

Impact of Childhood Maltreatment on Self-esteem among Adolescence at Zagazig City

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Abstract

Background: Exposure to abuse or neglect during childhood may be associated with an increased risk of psychological, social, and behavioral impairment. **Aim of study:** investigate the impact of childhood maltreatment on self-esteem among adolescence. **Subjects and Method: Research design:** An analytic cross-sectional research design. **Study setting:** The study was conducted in two randomly selected secondary schools at Zagazig city. **Study subjects:** 187 male and female Students' .**Tools of data collections:** Data were collected using a self-administered questionnaire with a maltreatment questionnaire and Rosenberg self-esteem scale. **Results:** Adolescents with age range 16 to 19 years, with almost equal gender distribution. In total, 39.0% of adolescents had no exposure to maltreatment, while 11.2% had high exposure and 71.7% had normal level of self-esteem. Maltreatment scores had positive correlations with adolescent's age, number of male siblings, family size, and crowding index, and a negative correlation with family income. In multivariate analysis, maltreatment scores were negative predictors of self-esteem scores. **Conclusion:** Exposure to maltreatment is a significant negative predictor of self-esteem among adolescents. **Recommendations:** The study recommends more active school nurses' role in training adolescents, teachers, and counseling parents to improve their parenting strategies. Outreach programs to increase awareness about child maltreatment and their negative sequels on child development. School curricula should include educational sessions in life skills.

Keywords: Maltreatment, Self-esteem, Adolescents, Zagazig city

Introduction

Safe, stable and nurturing relationships with parents and other caregivers are central to a child's healthy development. Early relationships are thought to affect neurodevelopmental changes in the brain and, in turn, the child's emotional, cognitive and behavioral development. A lack of safe and nurturing relationships in childhood can therefore lead to a range of problems that continue into adulthood.⁽¹⁾

Child Maltreatment is any act or series of acts of commission or omission by a parent or other caregiver that results in harm, potential for harm, or threat of harm to a child. ⁽²⁾

Child abuse and neglect is defined as, at minimum: "Any recent act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse or exploitation" or "An act or failure to act which presents an imminent risk of serious harm." This definition of child abuse and neglect

refers specifically to parents and other caregivers. A "child" under this definition generally means a person who is younger than age 18 or who is not an emancipated minor ⁽³⁾

The exposure to conditions of abuse and neglect during childhood has been associated with an increased risk of psychological, social, and behavioral impairment. Studies suggest that degree of impairment depends on the type of abuse involved as well as its severity. There is also evidence that abused children are generally exposed to more than one type of maltreatment ⁽⁴⁾.

Individuals exposed to maltreatment present significant impairment in important developmental aspects as emotion regulation, the development of attachment, autonomy, peer relationships, adaptation to school, and self-esteem ⁽⁵⁾.

Furthermore, because they are more likely to suffer more than one type of impairment

during early development, victims of child maltreatment are also more susceptible to behavioral problems and psychological disorders both during childhood and the remainder of their development ⁽⁶⁾. Self-esteem refers to one's general sense of one's own value or worth ⁽⁷⁾.

Parents play a critical role in the development of children's self-esteem. Thus, parents whose responses are warm and supportive, providing a positive family atmosphere, are valuable in shaping self-esteem in children and adolescents. Conversely, negative parental feedback and the lack of emotional interaction (e.g., psychological maltreatment subtypes) can be detrimental to the development of self-esteem. In other words, individuals who have been maltreated may develop low self-esteem in childhood and adulthood. ⁽⁸⁾

Psychiatric Nurses are in apposition to assess child who display signs and symptoms of potential maltreatment, play a key role in the identification of potential victims and provision of treatment and /or referrals for victims of childhood maltreatment ⁽⁹⁾.

Being nonjudgmental, empathic, respectful and supportive appear to be the most helpful attitudes in nursing patients with a history of child maltreatment ⁽¹⁰⁾.

Significance of the study

Child maltreatment is prevalent in every society. It is usually a hidden form of violence and may go undetected by carers and professionals for many years, with serious and far-reaching consequences. Considering the evidence regarding the impact of childhood maltreatment upon development, the present study is an attempt to provide data regarding how exposure to childhood maltreatment may affect psychological adjustment through covering a knowledge gap regarding the relation between adolescent self-esteem and maltreatment in childhood.

Aim of the Study

This study aims to investigate the impact of childhood maltreatment on self-esteem among adolescence.

1. Assess the exposure to abuse and / or neglect among adolescents .
2. Identify level of self-esteem among adolescents
3. Explore the relationship between self-esteem , and exposure to maltreatment among adolescents .

Research questions

- 1- What is the impact of childhood maltreatment on self-esteem among adolescents?
- 2- What is the level of self-esteem among adolescents?

Subjects and Method

Research design:

An analytic cross-sectional study design was used in the present study

Study Settings:

The study was conducted in two randomly selected secondary schools at Zagazig city. The first was Ghazaleh joint secondary school to represent East Zagazig department of education, and the second was Osama Abdallah Abdel Azeem joint secondary school to represent West Zagazig department of education.

Study Subjects:

Sample criteria: All adolescent students enrolled in the secondary educational phase in the two selected secondary schools constituted the sampling population. Their total number was 1076 male and female students. The adolescent students were eligible for being selected in the study sample according to the following criteria

Inclusion criteria:

Male or female secondary educational phase student;

- Age 16-19 years;
- Enrolled in the selected schools during the time of the study.

Exclusion criteria:

- Chronic diseases
- Disability.

Sample size: The sample size was calculated using Open-Epi-Info software program package. It was calculated to estimate a correlation coefficient 0.25 or more between the scores of maltreatment and each of the scores of self-esteem. The

required sample size was 164 at 95% level of confidence and 90% study power. This was increased to 187 to compensate for a non-response rate of about 10%.

Sampling technique: A stratified random sampling technique with schools and gender constituting the two strata. Then, students were recruited by systematic random sampling from students' lists.

Tools of data collection:

A self-administered questionnaire with two tools was used to collect the necessary data; these were the maltreatment questionnaire and Rosenberg self-esteem scale

The questionnaire was developed by the researcher and included the following parts.

Part I: Socio-demographic data. It included information about adolescent's school, class, age, gender, siblings, and birth order rank, in addition to information about parents' education and jobs, as well as their social relations at home. This part also asked about adolescent's family as the size, residence, income, and crowding index.

Part II: Childhood trauma questionnaire: This was adopted from **Bernstein**⁽¹¹⁾. It measures the severity of five different types of childhood trauma and participant's tendency to underreport maltreatment. The questionnaire consists of 53 items with responses on a 5-point Likert scale: "never / scarcely / sometimes / frequently / always. Three items are for testing the tendency to denial, and the remaining 50 items are distributed across five subscales as follows:

- Physical abuse: 7 items such as "One of them beat you, leaving traces in your body"
- Emotional abuse: 12 items such as "You thought your parents did not want a child for them"
- Sexual abuse: 7 items such as "Someone sexually harassed you"
- Physical neglect: 8 items such as "I spent or lived with people other than your parents even for different periods"
- Emotional neglect: 16 items such as "Your family is a source of strength and support for you"

Scoring system: The responses from "never" to "always" were scored 1 to 5, with

reverse scoring for positive items so that a higher score indicates more maltreatment or abuse. The scores of the items of each domain and for the total scale were computed by simple summation. They were then categorized according to tool instructions into :

None, Low, Moderate and Severe on each type of abuse .

The three items of minimization/denial scale indicate the potential of under reporting of maltreatment. The three items have a dichotomized response: never =0, all other responses =1. The scores are summed-up, and a total of one or greater suggests possible under-reporting of maltreatment.

Part III: Rosenberg self -esteem scale: This scale developed by sociologist **(Rosenberg,)**⁽¹²⁾ to assess self-esteem. It consists of ten items with responses on a 4-point Likert type scale from strongly agree to strongly disagree. They include:

Five items positively worded such as "I feel that I have many good qualities"

Five negatively worded such as "Overall I tend to feel that I am a failure."

Scoring system: For each item, the responses from "strongly agree" to "strongly disagree" were scored from 3 to zero. The scoring was reversed for the negative items so that a higher score indicates more self-esteem. The total self-esteem score ranges from 0-30. It was then categorized into: low (1 -15) and normal (16+) self-esteem

Validity and reliability

Once prepared, the self-administered questionnaire with the two tools was presented to experts for face and content validation. These included five experts from the Faculty of Nursing (Geriatric, obstetric, and nursing administration departments) and from the Faculty of Medicine (Mental and psychiatric medicine department). two scales have documented validity and reliability (Bernstein⁽¹¹⁾ , Rosenberg⁽¹²⁾). Thus, these experts assessed the questionnaire for clarity, relevance, and applicability. There were minimal modifications recommended in the form of rewording or rephrasing few items, and

these were done. The reliability based on statistical analysis, cronbach's Alpha wa 0.70% for child hood trauma questionnaire and 0.88% for self-esteem scale.

Pilot study:

A pilot study was conducted on a small sample representing about 10% of the main study sample. The purpose was to test the applicability and feasibility of the study and the clarity of the data collection form. It also helped the researcher to determine the time needed for filling-in the forms. Those who shared in the pilot study were not included in the main study sample.

Field work:

Once permission was granted to proceed with the study, the researcher visited the study settings and met with the school directors to explain the aim of the study and its procedures. This helped in gaining their cooperation, and also served to schedule the proper time for recruitment of the sample of students and for data collection.

Then, the researcher explained the aim of the study to the selected students, were invited to participate after being informed of their rights. Upon agreement to participate, each student was handed the data collection form and given instructions in how to fill it. The researcher was present all the time to respond to any query and to avoid any communication among students during filling the forms that could lead to biased information.

Administrative design and Ethical considerations:

An official permission to conduct the study was granted to responsible authorities in the study setting. The researcher visited the two selected schools, met the directors, explained to them the study aim and its procedures, and asked for their cooperation. All ethical issues were taken into consideration during all phases of the study. An oral informed consent for participation was obtained from each adolescent after full explanation of the purpose of the study. They were informed that participation was voluntary, and that they could withdraw at any time without giving reason. They were

reassured about the confidentiality and anonymity of any information taken, and that it would be used for research purpose only.

Statistical analysis:

Data entry and statistical analysis were done using SPSS 20.0 statistical software package. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations and medians for quantitative variables. Cronbach alpha coefficient was calculated to assess the reliability of the scales through their internal consistency. Qualitative categorical variables were compared using chi-square test. Whenever the expected values in one or more of the cells in a 2x2 tables was less than 5, Fisher exact test was used instead. In larger than 2x2 cross-tables, no test could be applied whenever the expected value in 10% or more of the cells was less than 5. Spearman rank correlation was used for assessment of the inter-relationships among quantitative variables and ranked ones. In order to identify the independent predictors of maltreatment, self-esteem, multiple linear regression analysis was used and analysis of variance for the full regression models was done. Statistical significance was considered at p-value <0.05.

Results

Table (1) :Shows that the study sample comprised 187 adolescent's with age ranging from 16 to 19 years , median 17 years with almost equal gender distribution 49.7 % of the studied adolescents were males and 50.3% were females. As regard adolescent's sibling, The majority were having male and female siblings with 84.0% & 90.4% respectively with median 2.0 .

Table(2) :Illustrates the parent's characteristics of studied adolescents . Regarding to level of education , it was found that having father and mothers with intermediate level of education 50.3% and 55.1% respectively .Concerning parent's occupation , it was found that the fathers were employees 56.7% compared to 36.9% of mothers .

Table3 : Shows that 27.3% of studied adolescents live with separated parents , 66.7% of separation was mostly by father

It was found the causes of separation were 33.3% travel , death, illness and divorce constitute 15.7% , 25.5% and 19.6% respectively. It was found also that 9.6% of parent relation was violent relation , family size ranged between 2 and 11 members with median 6 .

Figure1 : Shows that studied adolescents 39.0% had no exposure to maltreatment while 11.2% had high exposure

Figure 2: displays, 71.7% of studied adolescents had normal level of self-esteem, while 28.3% had low level of self-esteem..

Table4: Points to statistically significant relations between adolescents' exposure to maltreatment and their age ($p=0.01$), and gender ($p=0.003$). It is evident that the percentages of adolescents with sever exposure increased with age and was higher among males.

Table5: Demonstrates statistically significant relations between adolescents' exposure to maltreatment and their family characteristics regarding crowding index ($p<0.001$), separated parents ($p<0.001$), and parents' relations ($p<0.001$). As the table shows, the percentages of adolescents with high exposure to maltreatment were higher among those with higher crowding index, and having separated parents and were violent relations between parents.

Table6: Shows statistically significant relations between adolescents' self-esteem and their exposure to various maltreatment types ($p<0.001$). As the table illustrates, the percentages of adolescents with low self-esteem had a decreasing trend with the increasing level of exposure to maltreatment.

Table 7: Displays adolescents' scores of exposure to maltreatment it shows statistically significant weak positive correlations with their age, number of male siblings, family size, crowding index, and a negative correlation with their family income. Conversely, their self-esteem scores had

statistically significant weak negative correlations with their age and crowding index, and positive correlations with their father and mother level of education.

Table 8: Demonstrate statistically significant independent positive predictors of adolescents' score of exposure to maltreatment were parental separation , crowding index and their age. Conversely, their female gender and family income were negative predictors. The model explains 40% of the variation in this score.

Table 9: Demonstrates that adolescents' and parents intimate relations were its statistically significant independent positive predictors. On the other hand, family income and maltreatment score were negative predictors. The model explains 62% of the variation in the self-esteem score.

Discussion

This study aim was to investigate the impact of childhood maltreatment on self-esteem among adolescents. The study findings provide clear answers to its research questions, showing that childhood maltreatment has a negative impact on adolescents' self-esteem and that their self-esteem are positively correlated the median family size was six, indicating that at least one-half of these families were having four children. Moreover, the median of male and female siblings was two. This echoes the problem of over-population and lack of family planning in Egypt, which is a national problem. Child neglect and maltreatment would certainly be a consequence of this large family condition. In congruence with this, a study in Eastern Europe found a significant association between family size and the prevalence of child maltreatment (Jansen et al.,⁽¹³⁾

The results of the current study revealed that, the study sample consisted of male and female secondary school students in adolescence age, 16 to 19 years, as expected in the Egyptian educational system. The gender distribution of the sample was almost equal, signaling that the girls have equal opportunity in getting full scale education as the boys do.

The socio-demographic characteristics of adolescents' families in the present study indicate that they were mostly in middle class, with the majority of the parents having intermediate level of education and sufficient income. These are the common features of families residing in rural areas, which represent almost two-thirds of the study sample. The effects of community and social variables on the prevalence of childhood maltreatment were discussed in a review of the literature, which demonstrated variations between rural and urban communities (**Maguire-Jack et al.**)⁽¹⁴⁾.

Another important feature of the families of the adolescent students in the current study was the marital relations between parents. Thus, more than one-fourth of the adolescents reported that their parents were separated, and this was mostly due to travel. Moreover, about one-tenth reported violent relations between their fathers and mothers. These factors were shown to be positive predictors of maltreatment and negative predictors of self-esteem. In agreement with this, **Kairys**⁽¹⁵⁾ in a study in the United States found that family dysfunction was one of the most important predictors of childhood maltreatment and neglect. In contrast, a study in the United States (**Richard**)⁽¹⁶⁾ claimed that separation can be a positive thing when the life is in conflict and children are exposed to violence; they may develop competencies to deal with difficult situations and decision-making.

A main objective of the present study was to assess the exposure to maltreatment and/or neglect among adolescent students. The results demonstrated a high prevalence of exposure among them, with about two-thirds reporting such exposure. Even more, among more than one-tenth of them, the exposure was severe. The finding is alarming given the ominous consequences of maltreatment. A similarly high prevalence, although lower than the present study, of exposure to maltreatment in childhood was reported by **van Berkel et al.**⁽¹⁷⁾ in a study in the Netherlands, where about a half of the studied children reported such exposure.

Concerning the personal characteristics influencing adolescent students' exposure to maltreatment, the current study bivariate analyses results revealed that their age and gender were of significant influence. Thus, exposure was significantly increasing and positively correlated with age. This was further confirmed in multivariate analysis. This might be due to the increasingly aggressive behaviors with age in this phase of adolescence, which would lead to counter-reactive maltreatment response from parents. A similar association between exposure to maltreatment and child's age was found in a study in Germany (**Häuser et al.**)⁽¹⁸⁾.

On the same line, a study conducted in Australia demonstrated a positive relation between age and exposure to maltreatment (**Trickett et al.**)⁽¹⁹⁾. In disagreement with this, **Graham et al.**⁽²⁰⁾ found that maltreatment does not depend on child age, but rather incidents of maltreatment recur over a prolonged period of time.

The present study has also demonstrated that adolescents' male gender was associated with significant more exposure to maltreatment. Moreover, female gender was identified as a negative predictor of such exposure in multivariate analysis. The finding is quite expected given that female adolescents at this age tend to have a more quiescent behavior in comparison to male ones. As similarly higher exposure to maltreatment among male Pakistani adolescents in comparison to female ones (**Lakhdar et al.**)⁽²¹⁾. In the same line **Evans et al.**⁽²²⁾ in the United States found that gender moderates the effects of violence exposure. Conversely, **Wolfe et al.**⁽²³⁾ in France reported no evidence of gender on exposure to maltreatment.

As regards the family characteristics influencing adolescent students' exposure to maltreatment, the current study bivariate analyses results showed that parents' separation and their violent relations were significantly associated with higher exposure. The parental separation factor was also identified as a positive predictor of

exposure in the multivariate analysis. This is quite plausible given the negative impact of this factor on family members' relationships, which could be more tense, leading to aggressive and abusive behaviors. In congruence with this, a study in the Netherlands revealed that a dissociated low-income family was a prime risk factor for the occurrence of childhood maltreatment (**van Berkel et al.**)⁽¹⁷⁾.

Regarding the factors affecting adolescents' self-esteem, the present study bivariate analyses demonstrated that it tended to decrease significantly with increasing age, and had a negative correlation with it. This might be explained by the more maturation with increasing age, which leads to more realistic self-look. Nonetheless, the multivariate analysis did not confirm the effect of age on self-esteem. In agreement with this age trend, a study among Australian adolescents showed that their self-esteem was decreasing with age (**Gittins and Hunt.**)⁽²⁴⁾.

As for the family characteristics influencing adolescent students' self-esteem, the current study results showed that a stable small family with parents being together in intimate relations, and having a low crowding index is significantly associated with higher self-esteem. The multivariate analysis confirmed the positive effect of intimate parents' relationships and of the low crowding index. The findings underscore the importance of family social and economic stability and social support on adolescents' psychological development. In congruence with this, **Singstad et al.**⁽²⁵⁾ in a study in Norway demonstrated the positive effect of social support on adolescents' self-esteem.

Parents' education was also identified as a factor affecting adolescent students' self-esteem. Thus, those students whose fathers' education was high had significantly higher self-esteem. Additionally, self-esteem scores were positively correlated to the level of father and mother education. Nonetheless, only father level of education persisted in the multivariate analysis. The

finding could be attributed to better understanding of adolescence and related behaviors among educated parents, thus nurturing their children's self-esteem.

In agreement with this, a study in Nepal demonstrated a positive effect of parents' knowledge and awareness of proper parenting on their children's self-esteem (**Banstola et al.**)⁽²⁶⁾.

In agreement with the forgoing present study findings, a study carried out in Austria on adults who were exposed to childhood maltreatment demonstrated that maltreatment was a negative predictor of their self-esteem, and this was irrespective of their gender (**Weindl et al.**)⁽²⁷⁾. Similarly, a more recent study in the United States revealed that the adolescents exposed to maltreatment were having low levels of self-esteem, associated with more delinquent behavior (**Cui et al.**)⁽²⁸⁾.

Conclusion:

The study findings indicate that a sizable proportion of the adolescent students in the study settings are exposure to maltreatment, especially the physical abuse and physical neglect forms. The majority of them have normal level of self-esteem. are negatively correlated to maltreatment scores. The exposure to maltreatment is a significant negative predictor of self-esteem. two variables are influenced by certain adolescent's characteristics as age and gender, as well as parents and family characteristics as education, income, and parental separation

Recommendation

The study recommends

- More active school nurses' role in training adolescent students to increase their awareness of maltreatment and abuse types and how to avoid and report,
- Training school teachers in early detection and referral to school health team for management,
- Counselling affected adolescents to regain their self-esteem,
- Counselling parents to improve their parenting strategies.

Table 1: Socio-demographic characteristics of studied adolescents. n =187

	Frequency	Percent
Age:		
16 years	55	29.4
17 years	77	41.2
18-19 years	55	29.4
Range	16.0-19.0	
Mean±SD	17.0±0.8	
Median	17.0	
Gender:		
Male	93	49.7
Female	94	50.3
Grade:		
1	69	36.9
2	116	62.0
3	2	1.1
Birth order:		
1	60	32.1
2+	127	67.9
Range	1-3	
Mean±SD	1.9±0.7	
Median	2.0	
Have male siblings:		
Yes	18	9.6
No	169	90.4
Range	0-6	
Mean±SD	1.8±1.2	
Median	2	
Have female siblings:		
Yes	30	16.0
No	157	84.0
Range	0-7	
Mean±SD	1.7±1.2	
Median	2	

Table 2: Parents' characteristics of studied adolescents : . n =187

	Frequency	Percent
Father's education:		
None	22	11.8
Intermediate	94	50.3
High	71	38.0
Father job:		
Employee	106	56.7
Worker	62	33.2
None/retired	19	10.2
Mother's education:		
None	44	23.5
Intermediate	103	55.1
High	40	21.4
Mother's job:		
Housewife	118	63.1
Working	69	36.9

Table 3 : Marital life and family characteristics of studied adolescents. . n =187

	Frequency	Percent
Parents separated:		
No	136	72.7
Yes	51	27.3
Separation by (n=51):		
Father	34	66.7
Mother	11	21.6
Both	6	11.8
Separation cause (n=51):		
Death	7	15.7
Illness	14	27.4
Travel	17	33.3
Divorce	10	19.6
Other(prison-family quaralles)	3	5.9
Parents currently married:		
Yes	170	90.9
No	17	9.1
Caregiver:		
Father	121	64.7
Mother	28	15.0
Other	4	2.1
Both	34	18.2
Relation between the parents:		
Normal	124	66.3
Violent	18	9.6
Intimate	45	24.1
Family size:		
<5	27	14.4
5-6	112	59.9

7+	48	25.7
Range	2-11	
Mean±SD	5.8±1.4	
Median	6.0	

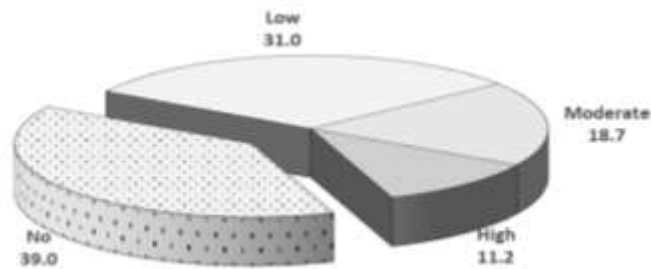


Figure 1: Total exposure to maltreatment among studied adolescents. . n =187

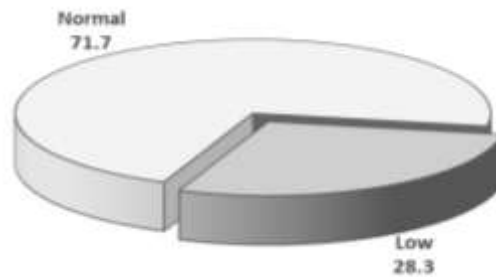


Figure 2: Level of Self-esteem among studied adolescents. . n =187

Table 4: Relations between adolescents' exposure to maltreatment and their characteristics. . n =187

	Maltreatment								X ² test	p-value
	No		Low		Moderate		severe			
	No.	%	No.	%	No.	%	No.	%		
Educational Region:										
West	37	39.4	25	26.6	18	19.1	14	14.9		
East	36	38.7	33	35.5	17	18.3	7	7.5	3.47	0.32
Age:										
16	29	52.7	19	34.5	5	9.1	2	3.6		
17	30	39.0	23	29.9	16	20.8	8	10.4	16.43	0.01*
18-19	14	25.5	16	29.1	14	25.5	11	20.0		
Gender:										
Male	24	25.8	36	38.7	20	21.5	13	14.0		
Female	49	52.1	22	23.4	15	16.0	8	8.5	13.84	0.003*
Have male siblings:										
Yes	10	55.6	4	22.2	3	16.7	1	5.6		
No	63	37.3	54	32.0	32	18.9	20	11.8	2.50	0.47
Have female siblings:										
Yes	13	43.3	7	23.3	7	23.3	3	10.0		
No	60	38.2	51	32.5	28	17.8	18	11.5	1.30	0.72
Birth order:										
1	29	48.3	15	25.0	11	18.3	5	8.3		
2+	44	34.6	43	33.9	24	18.9	16	12.6	3.65	0.30

(*) Statistically significant at $p < 0.05$

Table 5: Relations between adolescents' exposure to maltreatment and their family characteristics. . n =187

	Maltreatment								X ² test	p-value
	No		Low		Moderate		severe			
	No.	%	No.	%	No.	%	No.	%		
Family size:										
<5	14	51.9	8	29.6	5	18.5	0	0.0		
5-6	48	42.9	29	25.9	20	17.9	15	13.4	11.95	0.06
7+	11	22.9	21	43.8	10	20.8	6	12.5		
Crowding index:										
<2	52	44.1	42	35.6	20	16.9	4	3.4		
2+	21	30.4	16	23.2	15	21.7	17	24.6	22.27	<0.001*
Residence:										
Rural	55	44.0	34	27.2	23	18.4	13	10.4		
Urban	18	29.0	24	38.7	12	19.4	8	12.9	4.40	0.22
Income:										
Insufficient	9	24.3	12	32.4	10	27.0	6	16.2		
Sufficient	36	37.1	33	34.0	18	18.6	10	10.3	9.02	0.17
Saving	28	52.8	13	24.5	7	13.2	5	9.4		
Parents separated:										
No	69	50.7	44	32.4	14	10.3	9	6.6		
Yes	4	7.8	14	27.5	21	41.2	12	23.5	46.11	<0.001*
Parents currently married:										
Yes	70	41.2	56	32.9	28	16.5	16	9.4		
No	3	17.6	2	11.8	7	41.2	5	29.4	--	--
Caregiver:										
Father	45	37.2	43	35.5	19	15.7	14	11.6		
Mother	8	28.6	6	21.4	11	39.3	3	10.7	--	--
Other	0	0.0	1	25.0	1	25.0	2	50.0		
Both	20	58.8	8	23.5	4	11.8	2	5.9		
Parents relation:										

Normal	50	40.3	39	31.5	22	17.7	13	10.5
Violent	2	11.1	3	16.7	5	27.8	8	44.4
Intimate	21	46.7	16	35.6	8	17.8	0	0.0

(*) Statistically significant at $p < 0.05$

(--) Test result not val

Table 6: Relations between adolescents' self-esteem and their exposure to maltreatment types

Exposure to maltreatment	Self-esteem				X ² test	p-value
	Low		Normal			
	No.	%	No.	%		
Physical abuse:						
None	7	10.6	59	89.4		
Low	3	13.0	20	87.0	57.28	<0.001*
Moderate	5	12.5	35	87.5		
severe	38	65.5	20	34.5		
Emotional abuse:						
None	9	8.0	104	92.0		
Low	10	38.5	16	61.5	68.12	<0.001*
Moderate	14	63.6	8	36.4		
severe	20	76.9	6	23.1		
Sexual abuse:						
None	23	17.7	107	82.3		
Low	11	50.0	11	50.0	--	--
Moderate	18	58.1	13	41.9		
severe	1	25.0	3	75.0		
Emotional neglect:						
None	3	3.5	83	96.5		
Low	13	31.7	28	68.3	73.86	<0.001*
Moderate	10	37.0	17	63.0		
severe	27	81.8	6	18.2		
Physical neglect:						
None	7	9.1	70	90.9		

Low	8	33.3	16	66.7	25.15	<0.001*
Moderate	19	42.2	26	57.8		
severe	19	46.3	22	53.7		
Total maltreatment:						
None	1	1.4	72	98.6		
Low	15	25.9	43	74.1	71.96	<0.001*
Moderate	19	54.3	16	45.7		
severe	18	85.7	3	14.3		

(*) Statistically significant at $p < 0.05$ (--) Test result not valid

Table 7: Correlations between adolescents' maltreatment, self-esteem and their characteristics.. n =187

Characteristics	Spearman's rank correlation coefficient	
	Maltreatment	Self-esteem
Age	.286**	-.226**
No. of male siblings	.112	.015
No. of male siblings	.171*	-.119
Family size	.220**	-.135
Crowding index	.246**	-.293**
Birth order	.102	-.051
Father education	-.041	.150*
Mother education	-.114	.165*
Family income	-.209**	.092

(*) Statistically significant at $p < 0.05$

(**) Statistically significant at $p < 0.01$

Table 8: Best fitting multiple linear regression model for the maltreatment score

	Unstandardized		Standardized	t-test	p-value	95% Confidence	
	Coefficients					Interval for B	Lower
	B	Std. Error	Coefficients				
Constant	-47.40	21.72		2.183	0.030	-90.25	-4.55
Age	5.88	1.39	0.33	4.221	<0.001	3.13	8.63
Female gender	-5.68	1.70	-0.19	3.336	0.001	-9.05	-2.32
Crowding index	7.55	1.76	0.25	4.296	<0.001	4.08	11.01
Family income	-3.01	1.24	-0.14	2.423	0.016	-5.46	-0.56
Parents separated	13.06	1.95	0.39	6.692	<0.001	9.21	16.91

Table 9: Best fitting multiple linear regression model for the self-esteem score

	Unstandardized		Standardized	t-test	p-value	95% Confidence	
	Coefficients					Interval for B	Lower
	B	Std. Error	Coefficients				
Constant	26.56	1.76		15.091	<0.001	23.08	30.03
Father education	1.03	0.40	0.12	2.537	0.012	0.23	1.83
Family income	-0.86	0.39	-0.10	2.193	0.030	-1.64	-0.09
Parents' relations	1.32	0.31	0.20	4.278	<0.001	0.71	1.93
Maltreatment score	-0.29	0.02	-0.76	16.312	<0.001	-0.33	-0.26

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