

Adverse Childhood Experiences among People in Jazan Region, KSA

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Abstract—Introduction: Adverse childhood experiences (ACE) have been linked with risk of developing health harming and antisocial behaviors in adolescence and non-communicable condition, mental illness, chronic diseases and disability. Internationally there are many studies conducted to assess the complications of adverse childhood experiences on adolescents, adults and elderly. Objectives: The study aimed to measure childhood adversities and define the determinant risk factors of the childhood adversities in Jazan region. Research Methods: A cross-sectional study used on the community of Jazan region carried out among 384 male and female in six cities (Jizan, Abu Arish, Samtah, Sabya, Aldarb and Aldayer) and the data were collected using WHO self-administered questionnaire and analyzed by SPSS 22. Results: Physical, emotional and sexual abuses prevalence are 50.30%, 64.30%, 11.50% consequently. And these abuses is high among male more than female. Also according residence, the Abu-Arish city record the highest prevalence of Physical and sexual Abuses where physical abuse is 11.50% of total population and sexual abuse is 3%. And Jizan city record the highest prevalence of Emotional abuse where it is 13.5% of total population. Conclusion: There were significantly high physical and emotional abuses, and these abuses is high among male more than female. Also according to residence, the Abu-Arish city record the highest prevalence of physical and sexual abuses, And Jizan city record the highest prevalence of emotional abuse.

Index Terms—Childhood, Childhood experience, Adverse Childhood Experience, ACE, Jizan city, Jazan region.

INTRODUCTION

The United Nations ordered all member state to provide best protection of child and called it the United Nations Convention on the Rights of the Child. [1] Along with moral imperative for government to ensure that children have best protection to be safe and healthy. The previous studies show if children have protection from maltreatment and good child-parent relationship, they will get long term educational, employment and health benefits. [2-4] By contrast, violence affects health of child through mental and physical injuries and in severe cases, death. [5] However, child who does not develop injury has risk of developing health harming and antisocial behaviors in adolescence and non-communicable condition, mental illness and disability during adulthood. [6-8] For example world mental health surveys in 21 countries show 30% of adult with mental illness were exposed to physical abuse or other adverse childhood experiences. [9] Child's behaviors and health affected directly by any adverse childhood experiences such as physical, mental and sexual abuses. Other such as domestic violence affect the environment around children. [6,7] Such tools have helped identify relationship between adverse childhood experiences and substance abuse and development of health conditions such as obesity, ischemic heart disease and cancer. [6-8,13,14] Globally, countries with relatively low per-capita incomes have higher incidence of child abuse and consequently have higher incidence of diseases related to it. [4] In many countries there is limited surveillance of childhood abuse and neglect and often an absence of relevant longitudinal studies. Important of adverse childhood surveys to collect data linking childhood experiences with adult health to development appropriate interventions early in life. [8] Consequently, many of health organizations have tried to develop, improve and standardize method to investigate adverse childhood experiences. [10-12,15] On European children, a recent meta-analysis of data collected and estimate 134 cases of sexual abuse per 1000 girls, 229 cases of physical abuse and 291 cases of emotional abuse per 1000 children. [4] But, in every three national ministries of health in Europe only about one that routinely provide official statistics on child maltreatment. [4] Within the World Health Organization's (WHO's) European region, the eastern Europe appears to have higher level of child mortality and morbidity than the western Europe. [4] Thus, many countries in eastern Europe conducted adverse childhood experience surveys, using standardized methods. Although one would expect the long-term consequences of child maltreatment in Saudi Arabia to be similar to other parts of the world. Beside we are convinced there are many physical, emotional, sexual and other abuses in our community, and want to conduct adverse childhood experience survey in Jazan region to measure childhood adversities in our community and the association between adverse childhood experiences and health-harming behaviors and risk factors. And utilization of the result in ways that provide benefits to the community.

STUDY OBJECTIVES

1. To Measure childhood adversities in Jazan regions.
2. To Define the determinant risk factors of the childhood adversities.

STUDY METHODOLOGY

1. Study Design: A cross-sectional study used to study adverse childhood experience among community in Jazan region.
2. Study Area: The research was conducted in community of Jazan region as explained in the table 1 and marked on [Fig.1]. The data collected from the following places: schools, Governmental entities, malls, cafes, parks and colleges.

Table 1: Characteristic of the study population		
Residency	No.	%
Jazan	77	20.05
Abu Arish	76	19.8
Samtah	78	20.3
Sabya	77	20.05
Aldarb	38	9.9
Aldayer	38	9.9



Figure 1: Study areas.

STUDY POPULATION AND SAMPLING

The survey carried out among 384 male and female people between 18-45 ages in the community. The sampling method is Cluster Random Sampling.

$$n = \frac{Z_{1-\alpha}^2 P(1 - P)}{d^2}$$

The sample size is calculated with assumption of confidence level (95%) , margin of error can we accept (5 %) and the response distribution (50%) with target population Students have equal chance to be selected

DATA COLLECTION

The data was collected using self-administered questionnaire. Adverse Childhood Experiences International Questionnaire that used taken from World Health Organization (WHO) . The validity and reliability of questionnaire has been proven. The questionnaire is in English version and we translated it to Arabic language with consider cultural/social adaptability and acceptability of the questions.

ACE-IQ assesses 8 categories:

(Physical abuse, Emotional abuse, Sexual abuse, Physical neglect, Emotional neglect, Household dysfunction, Community violence and Collective violence). We added on the questionnaire the personal data and the Socio-demographic data.

DATA ANALYSIS AND RESULT DISSEMINATION

Data analyzed using Statistical package for the social sciences program (SPSS) version 20. Calculating the ACE score from the ACE-IQ . If the participant answered in the affirmative (whether with once, a few times, or many times) then that counts as a yes, 1 mark is placed for each adversity if at least one question of this adversity questions counts as yes. Once completed you will get an answer from 0 to 8. This is the ACE score for that individual.

RESULTS

People who have been collecting data including 384 individuals in Jazan region in both male and female. Age range from 18-45 years old with mean 28.89. Equal percentage of female and male (50%) for each. The more percentage in large cities (Jazan , Sabya, Samtah and Abu-Arish) (20%) for each , than smalls cities (Aldarb and Aldayer) (10%) for each.

Table 2: Characteristic of the study population		
Characteristics	No.	%
Gender		
Male	192	50
Female	192	50
Total	384	100
Residence		
Jazan	77	20.05
Abu Arish	76	19.8
Samtah	78	20.3
Sabya	77	20.05
Aldarb	38	9.9
Aldayer	38	9.9
Age		
≤ 25 years	180	46.9
> 25 years	204	53.1
Marital status		
Single	173	45.1
Married	192	50
Divorced	13	3.4
Widowed	6	1.6
Education level		
Less than high school	25	6.5
High school completed	359	93.5

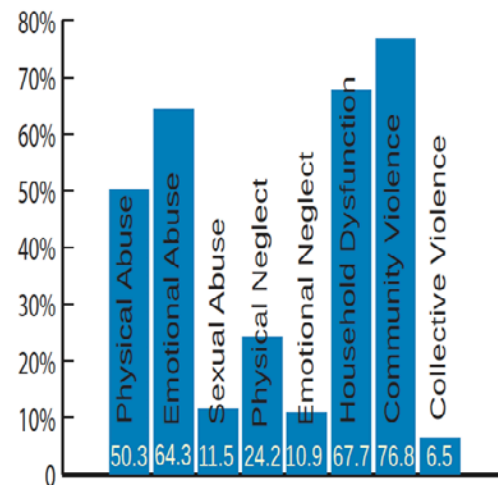


Figure 2.1: Major ACEs in Jazan region.

Figure 2.1: The prevalence of adverse childhood experiences in Jazan region as the following physical abuse (50.30%), emotional abuse (64.30%), sexual abuse (11.50%), physical neglect (24.20%), emotional neglect (10.90%), household dysfunction (67.70%), community violence (76.80%) and collective violence (6.50%), the highest ACE is

community violence and the lowest ACE is collective violence

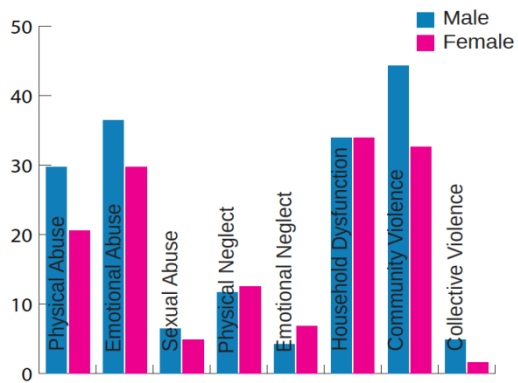


Figure 2.2: Prevalence of ACEs in Jazan region according to gender.

Figure 2.2 : The prevalence of ACEs in Jazan region according to gender is higher in male in all ACEs except in physical and emotional neglect it slightly higher in females.

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Table 3: Prevalence of physical abuse according to residency and gender.

Residency	Gender	
	Male	Female
Jizan	15 (38.5%)	25 (65.8%)
Abu Arish	20 (52.7%)	24 (63.2%)
Samtah	13 (35.1%)	20 (48.8%)
Sabya	14 (34.1%)	22 (61.1%)
Aldarb	11 (61.1%)	10 (50%)
Aldayer	6 (31.6%)	13 (68.4%)

Table 4: Prevalence of emotional abuse according to residency and gender.

Residency	Gender	
	Male	Female
Jizan	24 (61.5%)	28 (73.7%)
Abu Arish	20 (52.7%)	27 (71.1%)
Samtah	21 (56.8%)	28 (68.3%)
Sabya	22 (53.7%)	27 (75%)
Aldarb	14 (77.8%)	15 (75%)
Aldayer	12 (63.2%)	15 (78.9%)

Table 5: Prevalence of sexual abuse according to residency and gender.

Residency	Gender	
	Male	Female
Jizan	4 (10.3%)	6 (15.8%)
Abu Arish	4 (10.5%)	7 (18.4%)
Samtah	3 (8.1%)	6 (14.6%)
Sabya	1 (2.4%)	2 (5.6%)
Aldarb	4 (22.2%)	2 (10%)
Aldayer	3 (15.8%)	2 (10.5%)

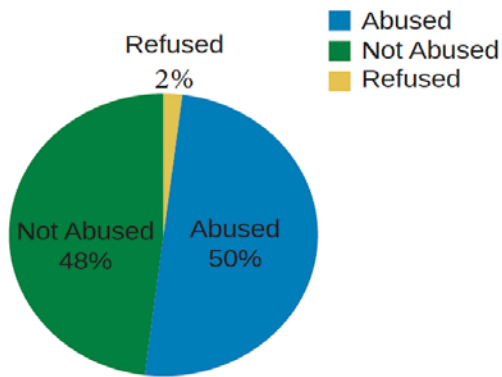


Figure 2.3: Prevalence of physical abuse in Jazan region.

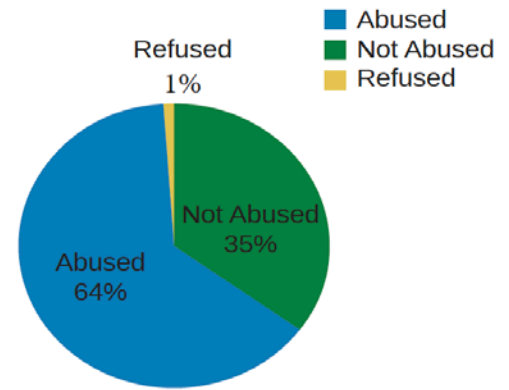


Figure 2.4: Prevalence of emotional abuse in Jazan region.

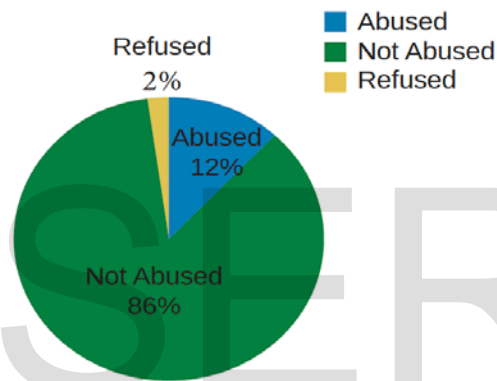


Figure 2.5: Prevalence of sexual abuse in Jazan region.

Figure 2.3 : Approximately half of Jazan population exposed to physical abuse.

Figure 2.4 : High prevalence of emotional abuse in Jazan region 64%

Figure 2.5 : Only 12% percent of Jazan population exposed to sexual abused (we expect the reliability of this result is poor because of evading the answer).

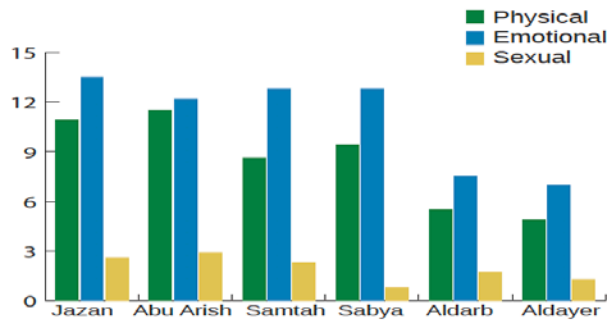


Figure 2.6: Prevalence of abuses in Jazan region.

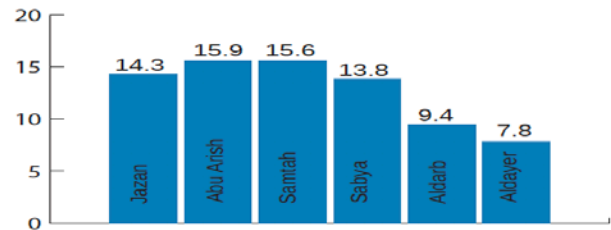


Figure 2.9: Prevalence of community violence in Jazan region.

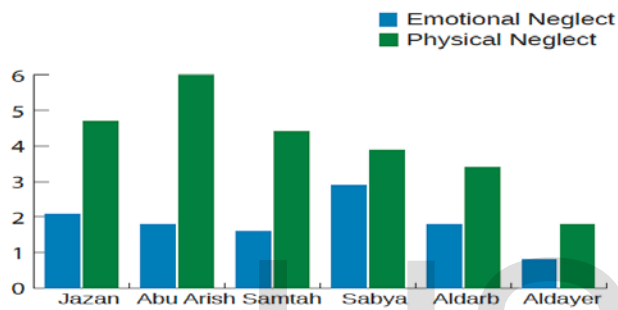


Figure 2.7: Prevalence of neglect in Jazan region.

Table 6: ACE score among Jazan population			
Value	ACE score		
	0	Less than 4	4 or more
Frequency	32	173	179
Percentage	8.3%	45.1%	46.6%

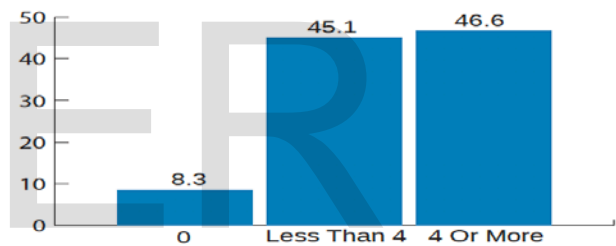


Figure 2.10: ACE score among Jazan population.

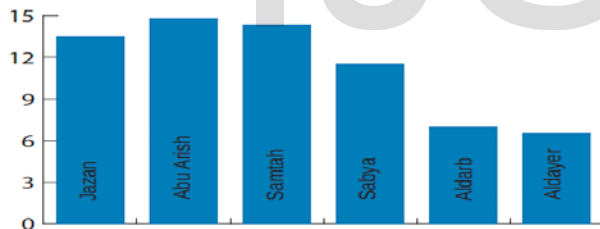


Figure 2.8: Prevalence of household dysfunction in Jazan region.

Figure 2.6 : The prevalence of major abuses (Physical, Emotional and Sexual) among Jazan region with noticing that the lowest of these three abuses in prevalence in Jazan region is sexual abuse. Physical abuse, sexual abuse record the highest prevalence in Abu Arish but emotional abuse show the highest prevalence in Jazan and the lowest prevalence of physical abuse is in Aldayer then Aldarb, emotional abuse show the lowest prevalence in Aldayer but sexual abuse show the lowest prevalence in Sabya city.

Figure 2.7 : The prevalence of neglect (Both) physical and emotional and the physical neglect is higher prevalence in all six cities than emotional neglect, with noticing that the highest city with physical and emotional neglect is Aldarb, and the lowest city with physical and emotional neglect is Aldayer.

Figure 2.8 : Abu Arish city has highest prevalence of household dysfunction followed by Samtah then Jazan city.

Figure 2.9 : Aldayer city has lowest prevalence of community violence while Abu Arish city has the highest prevalence.

Figure 2.10 :Only 8.3% of Jazan population didn't expose to any adversities while 46.6% have exposed to 4 or more types of adversities.

Table 7: ACE score according to residency			
Residency	ACE score		
	0	4 or more	Less than 4
Jazan	7(1.8%)	34(8.9%)	36(9.4%)
Abu Arish	2(0.5%)	34(8.9%)	40(10.4%)
Samtah	9(2.3%)	34(8.9%)	35(9.1%)
Sabya	9(2.3%)	39(10.2%)	29(7.6%)
Aldarb	1(0.3%)	14(3.6%)	23(6%)
Aldayer	4(1%)	18(4.7%)	16(4.2%)

p-value = 0.113

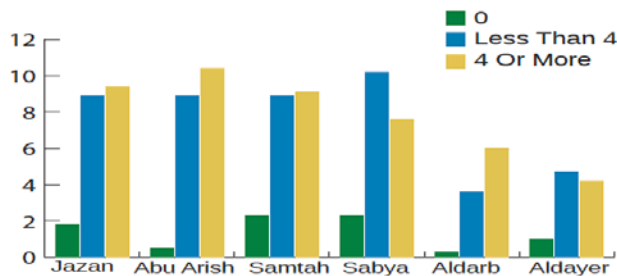


Figure 2.11: ACE Score According to Residency.

Table 8: ACE score according to age			
Age	ACE score		
	0	Less than 4	4 or more
≤ 25 years(180)	10(2.6%)	79(20.6%)	91(23.7%)
> 25 years(204)	22(5.7%)	94(24.5%)	88(22.9%)

P- value = 0.310

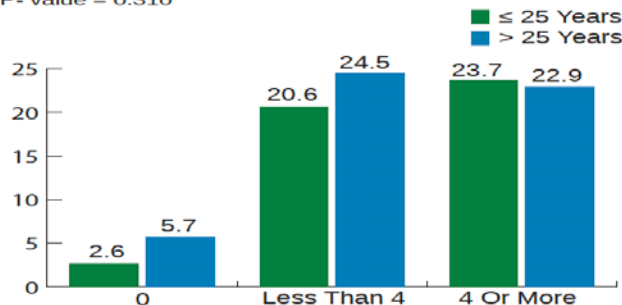


Figure 2.12: ACE score according to age.

Table 9: ACE score according to gender			
Gender	ACE score		
	0	Less than 4	4 or more
Male (192)	9(2.3%)	81(21%)	102(26.6%)
Female (192)	23(6%)	92(24%)	77(20.1%)

p-value = 0.006

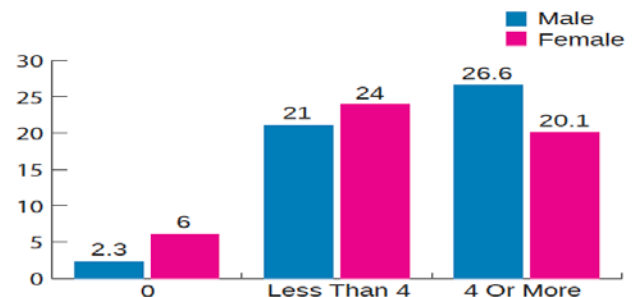


Figure 2.13: ACE score according to gender.

Table 10: ACE score according to marital status			
Marital status	ACE score		
	0	Less than 4	4 or more
Single (173)	12(3.1%)	77(20.1%)	84(21.9%)
Married (192)	19(4.9%)	87(22.7%)	86(22.4%)
Divorced (13)	1(0.3%)	5(1.3%)	7(1.8%)
Widowed (6)	0(0%)	4(1%)	2(0.5%)

p-value = 0.823

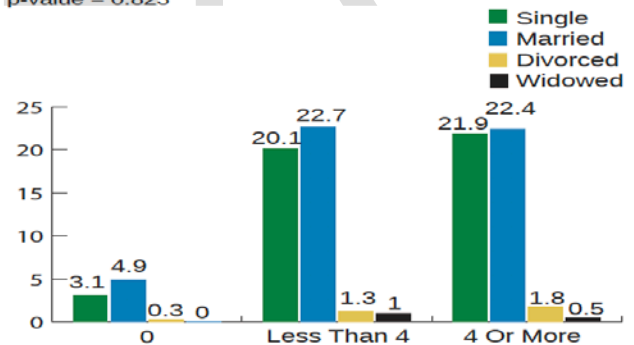


Figure 2.14: ACE score according to marital status.

Figure 2.11 :The ACE score according to residency and the city that record the highest prevalence of Zero ACEs is Sabya and Samtah then Jazan , the city that record the lowest prevalence of Zero ACEs is Aldarb then Abu Arish, and the city that record the highest prevalence of less than 4 ACEs is Sabya then Samtah, Abu Arish and Jazan are equal but the lowest prevalence of less than 4 is Aldarb then Aldayer, and the city that record the highest prevalence of 4 and more of ACEs is Abu Arish then Samtah and Jazan are equal but the lowest prevalence of 4 and more of ACEs is Aldayer then Aldarb.

Figure 2.12 :The ACE score according to age in two groups the blue one represent the age group equal or less than 25 years old ,the red one represent the age group more than 25 years old, the blue one is having higher prevalence of 4 or more ACEs , and it's lower in having Zero ACEs, in the less than 4 ACEs the red one is higher.

Figure 2.13 :The ACE score according to gender which is in score of Zero ACEs and less than 4 ACEs is higher in female than

male, but it is higher in male is score of 4 or more of ACEs.

Figure 2.14 : The ACE score according to marital status and in score of zero ACEs it's high in both single and married but it's only 0.30% in divorced individuals and 0% in widowed, in score of less than 4 of ACEs it's also high in both single and married, but higher prevalence than in that of zero ACEs, also it has a small prevalence in both divorced and widowed, and in score of 4 or more of ACEs it's almost show the same prevalence in single and married but with slightly increase in divorced and widowed.

Table 11: ACE score according to level of education

Level of education	ACE score		
	0	Less than 4	4 or more
Less than high school (25)	3(0.8%)	10(2.6%)	12(3.1%)
High school completed (359)	29(7.6%)	163(42.4%)	167(43.5%)

p-value = 0.743

Figure 2.15 : Prevalence of adversities in Jazan region not affected by education level.
(Level of education is not concern as risk factor).

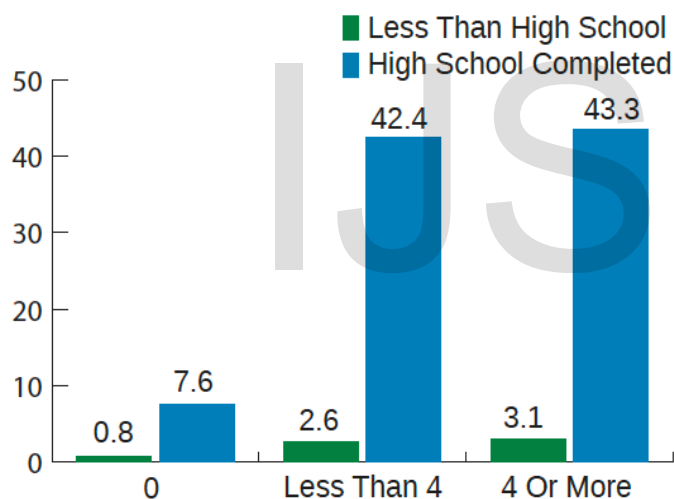


Figure 2.15: ACE score according to level of education.

Table 12: Factors may associated with childhood adversities in Jazan region	
Factor	p-value
Residency	0.310
Age	0.113
Gender	0.006
Marital status	0.823
Level of education	0.743

DISCUSSION

Adverse Childhood Experiences is childhood abuse and neglect, growing up with domestic violence, substance abuse or mental illness in the home, parental discord or crime, many studies have been conducted and found strong relationship between chronic diseases (Hypertension, diabetes, Liver diseases and Venereal diseases, mental illness) and ACE Score. The present study is to measure adverse childhood experiences in Jazan region and to determine related risk factors for this adversities, people who have been collecting data including 384 individuals in Jazan region in both male and female with 50% for each male and female. This study up to our knowledge is the first to be conducted in Jazan region and it done in large cities (Jazan, Sabya, Samtah and Abu Arish) (20%) for each and small cities (Aldarb and Aldayer) (10%) for each with age range from 18-45 years old. In our study, we found the prevalence of adverse childhood experiences in Jazan as the following physical abuse (50.30%), emotional abuse (64.30%), sexual abuse (11.50%), physical neglect (24.20%), emotional neglect (10.90%), household dysfunction (67.70%), community violence (76.80%) and collective violence (6.50%). In a national surveillance in (Riyadh, Jeddah, Dammam, Jazan and Tabuk) provided by King Abdullah International Medical Research Center (KAIMRC) and done by Ms. Sreen Al-Madani they found Physical abuse 64%, emotional abuse 81%, sexual abuse 24%, witnessing violence 59%, neglect 54%. [34] And they also found the result from Jazan region which are Physical abuse 64%, Emotional abuse 77%, Sexual abuse 17%, witnessing violence 60%, Neglect 55%. The results from this are higher than our study. [34] In another study conducted through The National Family safety Program by Dr. Maha Al-Muneef and Fatimah Alshehri they found the prevalence of adverse childhood experiences in Riyadh as the following physical abuse 14.6%, sexual abuse 6.8%, emotional abuse 21.2%, household dysfunction 28.4% community violence 7.1% and collective violence 2.5%. This study results pertain only to Riyadh, the capital of KSA. (which was mainly in malls, so it's a young middle class population). [35]

CONCLUSION

Physical (50.30%), Emotional (64.30%) and Sexual (11.50%) Abuses, household dysfunction (67.70%), community violence (76.80%). These adversities are high among males more than females. Also according to residence the Abo-Arish city record the highest prevalence of Physical Abuse (11.5%), sexual Abuse (3%) and community violence (15.9%), physical neglect (6%) and household dysfunction (14.8%). And Jizan city record the highest prevalence of Emotional abuse where it is 13.5% of total population. Sabya city record the highest prevalence of emotional neglect where it is 2.9%. The high prevalence of adversities among Saudis in Jazan region represents a major public health concern.

RECOMMENDATIONS

Introducing a better survey about child abuse in Jazan region to highlight this problem and increase the awareness of the

community. Introducing programs about child raising to the parents and other family members and applying restrict rules to any neglect. Introduce detecting child abuse programs of the child field related people (teachers, Policemen and nursemaids) and motivation for children to disclosure about the abuse they suffer. Applying protection and prevention programs managed by ministry of health.

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- Female Colleges (Abu Arish, Jazan, Sabya, Aldarb, Samtah and Bni Malik (Jazan University).
- Female high schools (Abu Arish, Jazan, Sabya, Aldarb, Samtah and Bni Malik.
- Male high schools (Abu Arish, Jazan, Sabya, Samtah and Bni Malik.
- Jizan, Aldarb, Samtah and Sabya general hospitals.
- Civil Defense Directorate of Bni Malik and Abu Arish.
- Municipality of Bani Malik and Abu Arish.

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