

## Violence Attitude and Its Relation to Health-Related Habits in Medical Students' at Faculty of Medicine, Ain Shams University.

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### Abstract

**Background:** Youth violence is a global public health problem. It includes a range of acts from bullying and physical fighting, to more severe sexual and physical assault to homicide. Worldwide an estimated 200 000 homicides occur among youth 10–29 years of age each year, making it the fourth leading cause of death for people in this age group. Youth homicide rates vary dramatically between and within countries, being more common in developing countries than more developed ones. Researchers and prevention specialists are trying to identify the factors that increase young people attitude toward violence in order to plan for successful interventions and to design more effective prevention programs. **Objectives:** to measure medical students' attitude toward violence at Ain Shams university hospital and to find out the relations between medical students' scores on the attitudes toward violence, demographic variables, and health-related habits. **Methods:** A Descriptive cross-sectional study was carried out at Faculty of Medicine, Ain Shams University; 1257 Medical Students were included in the study. Data was collected using a structured interviewed questionnaire adopted from National centre for injury prevention and control of the centre for disease control and prevention. **Results:** The total attitude score toward violence was  $53.02 \pm 11.74$ , (48.0%) of the studied medical students show moderate attitude toward violence. There was a highly statistically significant relationship between violence attitude level and Smoking status, Taking Anxiolytics, Analgesics and Alcohol. Ordinal logistic regression analysis shows that Students' gender, grade, smoking status and analgesic intake are independent predictors of total attitude score toward violence ( $P < 0.05$ ). **Conclusion:** An increase in attitude score towards violence among medical students is well observed. Male gender, older student ages, smoking and analgesics intake are important influencing factors that require special attention while designing intervention programs aiming at reducing violence rates among youth.

**Key words:** *Attitude towards Violence – Health-related habits –Medical students*

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### Introduction:

Youth violence (involving people between the ages of 10 and 29 years) includes a range of aggressive acts from bullying and physical fighting, to more serious forms of assault and homicide<sup>1</sup>. In fact the interpersonal violence among adolescents has become an increasingly important global public health concern in recent years<sup>2</sup>.

Nearly one third of adolescents from North America and Europe reported being in a physical fight within a year to a year and a half prior to being surveyed<sup>3</sup>.

In 2000, violence among young people left an estimated 199 000 youths dead – a rate of 9.2 per 100 000. The highest rates of youth homicide are found in Africa and Latin

America. In the Middle East and Sub-Saharan Africa, more than half of adolescents report involvement in physical fighting<sup>4</sup>. Prevalence rates of physical fighting and other forms of interpersonal violence in low- and middle-income countries particularly those experiencing social and political unrest remain elevated and, in some instances, are increasing<sup>1</sup>.

Violence puts a massive burden on national economies. In calculating the costs of violence to a nation's economy, a wide range of factors need to be taken into consideration besides the direct costs of medical care and criminal justice. Indirect costs may include lost productivity as a result of premature death, injury, absenteeism and diminished quality of life<sup>5</sup>.

The different forms of interpersonal violence share many common underlying risk factors. Some are psychological and behavioral characteristics such as poor behavioral control, low self-esteem, and personality and conduct disorders. Others are tied to experiences, such as lack of emotional bonding and support, early exposure to violence in the home (whether experiencing or witnessing family violence), and family or personal histories marked by divorce or separation. Abuse of drugs and alcohol is frequently associated with interpersonal violence, and poverty as well as income disparities and gender inequality stand out as important community and societal factors<sup>6</sup>.

Studies have also shown a consistent relationship at the individual level between alcohol use, drug abuse and aggressive behavior, especially in the presence of social cues that would normally elicit an aggressive response; the consumption of alcohol increases the aggressiveness of this response. In nearly 40 studies of violent offenders, and an equal number of studies of victims of violence, alcohol involvement

was found in about 50% of the events and people examined<sup>7</sup>.

Pervasive exposure to violence can lead youth to disregard the use of non-violent tactics when confronted with a conflict. Attitudes towards the use of aggression as being necessary to resolve conflicts may actually cause youth to attend to more hostile aspects of their social cues in their environment, and as a result, discouraging youth from learning skills that are necessary for peaceful conflict resolution<sup>8</sup>.

The encouragement to use violence, particularly among males, emerges from a complex socialization process that begins at an early age where boys are taught how to be aggressive. Initially, it may start as boys wrestling with each other. The socialization process of young males towards violence continues by the reinforced belief that crying is for girls and that men should hold all emotional reactions inside so as not to portray weakness<sup>9</sup>.

Many studies have been conducted to explore the attitude of university students towards violence in the Middle East. A study was conducted in Jordan to identify the attitudes of Princess Rahma College students have towards University Violence, by exploring different variables that vary from the level of violence (Low, medium or high), to gender, educational achievement and academic year. The study concluded that the tendencies and inclinations of the students towards violence were low. There were statistical differences in the attitudes of the students because of the differences in gender, the differences in the level of educational achievements as well as differences in the academic year<sup>10</sup>.

Egypt has gone into many political changes and two revolutions that affected all the Egyptians socially, financially and emotionally as well. Youth (particularly university students in Cairo) were in the frontlines of all these changes and were

affected a lot. That's why studying attitude of violence among university students is of a pressing need to be investigated, provoked and managed in the near future.

The aim of the present study is to measure medical students' attitude toward violence at Ain Shams university hospital and to find out relations between medical students' attitude scores toward violence, demographic variables, and health-related habits (smoking, drug abuse).

## Methods:

Descriptive cross-sectional study was carried out at Faculty of Medicine, Ain Shams University located in Abbasssia square in Cairo, on Medical Students and House officers with the following **Inclusion criteria:** Students from Grade 1 to Grade 6 and House officers who agree to participate will be included in the study. **Exclusion criteria:** all foreign Students were excluded as they don't represent the Egyptian culture and through they could bias the results (Attitude scores toward violence) and of course those who disagree to participate in the study. Sample size was calculated using OpenEpi, Version 3, open source calculator; taking into consideration that total number of students in addition to the number of house officers in the year 2015-2016 was equal to 6965. The Sample size was calculated for the preclinical students and clinical students to represent their attitude toward violence as it was revealed from the literature that attitude toward violence increase as students advances in age and educational grades; The recommended sample size was 1116 medical students; given that the sample size calculated at confidence level of 99.0% and power of 80.0% and that the prevalence of violence is  $50\% \pm 5$ ; The researchers increase the sample size to 1257 students to give the researchers the chance to greatly represent medical students in different grades of the

faculty of medicine as attitude towards violence among youth is a very sensitive and pressing need to be explored in a meticulous way as it affects the political situation in Egypt nowadays. Data was collected using interview questionnaire which was adopted from a guide produced by National Center for Injury Prevention and Control of the Centers for Disease Control and Prevention named "Measuring Violence-Related Attitudes, Behaviors, and Influences among Youths: A Compendium of Assessment Tools; Second Edition"<sup>11</sup>. Reliability of the questionnaire was measured by Cronbach's alpha coefficient and was found to be 0.859.

**Scoring System:** Total Attitude score toward violence was calculated by summing up number of items in the questionnaire. Attitude percent score was calculated by dividing the Total attitude score by (No. of questionnaire items= 23 multiplied by 3 which is the max item score)\*100. Attitude percent score = Total Attitude score/69\*100. Attitude toward violence was classified as High, Moderate and Low tendency for violence as follow: Less than 50.0% was considered Low, 50.0%-75.0% was considered Moderate, More than 75.0% was considered high

**Data Management and Analysis:** The collected data was revised, coded, tabulated and introduced to personal computer then finally analyzed using statistical package for social sciences (IBM SPSS Version 20).

**Ethical Consideration:** Administrative approval from Vice Dean for Student Affairs and Faculty of Medicine, Ain Shams University Ethical committee board approval were obtained to carry out the study. Anonymous questionnaires were used, and confidentiality of the data was assured.

## Results

Out of 1257 participants, (54.4%) were males and (45.6%) were females, the mean

age of the studied medical students was  $21.5 \pm 2.07$ ; A stratified random sample included students from preclinical and clinical grades (45.7% from preclinical grades and 54.3% from clinical grades). Regarding medical students' fathers and mothers education; the majority (63.7%) & (61.2%) respectively were university graduates, while about one quarter (24.4%) and (16.8%) respectively performed post graduate studies. Concerning Smoking status; about (11.5%) of the studied students mentioned that they were smokers (**Table 1**).

Regarding health related habits; (5.3%) of the medical students used to take Anxiolytics; (3.3%) mentioned they take analgesic drugs, (3.0%) drink alcohol, (0.8%) take sedative hypnotics; about (6.1%) had history of chronic disease. Among those who had chronic diseases; the commonest chronic disease among medical students was bronchial asthma (29.7%), Irritable bowel disease (17.6%) followed by Diabetes Mellitus (14.9%) and hypertension (13.5%) (**Table 2**).

The total attitude score toward violence was  $53.02 \pm 11.74$ ; where (46.7%) of the studied medical students show mild attitude toward violence, (48.0%) of the studied medical students show moderate attitude toward violence; while (5.3%) show high attitude toward violence; Moreover; there was a highly statistically significant difference of student attitude level toward violence in preclinical grades as compared to clinical grades (3.8% students showed severe levels of violence in preclinical grades compared to 6.6% in clinical grades) ( $P < 0.01$ ) (**Table 3**).

Regarding the relationship between total attitude level toward violence and students' health related habits; there is a highly statistically significant difference between males and females' attitude level toward violence; where Males show higher attitude level than females toward violence (7.7% of

males versus 2.4% of females) show severe attitude level toward violence; In addition to that there was a highly statistically significant relationship between violence attitude level and Smoking status, Taking Anxiolytics, Analgesics and Alcohol, (18.1% of smokers versus 3.7% of non smokers), (13.4% of those who take Anxiolytics versus 4.9% of those who don't take Anxiolytics), (26.2% of those who take analgesics versus 4.6% of those who don't take analgesics) and (15.8% of those who drink alcohol versus 5.0% of those who don't drink alcohol) had High attitude toward violence ( $P < 0.01$ ). On contrast; there is a statistically insignificant relationship between total attitude score toward violence and Father and mother education, use of sedative hypnotics and Presence of chronic disease ( $P > 0.05$ ) (**Table 4**). Ordinal Logistic regression analysis shows that Students' gender, grade, smoking status and analgesic intake are independent predictors of total attitude score toward violence ( $P < 0.05$ ) (**Table 5**).

## Discussion:

Medical students have special characteristics as compared with students from other universities as medical students who get accepted to medical schools or as we call here in Egypt "Faculty of Medicine" are the top students around the country. The selection process totally depends on the scores of final exams in high school. Since joining the faculty of medicine is highly desired in Egyptian culture. Students in the current study were stratified according to gender and Educational grade to ensure generalization of study findings to the study population. Medical students' fathers and mothers were highly educated; the majority (63.7%) & (61.2%) were university graduates, while about one quarter (24.4%) and (16.8%) respectively performed post graduate studies. Concerning Smoking

status; about (11.5%) of the studied students mentioned that they are current smokers; with an average smoking duration of  $3.36 \pm 2.54$ . This finding agreed with a study carried out by *Khan et al., 2012*<sup>12</sup>; who mentioned that current users of cigarettes comprised 17.4%, and current users of water pipe 'sheesha' comprised 17.6%. The vast majority (87.7%) of students believed that smoking is a public health problem in Cairo and supported restriction of tobacco. The overestimated rate of current smokers compared to the current study could be explained by the fact that researchers selected students from the final year only of the faculty of medicine which is expected to include high number of smokers as smoking as a practice increases with Age. The rates of smoking among male physicians were alarmingly high when compared; in Canada (8%) (*Frank & Segura, 2009*)<sup>13</sup>, Switzerland (12.6%) (*Sebo et al., 2007*)<sup>14</sup> and Japan (16.2%) (*Wada et al., 2011*)<sup>15</sup>. These observed differences might be affected by the definition of a smoker and distribution of age and gender differences among physicians.

Regarding the relationship between total attitude level toward violence and students' gender ; there is a highly statistically significant difference between attitude level toward violence and students gender; where Males show higher attitude level than females toward violence; This study finding agree with *Shapiro et al., 1998*<sup>16</sup> who performed a survey on 1,164 students; The study concluded that Boys produced higher attitude scores toward violence than did girls.

Two moderate risk factors emerge in childhood, being male and aggression. Boys (and young men) are far more likely than girls to be violent, yet some researchers have suggested that sex is a risk marker rather than a risk factor. A risk marker is a characteristic or condition that is associated

with known risk factors but exerts no causal influence of its own (*Rockville, 2001*)<sup>17</sup>.

The current study found a highly statistically significant relationship between violence attitude level and (smoking, Taking Anxiolytics and Alcohol). These study findings are in concordance with *Austin and his colleagues, 2007*<sup>18</sup> who reported that students who engage in one form of risk-taking behavior generally engage in other types of as well. This finding was based on the analysis of 2003-2005 data from the California Healthy Kids Survey (CHKS) involving over 560,000 students across California which indicated that current smokers are significantly more likely than nonsmokers to engage in alcohol and other drug (AOD) use, be involved in violence and gang membership, and experience school-related problems and disengagement. Many Studies confirm the connection between genetic factors and personality traits (like un healthy behaviors) which can create a base for investigations designed to identify which genes are associated with a complex network of unhealthy behaviors, such as aggression, excessive alcohol consumption, and smoking, as well as with mental disorders such as schizophrenia, in order to improve treatment programs (*Kahn et al., 2003*)<sup>19</sup>.

**Regarding the relation between analgesic abuse and attitude toward violence; the current study reveals that** there is a highly statistically significant relationship between violence attitude level and analgesic abuse (e.g. NSAIDs and Tramadol).

Generally; Physicians confront the dilemma of balancing pain relief when prescribing analgesics against the reality that some patients may misuse and divert these medications. Physicians must be able to safely and effectively prescribe scheduled drugs and, at the same time, must identify and manage misuse and abuse in their practices. Ethics drive physicians to

prescribe, but fear of sanctions may affect physician prescribing behaviors, which might compromise quality of care. The problem cannot be ignored because abusers often face complications, such as: Overdoses, Addiction and dependence, Adverse effects, Social and family dysfunction and Criminal consequences (*Green et al., 2009; Blazer & Wu, 2009*)<sup>20,21</sup>.

The current study found that there was a highly statistically significant difference of student attitude level toward violence in preclinical grades as compared to clinical grades ( $P < 0.05$ ). This finding agrees with *Shapiro et al., 1998*<sup>16</sup> who found that student Scores and attitude toward violence increases as students grade advances.

### Conclusions and recommendations:

The study concluded that medical students' attitude towards violence level increase with the increase in the students' age and educational grade. There is very intimate relationship between high violence attitudes and risky behaviors among them as smoking, drinking alcohol and analgesic drug abuse and thus **we recommend the following:** 1) Enhance the awareness of the staff towards the violent attitude of the students and measures to combat this phenomenon. 2) Health education program targeting drug abuse and smoking cessation must be held yearly to the newly admitted students, as well as the freshly graduates with the availability of professional aid to addicts who need further assistance. 3) Special recreation and aggression relieve activities should take their share in the faculty schedule and be accessible to all undergraduates.

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Table (1): Characteristics of the studied Students

Characteristics of the studied Students		Mean	SD
Age		21.5	2.07
		No.	%
Gender	Male	684	54.4%
	Female	573	45.6%
Grade	Preclinical	575	45.7%
	Clinical	682	54.3%
Father Education	Illiterate	14	1.1%
	Read and Write	23	1.8%
	Preparatory	32	2.5%
	Secondary school	80	6.4%
	University Graduate	801	63.7%
	Post graduate studies	307	24.4%
Mother Education	Illiterate	33	2.6%
	Read and Write	42	3.3%
	Preparatory	43	3.4%
	Secondary school	159	12.6%
	University Graduate	769	61.2%
	Post graduate studies	211	16.8%
Smoking status	No	1113	88.5%
	Yes	144	11.5%

Table (2): Drug intake and Presence of chronic disease in the studied students

Drug intake and Presence of chronic disease in the studied students		No.	%
Anxiolytics	No	1190	94.7%
	Yes	67	5.3%
Analgesics	No	1215	96.7%
	Yes	42	3.3%
Alcohol	No	1219	97.0%
	Yes	38	3.0%
Sedative Hypnotics	No	1247	99.2%
	Yes	10	0.8%
Presence of Chronic ds	No	1180	93.9%
	Yes	77	6.1%
Type of chronic ds (*)	Diabetes Mellitus	11	14.9%
	Bronchial Asthma	22	29.7%
	Hypertension	10	13.5%
	Irritable Bowel Disease	13	17.6%
	Mitral Valve Prolapse	2	2.7%
	Disc Prolapse	1	1.4%
	Migraine	2	2.7%
	Gastritis	3	4.1%
	Neuropathic Pain	1	1.4%
	HCV	1	1.4%
	Hyperlipidemia	1	1.4%
	Allergic Rhinitis	5	6.8%
	PCO	1	1.4%
	Epilepsy	1	1.4%

(\*) Percentages are presented as a proportion from those who have chronic disease)

**Table (3): Medical Students' Attitude Levels toward Violence**

Medical Students' Attitude Levels Toward Violence	Mild		Moderate		Severe		Chi square	P-value
	No.	%	No.	%	No.	%		
Preclinical grades	297	51.7	256	44.5	22	3.8	12.696	0.002**
Clinical grades	290	42.5	347	50.9	45	6.6		
Total Attitude score	587	46.7	603	48.0	67	5.3		
	<b>Min</b>	<b>Max</b>	<b>Mean</b>		<b>SD</b>			
	33.33	98.55	53.0213		11.74291			

(\*\*) Highly statistically significant at  $P < 0.01$

**Table (4): Relationship between Total Attitude Score toward violence and Medical Students characteristics**

Medical Student Characteristics		Mild (<50%)		Moderate (50%-75%)		Severe (>75.0%)		Chi square	P-value
		No.	%	No.	%	No.	%		
Gender	Male	235	34.4%	396	57.9%	53	7.7%	96.209	0.000**
	Female	352	61.4%	207	36.1%	14	2.4%		
Father Education	Illiterate	8	57.1%	6	42.9%	0	0.0%	FE#	0.190
	Read and Write	10	43.5%	11	47.8%	2	8.7%		
	Preparatory	18	56.2%	10	31.2%	4	12.5%		
	Secondary school	47	58.8%	31	38.8%	2	2.5%		
	University Graduate	361	45.1%	399	49.8%	41	5.1%		
	Post graduate studies	143	46.6%	146	47.6%	18	5.9%		
Mother Education	Illiterate	21	63.6%	11	33.3%	1	3.0%	FE#	0.320
	Read and Write	17	40.5%	19	45.2%	6	14.3%		
	Preparatory	18	41.9%	22	51.2%	3	7.0%		
	Secondary school	75	47.2%	77	48.4%	7	4.4%		
	University Graduate	358	46.6%	372	48.4%	39	5.1%		
	Post graduate studies	98	46.4%	102	48.3%	11	5.2%		
Smoking status	No	554	49.8%	518	46.5%	41	3.7%	73.250	0.000**
	Yes	33	22.9%	85	59.0%	26	18.1%		
Anxiolytics	No	564	47.4%	568	47.7%	58	4.9%	11.305	0.004**
	Yes	23	34.3%	35	52.2%	9	13.4%		
Analgesics	No	573	47.2%	586	48.2%	56	4.6%	37.645	0.000**
	Yes	14	33.3%	17	40.5%	11	26.2%		
Alcohol	No	575	47.2%	583	47.8%	61	5.0%	10.138	0.006**
	Yes	12	31.6%	20	52.6%	6	15.8%		
Drug addiction	No	584	46.8%	597	47.9%	66	5.3%	FE#	0.324
	Yes	3	30.0%	6	60.0%	1	10.0%		
Presence of Chronic ds	No	552	46.8%	563	47.7%	65	5.5%	0.1447	0.500
	Yes	35	45.5%	40	51.9%	2	2.6%		

(#) Fisher exact test was used as (20.0%) of the cells or more have expected count less than 5

(\*\*) Highly significant at  $P < 0.01$

N.B. Percentages are taken from Rows

**Table (5): Ordinal Logistic Regression displaying independent predictors of Medical Students' Attitude Score toward violence**

	Estimate	Wald	Sig.	95% Confidence Interval	
				Lower Bound	Upper Bound
<b>Grade</b>	-.341	8.639	.003**	-.569	-.114
<b>Gender</b>	.999	70.234	.000**	.765	1.233
<b>Smoking status</b>	-.928	22.732	.000**	-1.310	-.547
<b>Anxiolytics</b>	-.249	.875	.350	-.770	.273
<b>Analgesics</b>	-1.005	9.007	.003**	-1.661	-.349
<b>Alcohol</b>	-.423	1.554	.213	-1.089	.242

(\*\*) Highly significant at  $P < 0.01$