

*Research Article***Impact of family communication and adverse childhood experiences on mental health of Minia University students, Egypt****Nessma N. Waheed Eldin, Refaat R. Sadek, Ahmed ER and Shimaa Anwer Emam**

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**Abstract:**

**Background:** Mental health is a “state of well-being in which every individual realizes his or her own potential, copes with the normal stresses of life. Family communication have been found to have a significant impact on a young person's mental health. Individuals’ childhood experiences are of paramount importance in determining their future outcomes. Research exposing the harmful effects that childhood adversity has on adult mental health has advanced significantly over the past few decades. **Aim of the study:** To find the prevalence of mental health disorders among Minia university students, to detect some of determinants of mental health disorders among Minia university students, to determine the impact of family communication and adverse childhood experiences on mental health of Minia university students. **Research methodology:** This is a cross-sectional study included 446 students, 228 (51.1%) from Faculty of law and 218 (48.9%) from faculty of science in Minia University during the period between December 2020 and February 2021. **Results:** About 82.1% of students exposed to abuse, 72.2% exposed to neglect, 51.1% of students had family dysfunction, 60.3% were exposed to community violence, and 1.6% of them exposed to collective violence and 59% were exposed to peer violence. 75.3% of students exposed to  $\geq 4$  adverse events in their childhood, 19.3% exposed to 3 events and 5.4% exposed to 2 events, there is a significant relation between ACEs exposures and all determinants of mental health. About 31.2% of students reported non communication, 95 students (21.3%) and 212 students (47.5%) reported probable communication and good communication, students with high ability to enjoy life, balance, self-actualization and flexibility had higher family communication scores than students with diminished mental determinants. **Conclusion:** There is a significant impact of ACEs on mental health, good mental health is associated to good family communication. **Recommendation:** A multi-disciplinary actions should be taken through mass media and religious scholars in discussing parents about the impact of good family communication on mental health of their children. And there is a need to raise the orientation about hazards of exposure to ACEs on mental health of individuals.

**Key words:** Family communication – Impact – Mental health – ACEs – Minia.**Introduction**

In recent decades, calls have been made for a greater focus on the mental health that allows individuals to thrive. It has been argued that positive mental health during the school years is not only an important outcome in its own right but also has long term benefits, including improved academic achievement and educational attainment in the longer term. (O’Connor, et al., 2017).

Researchers have already demonstrated that family conversation is directly associated with childhood behaviors and mental well-being in young adult children. (Schrodt and Ledbetter, 2007).

Studies have shown that children who lived under an environment of domestic violence exhibit clinical levels of anxiety or post-traumatic stress disorder. These children are at significant risk for law breaking, substance abuse, school inattendance, and relationship problems. (Ramiro, et al., 2010).

Thus, Exposure to Adverse childhood experiences as well as inappropriate family conditions is associated with multiple long-term physical and mental health problems, which include depression, suicide, and risk of drug use. (O’Connor, et al., 2017).

The extent of adverse childhood experiences as well as family communication conflicts and their impact on individuals' mental health is to be studied and analysed as it is an important milestone of adolescent development and a critical predictor of future success and overall well-being for the individuals and the whole society. (Balistreri and Alvira-Hammond, 2016).

## **Subjects and methods**

### **1. Study design:**

This is a cross-sectional study conducted among undergraduate students in Minia University between December 2020 and February 2021.

### **2. Sample size:**

The sample size was determined using the single population proportion formula [40], The sample size was calculated according to this formula:  $n = [z^2 * p (1 - p)]/e^2$ , where  $n$  = sample size,  $z = 1.96$  at 95% confidence interval.,  $p$  = expected prevalence of mental health disorders among students from 18 to 23 years old in 2020 according to WHO (20%) and  $e = 5\%$  the margin of error. Accordingly, the minimum sample size needed was 246 students; however, to increase the validity and the power of the study, we invited randomly double the minimum sample size, 490 students, to participate in the study. Of whom 44 students refused to participate. Accordingly, a total 446 students; (228 from Faculty of law and 218 from faculty of science) were included in the study; with a response rate 91%.

### **3. Study population and tools:**

Students were subjected to filling a 3 well-structured aided questionnaires which were used after being translated from English to Arabic.

### **1. The Family communication questionnaire:**

Each student was given a (Does your family communicate well questionnaire).(Morrisey, 2011) It consists of twelve questions.

### **2. Adverse Childhood Experiences- International Questionnaire (ACE-IQ).**

ACE- IQ instrument that was developed by World Health Organization (WHO, 2018). It is a 29-item measure that assesses exposure to 3 domains of childhood adversities – “*childhood maltreatment*”, “*family/ household dysfunction*”, and “*violence outside the home*”.

### **3. Mental Health Meter**

Each student was given a (Mental health meter Questionnaire) which is designed and approved by “Canadian mental health association”2020, (CMHA) The questionnaire consisted of five categories each category has six questions.

### **Ethics approval:**

The study protocol was approved by the Ethics committee of the Faculty of Medicine Minia University and an approval of the faculties' deans was Obtained. Informed consent was obtained from the students. Confidentiality of the data and anonymity of the participants were strictly maintained through a code number on the questionnaire.

### **Statistical analysis**

All analyses were done using SPSS, version 20. Cleaning of data as a first step was done to detect missing values and invalid responses. Quantitative data were presented by mean, standard deviation while qualitative data were presented by frequency distribution. The Chi-square test (test of proportions) is used to compare between proportions. Student t-test was used to compare two means. Multiple regression analysis was used to see the combined effect of different independent variables on the target (dependent variable). The probability of less than 0.05 was used as a cut off point for all significant tests.

## Results

**Table (1): Demographic and baseline characteristics of the studied college students, Minia University, 2021 (n= 446)**

Characteristics	N (%)
<b>Age</b>	
Mean $\pm$ SD	20.14 $\pm$ 1.53
Range	18 - 23
<b>Sex</b>	
Male	257 (61.7)%
Female	171 (38.3)%
<b>Marital Status</b>	
Single	438 (98.2)%
Married	8 (1.8)%
<b>Students</b>	
Faculty of science	218 (48.9)%
Faculty of law	228 (51.1)%

The characteristics of the participants were shown in (Table 1). The age of students ranged from 18 to 23 years old with a mean age of 20.14  $\pm$  1.53years. About two-thirds (61.7 %)

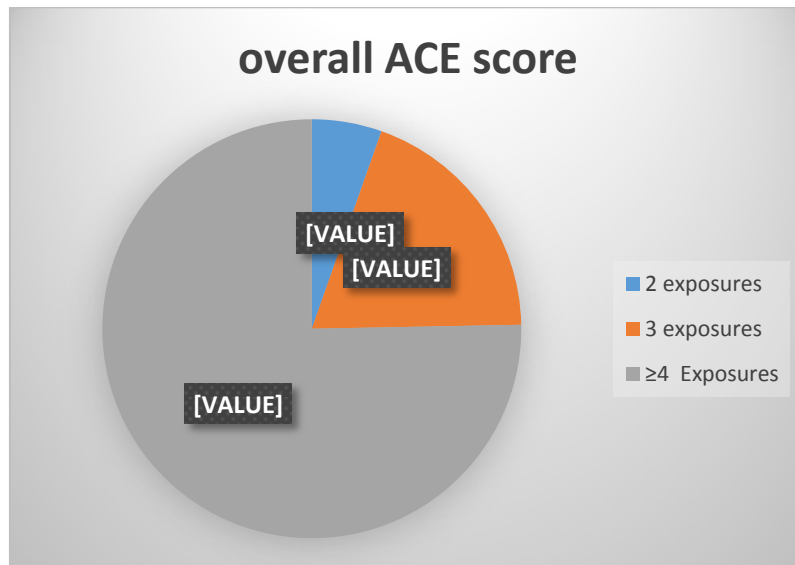
were males, and the majority (98.2 %) were single. Two hundred eighteen (48.9 %) and 228 (51.1%) studied at faculty of science and faculty of law respectively.

**Table (2): Classification of Adverse Childhood Experiences event among the studied college students, Minia University, 2021 (n= 446)**

ACE event	N (%)
Abuse	366 (82.1%)
Neglect	322 (72.2%)
Family/ household dysfunction	228 (51.1%)
Community violence	269 (60.3%)
Collective violence	7 (1.6%)
Peer Violence	263 (59%)
<b>Overall ACE Score</b>	
Mean $\pm$ SD	5.41 $\pm$ 2.08
Range	(2 – 9)

This table describes the degree of all over ACE score between the students. The score results ranged from 2 to 9 with mean SD (5.41  $\pm$  2.08), It showed that 82.1% of students exposed to abuse, 72.2% exposed to neglect, 51.1% of students had family dysfunction, 60.3% were exposed to community violence, and 1.6% of them exposed to collective violence and 59% were exposed to peer violence.

**Figure (1): overall score of Adverse Childhood Experiences event among the studied college students, Minia University, 2021 (n= 446)**



The figure demonstrates that 75.3% of students exposed to  $\geq 4$  adverse events in their childhood, 19.3% exposed to 3 events and 5.4% exposed to 2 events.

**Table (3): Relation of overall family communication score with determinants of mental health among the studied college students, Minia University, 2021 (n= 446)**

	Family communication score Mean $\pm$ SD	P value
<b>Ability to enjoy life</b>		
Diminished	3.88 $\pm$ 1.93	t (df) = 13.74 (444) <0.0001*
Good to excellent	8.10 $\pm$ 2.97	
<b>Resilience</b>		
Low	6.58 $\pm$ 2.80	t (df) = 1.74 (444) 0.05
Good to excellent	7.24 $\pm$ 3.40	
<b>Balance</b>		
Out of balance	4.80 $\pm$ 3.14	t (df) = 10.42 (444) <0.0001*
Fair to good	8.02 $\pm$ 2.87	
<b>Self-actualization</b>		
Lack	5.50 $\pm$ 3.14	t (df) = 6.16 (444) <0.0001*
Good to high	7.63 $\pm$ 3.17	
<b>Flexibility</b>		
Not flexible	6.15 $\pm$ 3.40	t (df) = 5.84 (444) <0.0001*
Fair to good	7.91 $\pm$ 2.96	

This table shows that students with high ability to enjoy life, balance, self-actualization and flexibility had higher family communication scores than students with diminished mental determinants.

**Discussion**

Mental health is a significant measure of the total well-being of young people. It also means the capacity to perform in terms of thoughts, feelings, and behaviors successfully. Having

these capacities helps youth to be productive, enjoy implementing in relationship with others, adapt effectively, change, and cope with life changes.(Agbaje, et al., 2021).

The results of this study revealed that abuse (82.1%) is the most common ACEs, 74.6 % of students were exposed emotional abuse, followed by neglect (72.2%), community violence (60.3%), peer violence (59%) then household dysfunction (51.1%) while the least was collective violence (1.6%).

These results agreed with (van Duin, et al., 2019) who studied 643 Netherlands multi-problem young men with age ranged from 18–27 years old and reported that emotional neglect and emotional abuse were the most common ACEs in their studied groups. However, (Wang, et al., 2021) studied 5740 undergraduate students from seven colleges of the Eritrean institute of higher education and reported that the most common ACEs were collective violence which is defined as instrumental use of violence (40.2%), domestic violence (38.7%), and physical abuse (36.7%), while household substance abuse (4.9%) was the least prevalent.

In the current study 75.3% of students exposed to  $\geq 4$  adverse events in their childhood, 19.3% exposed to 3 events and 5.4% exposed to 2 events (Figure 1). This was corresponding to the results of the study conducted among 236 students at a large university in the northeastern region of the USA founded that More than one-half (56.3%) of the sample reported at least two ACEs. Participants were considered to have high ACE for this sample if they had experienced two or more ACEs and a low ACE if they experienced none or one ACE. (Kalmakis, et al., 2020).

The current study revealed that there was a significant relation between family communication and ability to enjoy life, balance, self-actualization and flexibility while there was no significance between family communication and resilience. (Table 3)

In the same line with (Heidari, et al., 2016) who studied 507 people from the city of Mashhad; Iran; revealed that there is a significant positive correlation between mental health and conversation aspect of family communication patterns.

Also, (Zarnaghash, et al., 2013) studied the relationship between family communication patterns and mental health of 114 high school Iranian students and concluded that conver-

sation pattern was a good predictor for the mental health, Correlations with the mental health scale suggest that more positive mental health is related to a higher level of perceived family's warmth and students who reported a positive sense of family's warmth demonstrated better mental health when compared to those students who perceived their relationship with their family to be one that lacked warmth.

### Conclusion and Recommendation:

There is a significant impact of ACEs on mental health, good mental health is associated to good family communication, so there is need to raise the orientation about hazards of exposure to ACEs on mental health of individuals, educating the parents about impact of good family communication on their children mental health, Recommended stronger rules against perpetrators of child abuse and increase in the penalties and sentencing in courts.

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