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The cause of depression in adolescence: peer bullying

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Abstract. – OBJECTIVE: Depression affects adolescents worldwide and often predicts more serious disease manifestations in later lifetimes. Peer victimization or bullying, another form of child abuse, increases symptoms of depression. In this paper, the relationship between peer bullying and depression in adolescence was investigated.

SUBJECTS AND METHODS: Each adolescent who was admitted to the adolescent unit completed forms referred to as the 'Depression Scale For Children' and the 'Multidimensional Peer Victimization Scale'. Sociodemographic features and results of the scales' evaluation were studied. SPSS 16.0 program was used for statistical analysis. The *p*-value below 0.05 was considered statistically significant.

RESULTS: 239 adolescents, 120 of whom were male, were investigated. A positive relationship was determined among total and sub-scale scores of peer victimization-determining scale and depression scale scores. A negative relationship was determined between height, weight, age of the child, and sub-scale score of threat/intimidation. Both the total score of the peer victimization-determining scale and sub-scale scores of ridicule, open attack, and relational attack pertaining to patients with depression proved to be significantly higher than in those without depression.

CONCLUSIONS: The awareness of educators and parents, notably adolescents, must be raised in regard to peer victimization, and activities for increasing the communicative skills of adolescents and for allowing them to be able to express their emotions should also be performed. Identifying and preventing peer victimization, one of the causes of depression, and launching the treatment process for this are the first steps to be taken in terms of a healthy adulthood.

Key Words:
Peer bullying, Depression, Adolescent, Victim, Prevention.

Introduction

Though less commonly seen in childhood, depression is a disorder, the treatment of which is generally challenging, and the incidence of which is prominently on the increase during puberty. Depression affects 1-6% of adolescents worldwide, and the early onset often predicts more serious disease manifestation in later lifetime[1,2]. Depression in adolescents is of great importance due to the fact that it increases the risk of suicidal behaviors, thoughts of homicide, the use of alcohol and smoking, as well as addiction to other substances during late adolescence and adulthood[3,4]. For this reason, it is highly necessary to be in the know of depression-causing factors, to perform treatments when required, and to provide support for the involved adolescent.

Peer victimization or bullying/degradation is defined as a negative and repetitive physical and/or verbal action or systematic social exclusion that are performed with bad intentions[5,6]. Another definition of victimization is that repetitive aggressive behaviors are performed individually or along with a peer group much stronger than the victim. The ongoing actions of tyranny in this sense perpetuate power imbalance as well as render the targeted ones defenseless[5,7]. Thus, this is regarded as another form of child abuse[8]. In recent years, the number of studies in literature suggesting a clear relationship between peer victimization and the symptoms of depression has increased. Internalization and psychosomatic symptoms in children exposed to peer victimization are quite frequent, and these children have reported that they are unable to get pleasure out of life[9]. Fekkes et al[10], on the other hand, interpreted the depression and psychosomatic symptoms in the children exposed to peer victimization as being, in a general sense, similar to the symptoms

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seen in child abuse. One of the findings[11] that can be considered to be associated with the increased frequency of depression in peer victimization is the increased risk of self-destruction seen in those involved in peer victimization.

In this research, starting from the thought of a healthy adolescence for healthy adulthood, the relationship between depression and peer victimization in our region, where the adolescent population is high, was evaluated, and the factors likely to cause victimhood were investigated. Hence, making a contribution to minimizing depression as well as the problems likely to develop secondarily during late adolescence and adulthood was targeted.

Subjects and Methods

Participants

The adolescents who were admitted to the adolescent unit for control purposes and who had no chronic disease of any known etiology were incorporated into the study. How the questionnaires were to be filled out was explained to each adolescent by the same physician by giving examples, and for this process, each case was provided with a period of 30 minutes. Each adolescent filled out the forms referred to as the 'Depression Scale For Children' and the questionnaire for identifying the victim of peer victimization. The participants whose depression symptoms proved to be high were provided with psychiatric evaluation and treatment opportunities.

The Depression Scale for Children

The Depression Scale for Children (DSC) is a self-evaluation scale developed by Kovacs[12], which is applicable to children aged between 6-17. The scale in question is filled out by reading the items to the child or by allowing them to read the items. The scale consists of 27 items, with three different options for each item. The child involved is asked to select the most suitable sentence for himself/herself concerning the past two weeks. '0', '1', or '2' points are given for each item according to the severity of the symptom. The highest score indicates the level or severity of depression, and the highest registered score is 54. The scale's cut-off value is 19. In this research, the DSC scores pertaining to each case were recorded; a score of 1 corresponded to "depression exists", while a score of 0 was interpreted as "no depression".

Multidimensional Peer Victimization Scale

The original scale developed by Mynard and Joseph[13] consists of 16 items and is evaluated over 3 degrees (1-never, 2-one, 3-more than one). The escalation in the scores indicates the fact that there is frequent exposure to peer victimization, whereas the low score suggests that the victim is rarely or never targeted. As a result of the Turkish adaptation study conducted by Gültekin and Sayil[14], the number of factors pertaining to the scale was specified as 5 in the form of threat/intimidation (e.g., "They threaten me with various hurtful and crashing tools"), ridicule (e.g., "They give me a nickname"), open attack (e.g., "They kick me"), relational attack (e.g., "They try to destroy my relationships with my friends"), and attacking personal objects (e.g., "They steal my money"). The validity and reliability level of the scale is reported to be satisfactory.

Threat/intimidation

It involves situations in which violence is directly, publicly, physically, and willingly performed in groups to threaten or intimidate the victim.

Ridicule

It involves behaviors regarding the underestimation and abasement of the physical, cultural, and psychological traits of the child involved.

Open attack

It concerns situations in which the element of physical violence in the *behaviors* seen in threat/intimidation seems to be more extenuated.

Relational attack

It involves situations in which the victimized child is put on the spot through the breakdown of his/her social relationships, caused by the deliberate actions of the assaulter.

Attacking personal objects

It involves situations in which the objects possessed by the victimized one are damaged deliberately and willingly and are also stolen and/or owned through usurpation.

Ethical Statement

Students were informed of the study objectives and procedures. Participation was voluntary, and questionnaires were anonymous in order to protect student privacy. We obtained written consent

from one parent per student and from all students. The research was approved by the Dicle University Medical Faculty Ethic Committee for noninterventional studies with issue number 220.

Statistical Analysis

The Student's *t*-test was used to compare normally distributed variables in independent groups, and the Mann-Whitney U test was used to compare nonparametric or ordinal variables. Pearson's test was used to evaluate correlation coefficients and statistical significance of normally distributed variables, and Spearman's test was used to evaluate non-normally distributed variables. The values were given as mean±standard deviation (SD). The *p*-value below 0.05 was considered statistically significant.

Results

A total of 239 adolescents aged between 10-18 years participated in the study. The mean age of the sampling was 13.03±1.86 years. 120 (50.2%) participants were male, while 119 (49.8%) were female. The mean number of siblings was 5.33±2.45. The socio-demographic data are summarized in Table I.

In our study, a positive relationship was determined between the total and sub-scale scores of the peer victimization-determining scale and the depression scale scores. A negative relationship was determined between the height and weight of the involved child and the sub-scale score of threat/intimidation. A negative relationship close to significance was ascertained between the age of the child and the sub-scale score of threat/intimidation (Table II).

The children whose course/lesson successes proved to be low registered higher threat/intimidation sub-scale scores compared to those whose course successes were at average and good levels (χ^2=7.987, p=0.018).

Both the total score of the peer victimization-determining scale and the sub-scale scores of ridicule, open attack, and relational attack pertaining to the patients with depression proved to be significantly higher than in patients without depression (p=0.001, p=0.000, p=0.013, and p=0.009, respectively).

There was no difference between the children with enuresis and those without in terms of peer victimization (p>0.005). While male adolescents graded the threat/intimidation sub-scale at a significantly higher rate than the female ones (p=0.005), there was no difference between the genders in terms of the other sub-scales and the total score (p>0.05).

Discussion

The depressive disorders seen in adolescence are defined as diseases that relatively course with high morbidity and that carry a mortality risk due to the increased suicidal risk both in the pediatric and pediatric surgery areas. Depressive disorders with early onset are known[15] to have a poorer progression compared to depressive disorders with maturity-onset. Depression may result from ge-

Table I. Sociodemographic data and scale scores.

	Mean	Standard Deviation	Minimum	Maximum
Age (year)	13.03	1.86	10	18
Maternal age	39.08	6.38	26	56
Paternal age	43.17	6.5	29	62
Multidimensional Peer Victimization Scale				
Threat/intimidation	1.41	2.37	0	14
Ridicule	1.85	2.23	0	8
Open attack	1.48	2.43	0	12
Relational attack	2.47	2.67	0	8
Attacking personal objects	1.71	2.48	0	10
Total	8.94	9.31	0	52
The Scores of Depression Scale for Children	12.03	7.19	0	38

Table II. Correlation data about the peer victimization scale.

	Threat/ intimidation	Ridicule	Open attack	Relational attack	Attacking personal objects	Total
Age (year)	r=-0.125	r=0.064	r=-0.033	r=0.070	r=-0.024	r=-0.015
	p=0.054	*p*=0.334	*p*=0.610	*p*=0.289	*p*=0.711	*p*=0.822
Height (cm)	r=-0.262	r=-0.022	r=-0.101	r=-0.030	r=-0.003	r=-0.132
	***p*=0.000**	*p*=0.743	*p*=0.132	*p*=0.661	*p*=0.969	*p*=0.051
Weight (kg)	r=-0.211	r=0.011	r=-0.087	r=-0.011	r=-0.040	r=-0.105
	***p*=0.001**	*p*=0.874	*p*=0.190	*p*=0.869	*p*=0.553	*p*=0.120
The Scores of Depression Scale for Children	r=0.323	r=0.354	r=0.351	r=0.315	r=0.194	r=0.386
	***p*=0.000**	***p*=0.000**	***p*=0.000**	***p*=0.000**	***p*=0.003**	*p*=0.000

Spearman correlation coefficients are given because numerical data are not complying with normal distribution.

netic, hereditary, biological, psycho-social, and nutritional factors, such as vitamin D[16,17]. At the same time, the efforts to gain an identity and the biological, social, and psychological changes experienced make the adolescent more susceptible to environmental stresses[18]. For this reason, peer victimization/ bullying should be kept in mind while investigating the causes of depression.

The importance of peers and the outer world during adolescence increases, and it even reaches vital (life-sustaining) values. Since most of the time is spent with peers during this period, the ability to start and maintain a relationship, or the skill of being able to draw the boundary against the negative effects of peers, affects the adolescent a great deal. Peers are, of course, important for socialization and they may also become the source of stress[6]. Physical or emotional backbreaking behaviors, sexual abuse, negligence/ignorance, or negligent behaviors resulting in actual or potential damage to the child's health, life, development, or dignity are discussed within this scope[19,20]. Abuse/manipulation increases the risk of anxiety[21,22], depression[23], self-destruction, and suicidal behaviors by altering the biological stress systems, brain morphology, and the information network[20] that affects the child's self-control and behaviours[24,25]. The results obtained from recent studies[26] also suggest that being bullied can modify stress responses or lead to long-term increases in inflammatory processes. The effects on health and employment may last till early adulthood[27,28], and even till mid-life[27].

Peer victimization is a widespread issue around the world, with one in three kids reportedly being exposed to it[29]. In a recent survey[30] of high school students in our nation, 54.7% of the students said that the oppression they experienced at school greatly disturbed them, and 21.3% said that bullyboys make them afraid to attend.

Also, in our study, and in accordance with the literature, a strong correlation between depression and peer victimization/bullying was determined. As the depression scores increase, the score of being exposed to peer victimization increases as well. The issue as to whether or not this correlation is the result of the environmental oppression that develops secondarily to the depressive adolescent's symptoms of social withdrawal, or whether the exposure to tyranny is the cause of depression must be dealt with. However, it is clear that both will increase the impact of each other and cause this problem to turn into a vicious cycle.

When the obtained findings are reviewed in terms of age and gender, which are demographic variables, it is seen that in terms of being exposed to tyranny/bullying, male students are exposed to the dimensions of 'threat/intimidation' much more than females. When these results are compared with the literature, the data are seen to be contradictory. Despite the studies[14,31,32] reporting that the existing difference regarding the role of gender in getting exposed to victimization is qualitative rather than quantitative, and that male individuals are more exposed to physical assault, there are also studies[33] similar to ours, which report that male individuals are exposed to the dimensions of 'threat/ intimidation' and 'open attack'[32] as well as being exposed to 'ridicule', 'menace' and 'physical violence'. In our study, the fact that there was no difference between the female and male students in the totality of different types of peer victimization is concordant with several other studies[5].

Although some of the findings published in the literature[34] suggest that there is no difference depending on age in getting exposure to peer victimization, there are studies[35] putting forward the fact that the incidence of exposure to abuse has decreased. Again, in a conducted study, it was reported that the decrease in the incidence of exposure to abuse along with the advancing age was because the children of younger age groups were yet unable to gain the social skills to be able to efficiently cope with abusive behaviours[36]. In general, the targeted children are those who are vulnerable, physically weak, with low self-esteem, more sensitive than other kids, concerned, excessively protected, and reserved, who, therefore, are the individuals unable to defend themselves and less likely to pose a threat for the assaulter[37,38].

In our study, it was determined that as the age decreased, there was a prominent increase observed in the 'threat/intimidation' sub-dimension score. Separately, independent of age, as the height and weight decrease, a significant increase in the 'threat/intimidation' sub-dimension scores is observed again. In this case, apart from the younger age, the decrease in height and weight also increases the exposure to peer victimization.

The 'threat/intimidation' sub-dimension is a type of assault of verbal characteristic, which may be associated with the fact that verbal skills increase along with aging, and those performing such deeds come to realize that verbal assaults can, at least, be as hurtful as physical assaults. Indeed, there are studies emphasizing the fact that types of verbal peer abuse have increased along with advancing age[39,40]. In our study, the most common sub-dimension of bullying/tyranny was the 'threat/intimidation' sub-dimension.

Another finding related to victimized students is the fact that the course successes of the victimized students are lower than their peers; therefore, the rate of their absenteeism from school is higher[41-43].

In our study, it was determined that the 'threat/intimidation' sub-dimension score in the group with a low rate of course success was prominently high. Course success and exposure to peer victimization show an inverse correlation, which can be associated with the fact that tyrannical students are able to express themselves more clearly or that the victimized students experience problems in being able to express themselves in class or in attending school due to this tyranny. Separately, sleep problems caused by victimization, restlessness, sense of panic and tension, impairment of concentration, discrepancy/inadaptability within the school or denial of attending the school, shyness, withdrawal/becoming reserved, and depressive mood can also be considered among the factors that affect course success[44,45]. Also, recent research[46], revealed that an increase in the severity of stuttering caused a significant increase in depressive symptoms, as well as in social anxiety symptoms, and that the comorbidity of depression and anxiety affects the quality of life more negatively and increases the risk of substance use and suicide; therefore, it is emphasized that more attention should be paid to these individuals.

In this study, a prominent correlation was determined between depression and peer victimization in adolescents. The most common type of tyranny/bullying is the 'threat/intimidation' sub-dimension. As the values in age, height, and weight decrease, the 'threat/intimidation' sub-dimension score increases. Although there is no difference in the total scores in terms of gender, the exposure to the tyranny of 'threat/intimidation' type is seen more in male students than in female ones.

Strengths and Limitations

This study is important in terms of showing the effect of these traits of adolescents on peer abuse. However, the main restriction of our study is that only the exposure to peer abuse was examined, but the evaluation of the children who exhibited peer abuse was not performed.

Conclusions

In conclusion, more active programs are required to be performed for peer victimization, the incidence of which is on the increase and the effects of which are permanent on individuals throughout their lifetime. Along with larger-scale studies to be conducted, not only the victims but also those performing tyranny and the causes of the emergence of such behaviors must be evaluated. Protective measures and training must also be increased in the schools where students spend most of their time. The awareness of educators and parents, notably adolescents, must be raised in regard to peer victimization, and activities for increasing the communicative skills of adolescents and allowing them to express their emotions should also be performed. Separately, the participation of adolescents in social, cultural, or sports events should be ensured, and they should be allowed to realize that there are also different alternatives through which they will be accepted and recognized within soci-

ety. Identifying peer victimization, one of the causes of depression, and launching the treatment process for this are the first steps to be taken in terms of healthy adulthood.

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Ethics Approval
The Dicle University Ethical Committee granted ethical clearance for the research (approval number: 220).

Informed Consent
Written informed consent was obtained from the parents of patients.

Availability of Data and Materials
All data generated or analyzed during this study are included in this article. Further inquiries can be directed to the corresponding author.

Conflict of Interest
There is no conflict of interest between authors.

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