Al-Eissa, M., Saleheen, H., AlMutlag, H., Everson, M., & Almuneef, M. (2017). Professionals' Attitude Towards Reporting Child Sexual Abuse in Saudi Arabia. *Journal of Child Sexual Abuse*, 1–6. <https://doi.org/10.1080/10538712.2017.1360429>.
- Alsehaimi, A. (2016). A systematic review of literature on child sexual abuse in Saudi Arabia. *Journal of Childhood & Developmental Disorders*, 02(02).
- Back, S., Jackson, J., Fitzgerald, M., Shaffer, A., Salstrom, S., & Osman, M. (2003). Child sexual and physical abuse among college students in Singapore and the United States. *Child Abuse & Neglect*, 27(11), 1259–1275.
- Barth, J., Bermetz, L., Heim, E., Trelle, S., & Tonia, T. (2013). The current prevalence of child sexual abuse worldwide: A systematic review and meta-analysis. *International Journal Public Health*, 58(3), 469–483.
- Beier, K. M. (1998). Differential typology and prognosis for dissexual behavior - a follow-up study of previously expert-appraised child molesters. *International Journal of Legal Medicine*, 111(3), 133–141.
- Beier, K. M., Neutze, J., Mundt, I. A., Ahlers, C. J., Goecker, D., Konrad, A., et al. (2009). Encouraging self-identified pedophiles and hebephiles to seek professional help: First results of the Berlin Prevention Project Dunkelfeld (PPD). *Child Abuse & Neglect*, 33, 545–549.
- Beier, K. M., Grundmann, D., Kuhle, L. F., Scherner, G., Konrad, A., & Amelung, T. (2015). The German Dunkelfeld project: A pilot study to prevent child sexual abuse and the use of child abusive images. *Journal of Sexual Medicine*, 12(2), 529–542.
- Beier, K. M. (2018). Preventing child sexual abuse - the prevention project Dunkelfeld. *The Journal of Sexual Medicine*, 15(8), 1065–1066.
- Chandy, J., Blum, R., & Resnick, M. (1996). Gender-specific outcomes for sexually abused adolescents. *Child Abuse & Neglect*, 20(12), 1219–1231.
- Fergusson, D. M., Boden, J. M., & Horwood, L. J. (2008). Exposure to childhood sexual and physical abuse and adjustment in early adulthood. *Child Abuse & Neglect*, 32, 607–619.
- Fergusson, D. M., McLeod, G. F., & Horwood, L. J. (2013). Childhood sexual abuse and adult developmental outcomes: Findings from a 30-year longitudinal study in New Zealand. *Child Abuse & Neglect*, 37(9), 664–674.
- Finkelhor, D. (1994). The international epidemiology of child sexual abuse. *Child Abuse & Neglect*, 18(5), 409–417.
- General Authority for Statistics Kingdom of Saudi Arabia (2016). *Statistical yearbook of 2016*. Retrieved 10 January 2017, from <http://www.cdsi.gov.sa/en/43>.
- Haj-Yahia, M., & Tamish, S. (2001). The rates of child sexual abuse and its psychological consequences as revealed by a study among Palestinian university students. *Child Abuse & Neglect*, 25(10), 1303–1327.
- Hartman, M., Finn, S., & Leon, G. (1987). Sexual-abuse experiences in a clinical population: Comparisons of familial and non-familial abuse. *Psychotherapy: Theory Research Practice Training*, 24(2), 154–159.
- Heim, C., Shugart, M., Craighead, W. E., & Nemeroff, C. B. (2010). Neurobiological and psychiatric consequences of child abuse and neglect. *Developmental Psychobiology*, 52(7), 671–690.
- Heim, C., Mayberg, H. S., Mletzko, T., Nemeroff, C. B., & Pruessner, J. C. (2013). Decreased cortical representation of genital somatosensory field after childhood

- sexual abuse. *American Journal of Psychiatry*, 170, 616–623.
- Jumaian, A. (2001). Prevalence and long-term impact of child sexual abuse among a sample of male college students in Jordan. *East Mediterranean Health Journal*, 7, 435–440.
- Miller, K. L., Dove, M. K., & Miller, S. M. (2007). A counselor's guide to child sexual abuse: Prevention, reporting and treatment strategies. *Paper Based on a Program Presented at the Association for Counselor Education and Supervision Conference*.
- Molnar, B. E., Buka, S. L., & Kessler, R. C. (2001). Child sexual abuse and subsequent psychopathology: Results from the national comorbidity survey. *American Journal of Public Health*, 91(5), 753–760.
- National Family Safety Registry (NFSR) (2016). *Annual report*.
- Paolucci, E., Genuis, M., & Violato, C. (2001). A meta-analysis of the published research on the effects of child sexual abuse. *Journal of Psychology*, 135(1), 17–36.
- Putnam, F. W. (2003). Ten year research update review: Child sexual abuse. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42, 269–278.
- Runyan, D., Wattam, C., Ikeda, R., Hassan, F., & Ramiro, L. (2002). Child abuse and neglect by parents and other caregivers. In E. G. Krug, L. Dahlberg, J. Mercy, A. Zwi, & R. Lozano (Eds.). *World report on violence and health* (pp. 59–81). Geneva: World Health Organization.
- Saudi Child Helpline Annual Report (2015). *Saudi child helpline annual report*.
- Seto, M. C. (2008). *Pedophilia and sexual offending against children: Theory, assessment, and intervention*. Washington, DC: American Psychological Association.
- Shalhoub-Kevorkian, N. (1999). The politics of disclosing female sexual abuse: A case study of Palestinian society. *Child Abuse & Neglect*, 23, 1275–1293.
- SPSS Inc (2013). *(Version SPSS 20.0 for Windows)*. Chicago, IL: SPSS Inc.
- The United Nations Children's Fund (2005). *Violence against children in the home and family* Available at: <https://www.unicef.org/violencestudy/3.%20World%20Report%20on%20Violence%20against%20Children.pdf>.
- Usta, J., & Farver, J. (2010). Child sexual abuse in Lebanon during war and peace. *Child: Care, Health and Development*, 36(3), 361–368.
- Walker, J., Carey, P., Mohr, N., Stein, D., & Seedat, S. (2004). Gender differences in the prevalence of childhood sexual abuse and in the development of pediatric PTSD. *Archives of Women's Mental Health*, 7(2), 111–121.
- Wihbey, J. (2011). *Global prevalence of child sexual abuse*. Journalist's Resource. Journalistsresource.org. Retrieved 11 November 2016, from <http://journalistsresource.org/studies/government/criminal-justice/global-prevalence-child-sexual-abuse>.
- World Health Organization (2005). *Global school based student health survey* Center for disease control and prevention Available at: http://www.who.int/chp/gshs/2007_Lebanon_GSHS_Country_Report.pdf (Accessed 20 September 2017).
- Zeira, A., Astor, R., & Benbenishty, R. (2002). Sexual harassment in Jewish and Arab public schools in Israel. *Child Abuse & Neglect*, 26(2), 149–166.
- Zlotnick, C., Johnson, D. M., Stout, R., Zywiak, W. H., Johnson, J. E., & Schneider, R. J. (2006). Childhood abuse and intake severity in alcohol disorder patients. *Journal of Traumatic Stress*, 19(6), 949–959.