

AGGRESSIVE BEHAVIOR AND SUICIDE PROBABILITY IN ADOLESCENT MALES

By

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ABSTRACT

Background: Aggressive behavior and probability of suicide in adolescents are increased in last decades this affects most communities in our world increasing and socio-economic burden and stress health care facilities.

Objective: To compare suicide probability and aggressive behavior in rural and urban areas and relation between probability of suicide and aggressive behavior in adolescents.

Patients and Methods: Total sample of this study was 295 male student, 105 student from Zorkan secondary school at Zorkan Village, Tala Center, El-Menofeya Governorate and 190 students from Khalil Agha secondary school in Bab El-Sheria Cairo Governorate selected in random manner. All participants were subjected to suicide probability scale, semi-structured clinical psychiatric interview and socioeconomic standard form during the period from December 2019 to April 2020.

Results: This study revealed that there was a high suicide risk in the sample divided into three groups: group of mild risk (46.1%), group of moderate risk (25.1%) and group of sever risk (11.9%), Suicide risk increased in urban sample than rural sample in statistical significant degree, There was a positive correlation between suicide risk and aggressive behavior in statistical significant degree, Prevalence of psychiatric disorders was (11.53%) in the total sample, (11.58%) in urban sample and (11.435%) in rural sample, Prevalence of depression in rural sample was (8.57%) and (7.89%) in urban sample while prevalence of generalized anxiety disorder in rural sample was (2.86%) and in urban sample was (2.635%), Prevalence of obsessive-compulsive disorder in urban sample was (1.05%) and no cases in rural sample, there was a positive correlation between suicide probability, aggressive behavior and psychiatric morbidity in a significant degree in the sample as a whole.

Conclusion: Suicide probability and aggression in adolescents was increased in urban areas in Egypt than in rural areas also the increasing rate of aggressive behavior increased the rate of probability of suicide in adolescents.

Key words: Aggressive behavior, Suicide probability, Adolescents.

INTRODUCTION

Current Centers for Disease Control and Prevention (CDC) data indicate that suicide is the second leading cause of death for both children and adolescents ages 10 to 17, second to only unintentional injury (CDC, 2017). This statistic is an evidence of rising rates of suicide among children and adolescents, as ten years prior, suicide was the fourth

leading cause of death among children ages 10 to 17 (CDC, 2017) Furthermore, suicide is now the 9th leading cause of death among children ages 5 to 11 (CDC, 2017). Unfortunately, these death statistics comport with recent literature which found a 92% increase in annual emergency department (ED) visits for suicide ideation and attempts from 2007 to 2015 for children under the age of 18,

despite no statistically significant increase in the overall number of ED visits (*Burstein, Agostino, & Greenfield, 2019*).

Those admitted to the ED for a suicide attempt increased by 79% from 2007 to 2015, and almost half (43.1%) of all ED visits for suicide ideation or a suicide attempt were for children between the ages of 5 and 10 (*Burstein et al., 2019*). Rising rates of suicide attempts and death, particularly in younger children, indicate the urgent need to develop a better understanding of contributing risk factors to increased suicide risk and to design new evidence, based interventions for suicide in children and adolescents. As such, our special issue is organized in two sections: (1) papers that highlight contributing risk factors of increased suicide risk and (2) papers describing new treatments for suicide in children and adolescents. In order to effectively prevent and intervene, it is critical to build an empirically based Conceptualization of the contributing factors that increase child and adolescent suicide. In this section on contributing risk factors, the authors review unique factors that increase suicide risk including anxiety, sleep problems, child sexual abuse, and violent victimization. Notably, there are other factors that are not included in the present issue that also contribute to increased risk e.g., seasonal trends with higher rates of suicide attempts in the school year self-harm (*Carbone et al., 2019*). To begin the special issue and open the section on risk factors, *Covert and Fraire (2019)* provided a comprehensive review of the literature on how specific anxiety disorders may serve as risk factors for Suicide-related behavior in youth. An important take away from their review, is

the relative lack of research on the role of anxiety disorders and suicide in youth. They concluded that social anxiety disorder appears to have the most developed literature, with the presence of social anxiety disorder related to increased risk for suicide-related behavior in adolescents. Additionally, generalized anxiety disorder also serves as a risk factor for suicidal behavior in adolescents. Importantly, the *Covert and Fraire (2019)* article made a relevant clinical suggestion: when determining a child or adolescent's suicide risk, we should not only be examining this within the context of depression –which is most commonly done in clinical practice – but also anxiety disorders, particularly given their high comorbidity with depression. Aggression is a ubiquitous and important phenomenon, and manifests itself through thoughts, feelings, desires, fantasies, through the motions and behavior of young people. Aggressiveness in adolescence can often be an expression of conscious and unconscious efforts of separation from parents, autonomy and personal independence (*Kongres et al., 2011*). It is mainly manifested in rebellion to the environment, constantly confronting parents and authority, verbal aggression, physical aggression, neglect of school responsibilities, as well as more dangerous situations such as speeding, alcohol abuse, experimentation with drugs, thoughts of death, suicide attempt (*Carbone et al., 2019*).

PATIENTS AND METHODS

This study was done at two schools the first one was Zorkan secondary at Zorkan village Tala center, Menofeya Governorate, this school received students

from Zorkan and surrounding villages and number of students was 460 students. The second school was Khalil Agha secondary school which contained 1010 students and present at Bab El-Sha`aria, Cairo Governorate where socioeconomic level is below moderate, most peoples at this neighborhood work in different professions Most of it are manual and craft professions, with a few related scientific jobs, such as doctors and engineers during the period from December 2019 to April 2020.

Stage of field study: Researcher accompanied the school administrator of Zorkan secondary school and school doctor of Khalil Agha School applying suicide probability questionnaire and the socioeconomic level form for all members of the sample and explaining how to fill them. He conducted a semi-structured clinical interview according to DSM 5 for all members of the sample, He corrected suicide probability questionnaire, socioeconomic level form collecting their results and collecting results of clinical interviews then the researcher did the statistical processing by help of professionals at this field, The study was conducted on two samples: the first was

105 students at Zorkan secondary school who were all male students at all classrooms which were 2 classrooms at 1st year , 2 classrooms at 2nd year and 2 classrooms at 3rd year each class room contained 45 student after excluding absent students who were 146 student and other 3 students refused sharing in the study, the second sample was 190 male students from Khalil Agha secondary school they were selected randomly from total number 1010 student each class room contained 50 students.

Statistical analysis: Two types of statistics were done:

1. Descriptive statistics:

- Quantitative data was shown as mean, SD, and range.
- Qualitative data was expressed as frequency and percent.

2. Analytical statistics: Mann Whitney test was used to compare mean and SD of 2 sets of quantitative when this data is not normally distributed. Post hoc test was used for specific differences between three or more groups, P value was considered statistically significant when $p \leq 0.05$.

RESULTS

It was found that mild suicide risk is the most is the most followed by moderate

suicide risk then severe suicide risk (Table 1).

Table (1): Ratio of suicide probability in the sample

Suicide risk	Number	Percentage
Subclinical	50	16.9%
Mild	136	46.1%
Moderate	74	25.1%
Severe	35	11.9%
Total	295	100%

It was found also that that probability of suicide in rural group is less than probability of suicide in urban group with statistical significance (**Table 2**).

Table (2): Relation between rate of probability of suicide and residence

Residence	Variables	Probability of suicide				Total
		subclinical	Mild	moderate	Severe	
Rural Group	Number	12	65	22	6	105
	Ratio to residence group	11.4%	61.9%	21%	5.7%	100%
	Ratio to probability group	24%	46.1%	29.7%	20%	35.6%
	Ratio to total sample	4.1%	22%	7.5%	2%	35.6%
Urban Group	Number	38	76	52	24	190
	Ratio to residence group	20%	40%	27.4%	12.6%	100%
	Ratio to probability group	76%	53.9%	70.3%	80%	64.4%
	Ratio to total sample	12.9%	25.8%	17.6%	8.1%	64.4%
the total	Number	50	141	74	30	295
	Ratio to residence group	16.9%	47.8%	25.1%	10.2%	100%
	Ratio to probability group	100%	100%	100%	100%	100%
	Ratio to total sample	16.9%	47.8%	25.1%	10.2%	100%

It was found that there was statistically significance at 0.001 for group higher in degree of suicide probability scale, so probability of suicide is increased with increasing of aggression and imagination of suicide (**Table 3**).

Table (3): Relation between probability of suicide, aggression and imagination of suicide

Values	Groups	Number	Average	Standard deviation	Significance	For group of
t-degree	Patient group	39	53.31	9.4	<0.001	group higher in probability of suicide
	group higher in degree	64	68.34	6.16		
Probability Of suicide	Patient group	39	40.9	6.35	<0.001	group higher in probability of suicide
	group higher in degree	64	50.8	4.2		
Imagination Of suicide	Patient group	39	14.31	4.82	<0.001	group higher in probability of suicide
	group higher in degree	64	22.05	5.33		
Aggression	Patient group	39	12.38	3.35	<0.001	group higher in probability of suicide
	group higher in degree	64	15.64	3.26		
Total scale Degree	Patient group	39	61.85	14.73	<0.001	group higher in probability of suicide
	group higher in degree	64	84.20	8.61		

It was found also that major depressive disorder has the highest ratio in the sample then generalized anxiety disorder then obsessive compulsive disorder and

that psychiatric disorders are mildly increased in urban group than rural group, with mildly increased in urban group than rural group (Table 4).

Table (4): Comparison between rural and urban group regarding results of clinical interview

Disorders	Rural group 105 student		Urban group 190 student		Total 295	
	number	%	number	%	number	%
Major depression	9	8.57%	15	7.89%	24	8.14%
Generalized anxiety	3	2.86%	5	2.63%	8	2.71%
Obsessive compulsive	-	-	2	1.05%	2	0.68%
Total	12	11.43%	22	11.58%	34	11.53%
Family history of psychiatric disorder	3	2.86%	6	3.16%	9	3.05%

DISCUSSION

This work showed an increase in the ratio of suicide probability in the sample, as the ratio of suicide probability was 46.1%, The ratio of moderate suicide probability was 25.1% ,while severe suicide probability was 11.9%, This may be due to socioeconomic stressors that affect adolescents, sense of hope loss, sense of despair, difficulty in having work and house also difficulty in marriage this result is supported by study of (Neelman and Lewis, 2015) that had confirmed increased rate of suicide among adolescents at last decade of twenty century.

There was an increase in rate of probability of suicide in urban group more than rural group with statistical significance, this may be due to relative simplicity of life in rural areas than in urban areas as rural areas were less crowded and easier to have house and get married. Also, rural areas were less in

pollution and social support was better at rural community than urban community. This may decrease rate of psychiatric disorders. The present work was supported by Study of (Leighton et al., 2011) showed that the rate of psychiatric disorders was (25%) (Leighton D.C. et al., 2011). Study of Samuels (2014) who found that the rate of spread of psychiatric disorders was (34%). Study of the survey area in USA by (Darel et al., 2012) who found that the psychiatric disorders were (36%) in males and (30%) in females Study of (Jhonson et al., 2019) who stated that the social support and suitable rearing of adolescents play an important role in decreasing suicidal behaviors. The probability of suicide was increased with the increase of aggressive behavior and imagination of suicide with statistical significance; this was supported by the study of (Swogger et al., 2015) who found increasing of suicide with the increasing of aggression. The present work found

that major depressive episode had the highest rate in the sample (8.57%) in rural sample and (7.89%) in urban sample while generalized anxiety disorder had less rate of (2.86%) in rural sample and (2.63%) in urban sample, Also obsessive compulsive disorder was present in urban sample only with a rate of (1.05%). There was family history of psychiatric disorder in rural sample with rate of (2.86%) and in urban sample with rate of (3.16%). The total psychiatric disorders was (11.43%) in rural sample and (11.58%) in urban sample which were near rates, this was supported by Study of (*Silva et al, 2020*) who found that the rate of mental disorders was (31%) in male adolescents and (25%) in female adolescents. The difference in results between our study and these studies may be due to difference in size, method of selection and specification of sample, the use of different diagnostic methods as general health questionnaire and dependence on patient record in Lighton study and socioeconomic differences of persons shared in our study and the previous studies.

CONCLUSION

Suicide probability and aggression in adolescents increased in urban areas in Egypt than in rural areas. Also the increasing rate of aggressive behavior increased the rate of probability of suicide in adolescents.

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السلوك العدواني واحتمالية الانتحار في المراهقين الذكور

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خلفية البحث: ازداد معدل السلوك العدواني واحتمالية الانتحار في المراهقين الذكور في العقود الماضية في شتي أنحاء العالم مما أثر علي كل المجتمعات في عالمنا مما أدى إلي زيادة العبء الاقتصادي والاجتماعي وزيادة الضغط علي مرافق الرعاية الصحية وتهدف هذه الدراسة إلي مقارنة السلوك العدواني واحتمالية الانتحار في المراهقين الذكور بين المناطق الريفية والحضرية في جمهورية مصر العربية والعلاقة بين احتمالية الانتحار والسلوك العدواني في المراهقين الذكور.

المرضي وطرق البحث: بلغ مجموع عينة الدراسة 295 طالبا هم مجموع 105 طالبا من مدرسة زرقان الثانوية بقرية زرقان مركز تلا محافظة المنوفية و190 طالبا من مدرسة خليل أغا بمنطقة باب الشعرية بمدينة القاهرة. وقد تم إختيار هؤلاء الطلاب بطريقة عشوائية وقد تم تطبيق مقياس احتمالية الانتحار ومقابلة نفسية شبه مقننة طبقا للنموذج الأمريكي التشخيصي الإحصائي الخامس (DSM5) واستمارة المستوي الاقتصادي والاجتماعي وذلك في الفترة من ديسمبر 2019 وحتى إبريل وبعد عمل الإجراءات الإحصائية اللازمة.

نتائج البحث:

1. توجد احتمالية انتحار في العينة المقسمة إلي ثلاث مجموعات: مجموعة احتمالية الانتحار الخفيفة 46.1% ومجموعة احتمالية الانتحار المتوسطة 25.1% ومجموعة احتمالية الانتحار الشديدة 11.9%.
2. ازدادت احتمالية الانتحار في العينة الحضرية عن العينة الريفية بدرجة ذات دلالة إحصائية.

3. وجود علاقة ارتباط موجبة بين احتمالية الانتحار والسلوك العدواني بدرجة ذات دلالة إحصائية.
4. إنتشار الاضطرابات النفسية 11.53% في العينة الكلية و 11.58% في عينة الحضر و 11.435% في عينة الريف.
5. إنتشار الاكتئاب في عينة الريف 8.57% و 7.89% في عينة الحضر بينما انتشار اضطراب القلق العام في عينة الريف 2.86% وعينة الحضر 2.635%.
6. إنتشار اضطراب الوسواس القهري في العينة الحضرية 1.05% وعدم وجود حالات في عينة الريف.
7. توجد علاقة ارتباطية موجبة بين احتمالية الانتحار والسلوك العدواني والاضطرابات النفسية بدرجة دالة احصائيا في العينة ككل.

الاستنتاج: تظهر نتائج البحث زيادة السلوك العدواني واحتمالية الانتحار في المراهقين الذكور في مصر في الحضر اكثر من الريف وكذلك فإن زيادة السلوك العدواني في المراهقين الذكور تزيد من احتمالية الانتحار لديهم.

الكلمات الدالة: السلوك العدواني، احتمالية الانتحار، المراهقون.