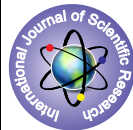


Education Effect and the Portability of Recurrent Suicide Attempts in Nazareth During 2013-2014



Social Science

KEYWORDS : Education, Suicidal behaviour, Holly Land, Epidemiology; Risk factors; Prevention strategy.

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ABSTRACT

Suicide is one of the leading causes of death in many developed countries, but in Mediterranean countries this phenomenon was until recently extremely rare. Our previous study, performed during 2005-2012 came to shed lights on the prevalence and the underlying reasons of the notable increase of suicide attempts in the conservative and religious Arab community of Nazareth, Israel. The current study performed during 2012-2014 comes to examine the portability of reoccurrence of suicide attempts among educated individuals and to evaluate the fact whether level of education attainment (calculated by the number of education years/ high academic studies: finished 9th school grade; 11th grade, 12th grade and academic studies respectively) is a protective method or a mechanism that actuates suicide attempts – the results of this study may give a clue or a picture whether education is a risk factor or a protective factor against repeated suicide attempts. In addition, the present study will address the patterns used by attempters in second suicide attempt comparing to the repeated suicide attempts (more than two attempts). Interviews, sociodemographic information, suicide risk factors in addition to Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) diagnoses will be used in current retrospective study of 197 educated suicide attempters in the emergency room at the Nazareth Hospital. Statistical analysis using percentage distribution was used. From figure 1, which presents the data demonstrated on Table 2, we classified the suicide attempters in two groups: suicide attempters who committed previously two suicide attempts and suicide attempters who committed more than two suicide attempts. We examined and compared the effect of education on suicide attempt between the two groups. We observed a roughly two folds increase in suicide attempt among attempters who committed more than two suicide attempt (The 9th school grade (12% vs. 28%); the 11th grade (14% vs. 23.2%); and 12th grade (14.2% vs. 25.7%), whereas, we observed a dramatic decline by twofold among academic subjects to commit more than two suicide attempts (13.3% vs. 6.7% respectively). Other significant finding was notified by comparing academic subjects, regardless of the number of suicide attempts, versus subjects of less education [(20%) vs. (40% (9th grade), 37.2% (11th grade), 39.9% (12th grade) respectively]. We noticed that academic group tend to have a 50% decrease in suicide attempts compared to less schooled groups. Important differences between groups related to the methods used by attempters are also represented in Table -2 and are illustrated in Figure 2. Attempters who left school at the 9th grade used selfharm in 40% of cases, while low percentage of higher educated attempters (11th, 12th grades and academic) used this method (12%, 14% and 20% respectively). We observed that drug is the preferred methods for suicide attempters in 11th grade, 12th grade and academic (84%; 81% and 63% respectively). Other variables were examined such as familiar status (single vs. married) and religion effect (Christian vs. Muslim). Neither family status nor religion was found to convey any significant effect on the frequency of suicide attempts (Figure 3).

Introduction

Unfortunately, there is no cure for persons who make a final decision to end their lives. Plethora of risk factors underlying suicide and suicide attempts; part are unexplainable events and part are recognized and are moving from mental illness, as in the case of depression, bipolar disorder, anxiety disorders, or schizophrenia and socioeconomic reasons. But this isn't always the case, as millions of people live with these conditions and never attempt or die by suicide, but with awareness, education, and treatment, people can be helped so that suicide or suicide attempt does not become an option.

Conventional wisdom holds that suicide attempters are people with low educational attainment and income, so investments in

education and economic development should reduce support for such phenomenon. Education explained a large proportion of the social class differences. Education should reduce support for suicide attempts by instilling values and skills that provide for diplomatic resolution of problems. Higher income should discourage support for suicide attempt because wealthy people are likely to be satisfied with life and not believe that drastic measures are needed to effect change. In our era, where life is more sophisticated, and the cost of living increased drastically which require huge economic resources, where lack of employment and occupation prevails everywhere; academic achievement may give a partial resolution and may open the door for an employment that can save the family economic crisis. Thus, education can decrease the familiar depression and increase the

family wellbeing. Because, wealth partially considered a reason for happiness and lack of money is a reason of sadness; "Money is the root of all evil" it can change the life for many depressed, unemployed individual and can transferred their lives from misery to happiness and in indirect way to annul the dramatic feeling of hopelessness that may lead to suicide attempt.

Educated individuals after rational investments in their selves for a long time don't easily allow themselves to commit uncalculated actions such as suicide attempts. Theoretically, the educated group looks and deals with the life problem rationally with wisdom and scrutiny without impulsiveness. It is well known that the leading cause of suicide attempts in our study is the low socioeconomic situation and lack of employment. The educated individuals with their achievement have a great priority to found occupation.

A suicide attempt is a cry for help that should never be ignored. It is a warning that something is terribly wrong. Chronic depression can lead to feelings of despair and hopelessness, and a suicide attempt is one way some people choose to express these feelings. Most people who attempt or commit suicide don't really want to die - they just want their pain and suffering to end. A suicide attempt is also not done to gain someone's sympathy, as those that attempt to take their life do it for internal reasons - they simply can't stand the pain they feel emotionally and/or physically. It isn't to try and get someone to feel bad for them that are the last thing they would want. A suicide attempt must always be taken seriously. Without intervention and proper treatment, a person who has attempted suicide is at greater risk of another attempt and possible suicide.

Recent years have witnessed widespread public concern over the alarming rate of suicide and suicidal thoughts worldwide, which constitute a significant burden on communities and health system especially among youth. Historically, frequency of suicidal behaviors, and values and attitudes toward suicidal behaviors, has varied widely across populations. Tradition, religious and social principles play some roles in this regard.^{1, 2, 3, 4}

Suicidal behavior is complex and is a fatal reaction to a potentially preventable public health catastrophe. Some risk factors vary with age, gender and ethnic group and may even change over time. The risk factors for suicide frequently occur in combination of external factors and internal chemistry.⁵

The reasons that lead a person to commit suicide are as numerous and complex as the thousands of people who do so every year. Attempts of suicide, and suicidal thoughts or feelings are usually a symptom indicating that a person isn't coping, often as a result of some event or series of events or unbearable psychological pain, hopelessness, helplessness and sense of worthlessness that they personally find overwhelmingly traumatic or distressing. Indeed, suicide may be a result of a conflict between fantasy and reality. When our life's expectations' roof is high, inevitably our disappointments' roof will be high also. In fact, our expectations are in a covariant relation with our disappointments, hence the gap between expectations and the failures of implementation of achievements have a negative psychological impact on the person's personality. He/she feels betrayed by himself/herself; consequently his/her self-esteem breaks down. Altogether with his/her inability to confront the reality, by carrying the overloaded life responsibilities with a well-merited manner, he/she resorts to get rid of these feelings by committing suicide.

In the other hand, dissatisfaction, failure to yield to fatalism, rejecting facing the truth and the lack of rationality, wisdom and patience which are required to deal with adversity and hardship leave the victim helpless, hopeless and lost which lead him/her to suicide. It seems that suicide has external causes and internal ones.^{6, 7, 8}

The most common external causes - or more accurately, external catalysts - of suicidal behavior are bullying, peer pressure/incidents, family crises and health problems. Usually these are

situational in nature and have an escalating history that has led the individual to feel as if they have no other way out. When external forces become unbearable enough for a person to contemplate, suicide depression and desperation of some sort are always involved. In one hand, the depression causes the individual to make irrational decisions based on unstable emotions.⁹

On the other hand, the internal causes of suicidal behavior are much more complex and harder for the average person to perceive than external causes. Essentially all suicide attempts come down to something inside the suicidal person, but those without external catalysts are often biological in nature.¹⁰

Severe depression, which is believed to be caused by a combination of external factors and internal chemistry, is one thing that almost every suicide or suicide attempt has in common, how that depression came to be is the only difference. Some people suffer from depression because of chemical imbalances, whilst to outsiders their lives seem great, or at the very least average, with nothing outstanding that would indicate a reason to want to die. While internal suicidal triggers are harder to see from the outside, the warning signs are usually present regardless of whether an attempt is situational/reactionary or psychological in nature. Suicide attempts brought on by a psychological disorder are more likely to be successful on the first try, they are often planned and thought out over a period of time, when the suicidal person normally makes gestures seeking closure with those closest to them shortly beforehand. The most common internal causes of suicide or suicidal behavior are clinical depression, psychiatric disorders or chemical imbalances.^{9, 11}

Researchers have revealed that more than 90 percent of individuals who murder themselves have psychiatric and mental illnesses or drug abuse's disorder.¹² In addition, research point out that modification in the chemical neurotransmitters in the brain are associated with the increase risk for suicide and suicide behavior. Reduced concentrations of neurotransmitters in the brain such as Serotonin have been found in patients with severe depression, impulsive-compulsive disorders, a history of violent suicide attempts, and also in postmortem brains of suicide victims.^{13, 14, 15, 16}

Unfavorable life proceedings and events, in combination with psychiatric disorders such as depression, may guide to suicide. However, suicide and suicidal thoughts are not natural reactions to stress. Countless individuals have one or more risk factors which are not suicidal. In fact, it depends on the strengths and on the rationality of these people. Arrays of risk factors, part are known and other still unknown may underlies the suicide and suicide behavior: prior suicide experience; family history of mental illnesses or drug addiction; family violence accompanied with history of suicide; sexual abuse; and exposure to the suicidal behavior of others, including relatives, peers, internet, film and television portrayals of suicides or even in the media.¹⁷

In our era, more adults lose their life from suicide than from all the leading natural causes of death combined, including chronic diseases, cancer, immunodeficiency syndrome, malformations, genetic diseases, and congenital defects, making suicide the tenth leading cause of death for all ages in 2010.¹⁸

There were 38,364 suicides in 2010 in the United States—an average of 105 each day.¹⁹

Suicide accounts for 1.5% of the global burden of disease, which represents 20 million years of healthy life lost due to premature death or disability.²⁰

Based on data about suicides in 16 National Violent Death Reporting System states in 2009, 33.3% of suicide decedents tested positive for alcohol, 23% for antidepressants, and 20.8% for opiates, including heroin and prescription pain killers.²¹

Suicide among males is four times higher than among females and represents 79% of all U.S. suicides and females are more likely than males to have had suicidal thoughts. Firearms are

the most commonly used method of suicide among males (56%) and poisoning is the most common method of suicide for females (37.4%).²²

Indeed, suicide attempts are much more common than completed suicides; as many as 150 youths attempt suicide for every completed suicide.²³

A previous suicide attempt is considered a leading risk factor for completing a suicide. Moreover, suicide attempts, regardless of whether or not they are completed, impose real health care and other costs.²⁴

Whereas a plethora of studies have described the specific characteristics of patients who have committed suicide while in the hospital, or analyzed environmental factors relevant to inpatient suicides or suicide attempts,²⁵ this current study performed during 2012-2014 comes to examine the portability of reoccurrence of suicide attempts among educated individuals and to evaluate the fact whether level of education attainment is a protective method or a mechanism that actuates suicide attempts. In addition, the present study will address the patterns used by attempters in second suicide attempt comparing to the repeated suicide attempts (more than two attempts).

Although, the wish to die is not uncommon among people with depression in Arab cultures, it usually remains at the level of wishing that God would terminate their life, and does not progress to the wish to kill themselves.²⁶

Indeed, suicide attempts and characteristics of suicidal and related behaviors differ from other cultures; we react negatively to any suicidal attempt, because this phenomenon is religiously unacceptable whatever the vulnerability and precipitating factors underlying this abnormal act which is against the values of our religion and tradition. Indeed, person who commits a suicide is considered a traitor to religious values and principles and this prevents him the usual religious rites.

In recent years and like everywhere else in the world suicide attempts in Israeli Arabs have been increasing progressively. The dramatic increase in suicide attempts recently notified in this relatively religious community makes the identification of significant risk factors a matter of public health importance. Therefore, all the suicidal attempts must be taken sincerely and treated accordingly and should be given high priority and never be ignored as simply cries for attention. Improving the understanding of suicide risk assists in the identification of vulnerable individuals as well as in the development of effective strategies to prevent suicide.

Methods

Extensive clinical interviews, sociodemographic information, risk factors that predispose suicidal behavior, such as personality disorders, mental disorders and psychosocial factors, such as traumatic life events, unemployment and drug misuse in addition to Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) diagnoses were used in current retrospective study of 197 suicide attempters (152 females and 45 males mean age $\pm$ SD (30 $\pm$ 11.8) years presenting to the emergency services at EMMS Nazareth Hospital (The largest Arab hospital in the Galilee) in the north of Israel from January 2012 to March 2014 (Table 1). Statistical analysis using percentage distribution was used.

Results

From figure 1, which presents the data demonstrated on Table 2, we classified the suicide attempters in two groups: suicide attempters who committed previously two suicide attempts and suicide attempters who committed more than two suicide attempts. We examined and compared the effect of education on suicide attempt between the two groups. We observed a roughly two folds increase in suicide attempt among attempters who committed more than two suicide attempt (The 9th school grade (12% vs. 28%); the 11th grade (14% vs. 23.2%); and 12th grade (14.2% vs. 25.7%), whereas, we observed a dramatic de-

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Important differences between groups related to the methods used by attempters are also represented in Table -2 and are illustrated in Figure 2. Attempters who left school at the 9th grade used self harm in 40% of cases, while low percentage of higher educated attempters (11th, 12th grades and academic) used this method (12%, 14% and 20% respectively). We observed that drug is the preferred methods for suicide attempters in 11th grade, 12th grade and academic (84%; 81% and 63% respectively).

Other variables were examined such as familiar status (single vs. married) and religion effect (Christian vs. Muslim). Neither family status nor religion was found to convey any significant effect on the frequency of suicide attempts (Figure 3).

Discussion

Life and Spirit is a donation of God to human beings; this award has been bestowed to us in hope to be saved in sanctity.

Suicide is a profoundly disquieting episode that challenges our suppositions about the meaning and merit of life and leaves a wake of pain and bewilderment among the families and friends of those who end their lives, not to mention the unexpected great pain, the huge shock and ominous in the society. There is no treatment for those who decide to end their lives. We know our intervention limitations, also we know that we cannot direct the wind but we can adjust the sails; our role and mission is to explain to the suicide attempters that life is worth living despite hardships and adversity, we should give them hope, motivation, empathy by expressing solidarity and support them by finding behavioral strategies that may prevent the repeating of this phenomenon.

Suicide has been condemned in our culture under all the circumstances and reasons and in the past, suicide was a rare phenomenon in this Arab religious society, but in recent years, a wave of changes and transitions occurred in the Arab community related to the worldwide globalization, modernization and life complexity that reflected negatively on the society as a whole.²⁷ Indeed, suicidal behavioral is a multi-factorial and complex episode of interacting personal and social circumstances. Suicide is just one indicator of distress in communities. Many underlying factors may contribute to suicide such as individual constitution, temperament, or developmental experiences; interpersonal relationships; alcohol and substance abuse; suicidal ideation and previous suicide attempts; and coexisting psychiatric disorders.

Conventional wisdom holds that suicide attempters are people with low educational attainment and income, so investments in education and economic development should reduce support for such phenomenon. Education explained a large proportion of the social class differences. Education should reduce support for suicide attempts by instilling values and skills that provide for diplomatic resolution of problems. Higher income should discourage support for suicide attempt because wealthy people are likely to be satisfied with life and not believe that drastic measures are needed to effect change. In our era, where life is more sophisticated, and the cost of living increased drastically which require huge economic resources, where lack of employment and occupation prevails everywhere; academic achievement may give a partial resolution and may open the door for an employment that can save the family economic crisis. Thus, education can decrease the familiar depression and increase the family wellbeing. Because, wealth partially considered a reason for happiness and lack of money is a reason of sadness; "Money is the root of all evil" it can change the life for many depressed,

unemployed individual and can transferred their lives from misery to happiness and in indirect way to annul the dramatic feeling of hopelessness that may lead to suicide attempt.

Educated individuals after rational investments in their selves for a long time don't easily allow themselves to commit uncalculated actions such as suicide attempts. Theoretically, the educated group looks and deals with the life problem rationally with wisdom and scrutiny without impulsiveness. It is well known that the leading cause of suicide attempts in our study is the low socioeconomic situation and lack of employment. The educated individuals with their achievement have a great priority to found occupation.

Conflict of interest

Farhat Kamal, Bisharat Bishara, Abd-El Qader Amir, Nebal Abo-Ahmad, Farah Joseph, Elia Haj, and Prof. Dr. Bowirrat Abdalla Declare that they have no conflict of interest.

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Table 1: Demographic data of the enrolled subjects.

total		197
male: female		45:152
mean age [STD]		30 [11.8]
		n (%)
Status	married	80 (40.81)
	divorced	10 (5.10)
	single	100 (51.02)
	separated	7 (3.57)
religion	Muslim	163 (82.74)
	Christian	34 (17.26)

Table 2: Subjects are divided into four groups according to their educational/schooling levels. The groups are: subjects who finished school in the 9th, 11th, 12th grade and subjects who finished college (academic studies). The total number of each group is stated in the table, as well the number of males and female. The percentage of subjects in each group who tried to commit suicide more than twice was also recorded. The last column of the table represents the percentage of each method that was used by each group. The most common methods that were used in suicide attempts are Drugs followed by self harm method. Others methods were used also such as: burning, electrifying, drowning and hanging/strangulation.

	Total	Committed previous suicide tries		Method used for the suicide attempt
	male: female	2previous tries	More than 2	
Finished 9th grade	25	40%		40% : 44% : 16%
	10:15	12%	28%	
Finished 11th grade	43	37.20%		12% : 84% : 5%
	08:35	14%	23.20%	

Finished 12th grade	99	39.90%		14% : 81% : 5%
	16:83	14.20%	25.70%	
Academic	30	20%		20% : 63% : 17%
	11:19	13.30%	6.70%	

Figure 1: Shows the results presented in table 2, each bar indicates the percentage of subjects in each group who tried to commit suicide twice or more than twice. The red color in each bar indicates the percentage of the subjects who tried to commit suicide two times, while the blue color in each bar presents the percentage of the subjects who tried to commit suicide more than two times.

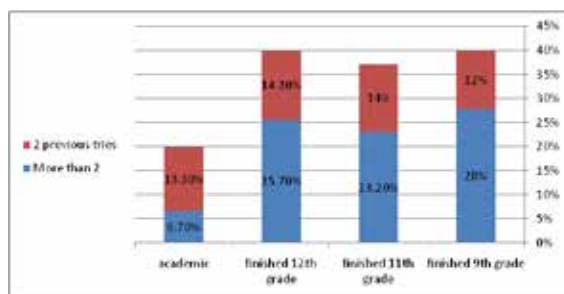


Figure 2: Presents the results shown in the last column of table 2. The percentage of methods that were used to commit the suicide attempts by the each group. Most common methods used are drugs followed by self harm, others such burning, electrifying, drowning and hanging/strangulation.

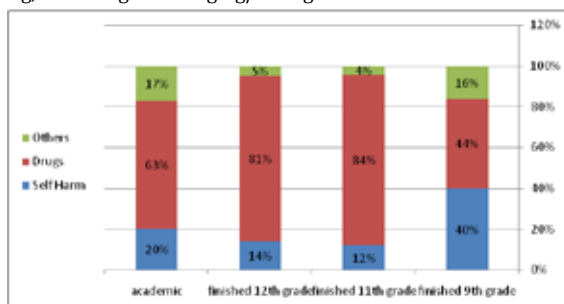
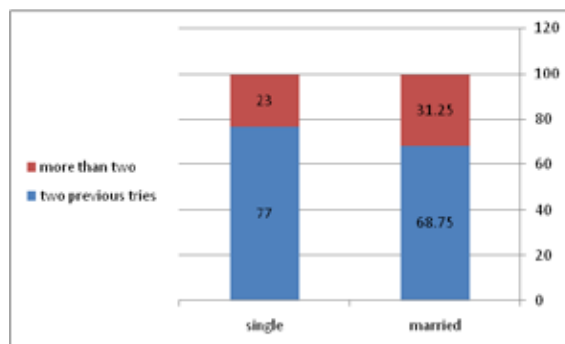
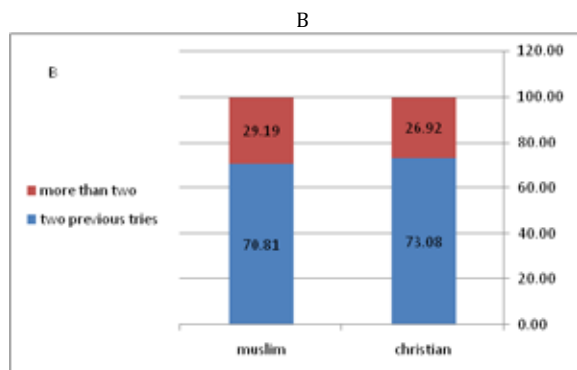


Figure 3: A) describes the relationship between family status (single/married) and suicide frequency in percentages. B) Describes if there is any differences in suicide attempts between religious groups (Christian vs. Muslim).

A





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