Original Article

Prevalence of Suicidal Ideation and Suicidal Cognition among the Local Population of Karachi, Pakistan

Rakhshanda Bakht[1], Tasmeena Saeed[1], Sadaf Ahmed[1&2]& Shamoon Noushad[2&3]

1. Psychophysiology Research Lab, Department of Physiology, University of Karachi.
2. Advance Educational institute and research center (AEIRC),
3. Dadabhoy Institute of Higher Education.

Corresponding Author: bakht.rakshanda@yahoo.com

Abstract

Objective Suicide has become a leading cause of death worldwide, thus it has become a public health problem for every country in the world and thereby in Pakistan too. The aim of present study was to find out the prevalence of suicidal thoughts among the local population of Karachi. Correlations were also assessed among suicidal thoughts and demographic characteristics. ***Method*** A survey was conducted to fill out a pre-structured questionnaire from the participants between the age group of 18-30. The questionnaire contains Beck's scale of suicide cognition, Modified scale of suicide ideation and a detailed demographic profile. Subjects were taken from different universities, medical colleges, offices and business schools. Mentally ill patients were not included in the study. ***Result*** Severe Suicide ideation and suicidal cognitions are prevalent in the population to about 4% and 3% respectively. Also in the study, demographic variations exist in subjects with respect to suicidal thoughts; male, non-working, unhappy, in-pain subjects, unmarried, being in the 18-21 age brackets and undergraduate reported higher suicidal thoughts as compared to their correspondent parameters. ***Conclusion*** It has been concluded that severe suicidal thoughts are prevalent among youngsters. And certain demographic characters are strongly correlated with amplified suicidal thoughts among youth of Karachi.

Keywords

Suicide, imagination, Beck's scale, suicidal cognitions

Introduction

According to the recent report of World Health Organization of 2006, about a million people, commit suicide every year in the whole wide world, which is far more than the deaths occurred in wars (WHO, 2006; Kessler et al, 2005 & Mann, 2003). Thus suicide has become a public health problem affecting entire world at every level with devastating socio-economic cost and consequences (WHO, 2013 & Mann, 2003). It is also revealed that after every 40 seconds a person takes his or her life somewhere in the world (WHO, 2006). In general, rates are highest in Eastern Europe and lowest in Central and South America, with the United States, Western Europe, and Asia falling in the middle (Bertolote & Fleischman., 2009 & Nock, et al., 2008).

Previously researchers define suicide as "an outcome of deliberate obliteration or killing of oneself" (Kaplan, et al., 1998). Similarly, Krug in 2002 defined suicide as "an outcome of deliberate acts of the person with considerable initiation and performance of a pattern to knowingly kill oneself" (Krug, 2002). Meanwhile, the word *suicide* is etymologically derived from a Latin word,

suicidium (Sui=oneself and Cidium=killing) (Jans, et al., 2012).

However, the notion, thought and imagination of self-harm comes under the umbrella of suicide ideation (Jacobs, et al., 2003 & Kaplan, et al., 1998), which is way more common than the actual suicide attempts. Further, it was specified that the ratio of suicide ideation to suicide attempts is about 8 to 10 times higher, which means that people ideate suicide 8 to 10 time more than they actually attempt it (Frierson, et al., 2003 & Andreason, et al., 1995). On the other hand, attempted suicides are 10 to 40 times more frequent than lethal suicides (Schmidtke, et al., 2004 & Platt, et al., 1992). Therefore, each suicide (whether attempted or completed) is an individual's own catastrophe who takes his or her life captivating under the dilemmas of life. And this tragic act will unceasingly and vividly influence the lives of his or her family and companions till the very end (WHO, 2013). Similarly, Redfield Jamison described the sentiments of suicidal mind as,

"Suicide carries in its aftermath a level of confusion and devastation that is, for the most part, beyond description" **(Redfield Jamison, 2000).**

The estimated ratio of attempted suicides to completed suicides among adolescents to be 50:1 to 100:1 respectively; at which each adult already had 20 other suicide attempts before he or she could actually die by suicide (WHO, 2013). If 2003 report of WHO is assessed solely, it shows that about 877,000 deaths occurred only due to suicide in the year, 2002 (WHO, 2003). Whereas, the most recent report of WHO suggested that 804,000 people took their lives in 2012 (WHO, 2013). Moreover, on the other aspect, these suicidal attempts reflect about 1.4% of the disease burden on the entire globe in 2002 (WHO, 2003) and are predicted to be increased as much as 2.4% in 2020 (WHO, 2013).

Though there is a plenty of data regarding attempted suicide and completed suicide throughout the world, but little has been researched in relative to the suicidal thoughts, including suicide ideation and suicide cognition; which has proven to be the basic markers of suicidal activities. The present study is thereby conducted to shed some lights on the ground scenarios and milieu on suicidal thoughts, which are the root causes of these increased suicidal acts.

The prevalence of suicidal ideation and suicidal cognition has been pondered among the local population of Karachi, Pakistan. Also in this study, different demographic components, like age-group, gender, marital status, life style etc. has been correlated with suicidal ideation and cognition.

Methodology

Subjects Participants were recruited from different universities and medical colleges of Karachi. Subjects of this study were mostly undergraduates, however, pre-graduates and post graduates were also included. Moreover, the age criterion was set to be 18-30 years who did not have any disorder or any kind of mental illness, whether acute or chronic.

Tools A pre-structured questionnaire was interviewed from the participants who showed their interest in the present study and voluntarily agreed to give their concerned information regarding this study. The questionnaire included three parts in which the first portion has a detailed demographic information, the second one comprised of a universally recognized scale for suicide cognition, the suicide cognition scale (M.D. Rudd, et al., 2007) the remaining third part included The Modified Scale for Suicidal

Ideation (MSSI) (Miller, et al., 1986) respectively. Consent is also attached for ethical purpose in which individual is asked to read out some details about the study and if he or she agrees to take out 10-15 minutes to fill it out; then an agreeable signature is taken and the interview is started. Meanwhile, a free space was also given in the questionnaire so as to provide participants with liberty to express their trauma and suicidal thoughts. The personal information however remains confidential and not shared at any level with individual's specificities.

Data analysis The collected data was compiled from 519 subjects, of which 247 were female participants and 272 were males. The data was sorted into different groups, according to the severity of parameters been analyzed. The variables are then correlated to each other to evaluate the possible relationships among them. Moreover, frequencies of some variables are also assessed. The data is initially analyzed through standardized scoring schemes of scales along with the demographic profile using MS Excel 2010. Later the data was shifted to SPSS version 2.0, for graphical analysis and correlations of different variables altogether.

Results

The results of this study are showing in the graphical manner under this heading.

Figure 1.0 represents the prevalence of suicide ideation among the sample population. Less than half of the population reflects low suicide ideation by scoring 42% at this range. Similarly mild suicide ideation is prevalent to 41% of the total sample.

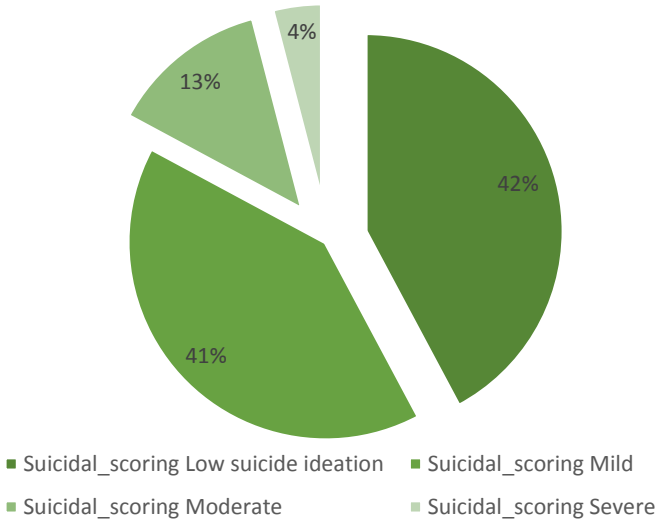


Figure 1.1 shows the prevalence of suicide cognition with the greater proportion of the sample is found to be lying in mild suicide cognition scoring. Whereas only 2% of the sample had severe suicide cognition with respect to 10 % of the population which showed moderate suicide cognition.

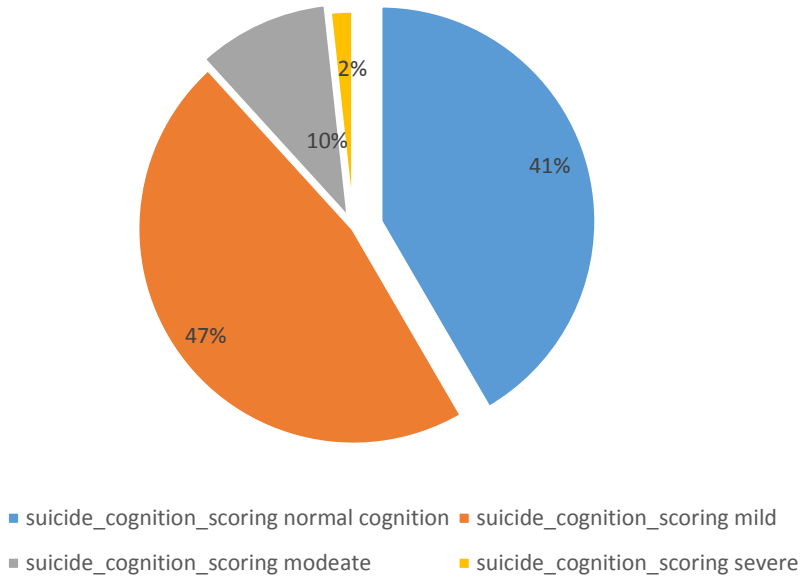


Figure 1.2 shows the comparison of gender in suicidal ideation. Here females show higher frequency in suicide ideation at normal and mild level whereas both genders are equally populated at severe suicide ideation score.

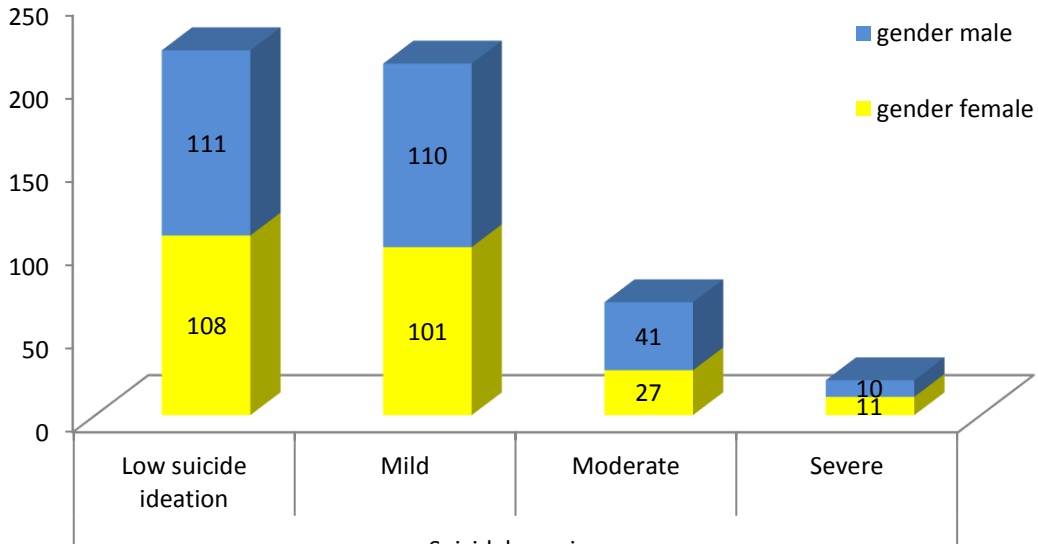


Figure 1.3 shows the comparison of suicidal cognition among genders in which females show higher frequency in suicide cognition at moderate and severe level.

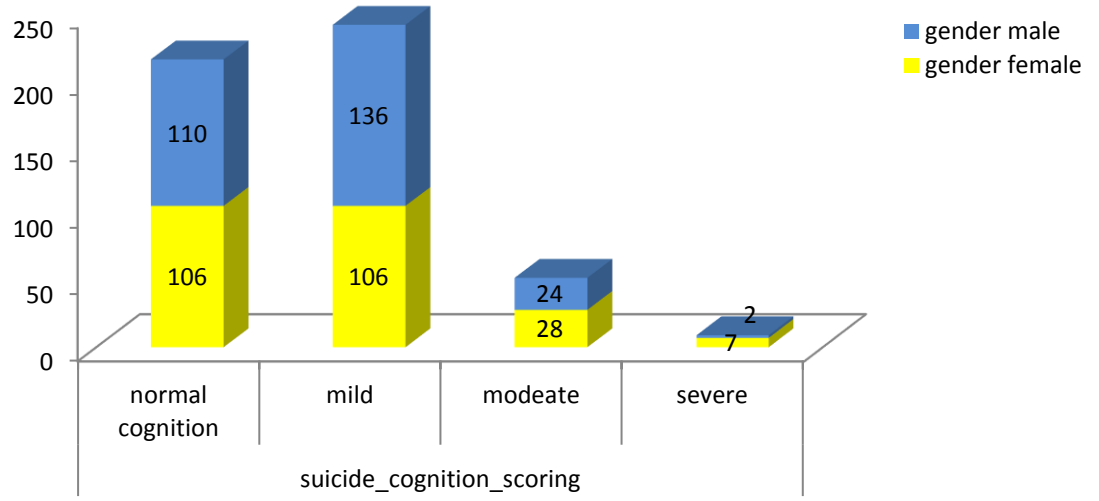


Figure 1.4 shows the ratio of suicidal ideation with respect to their social status. The majority of the sample population is found to be normally social comparative to that of anti-social or being a social butterfly.

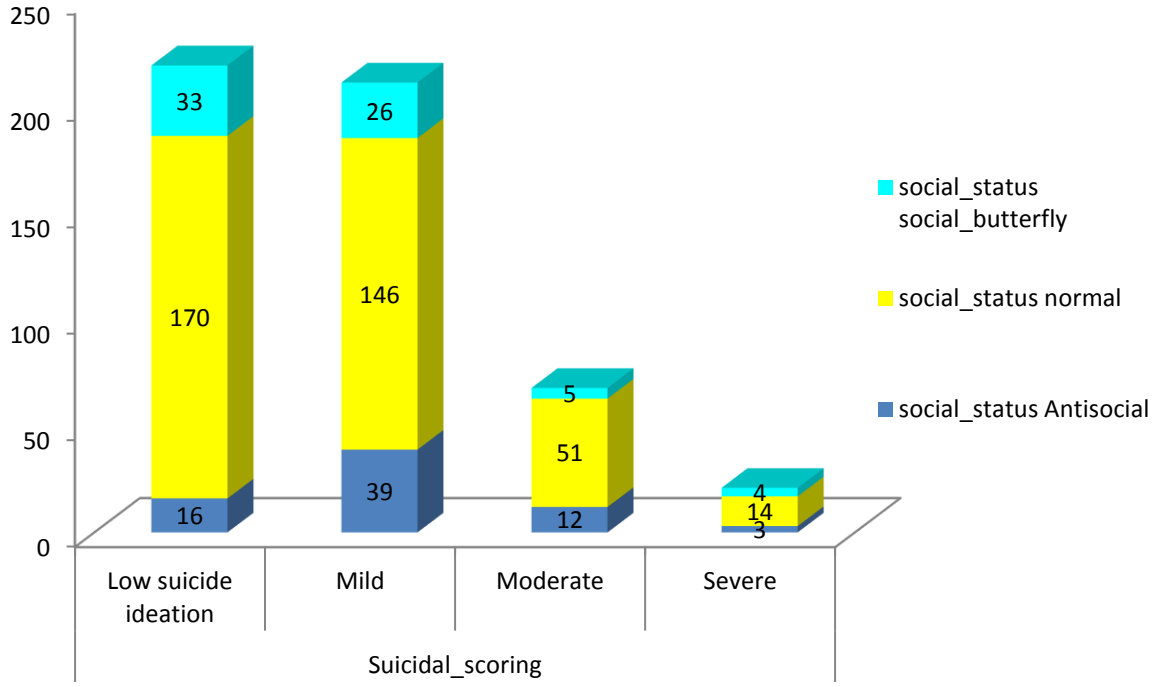


Figure 1.5 shows the ratio of suicidal cognition in relation to their social status. Mild suicidal cognition is most prevalent at every social status, either in anti-social, normally social or social butterfly.

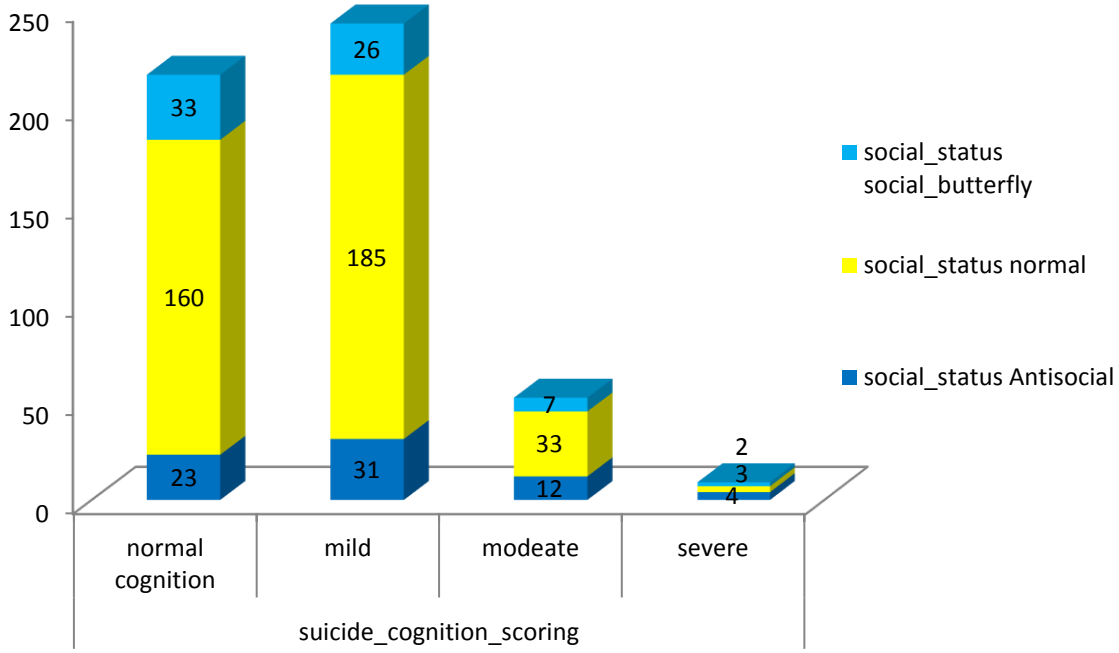


Figure 1.6 shows the prevalence of suicidal ideation in different marital statuses. Single people ideate suicide more frequently and intensely as compared to committed and married ones.

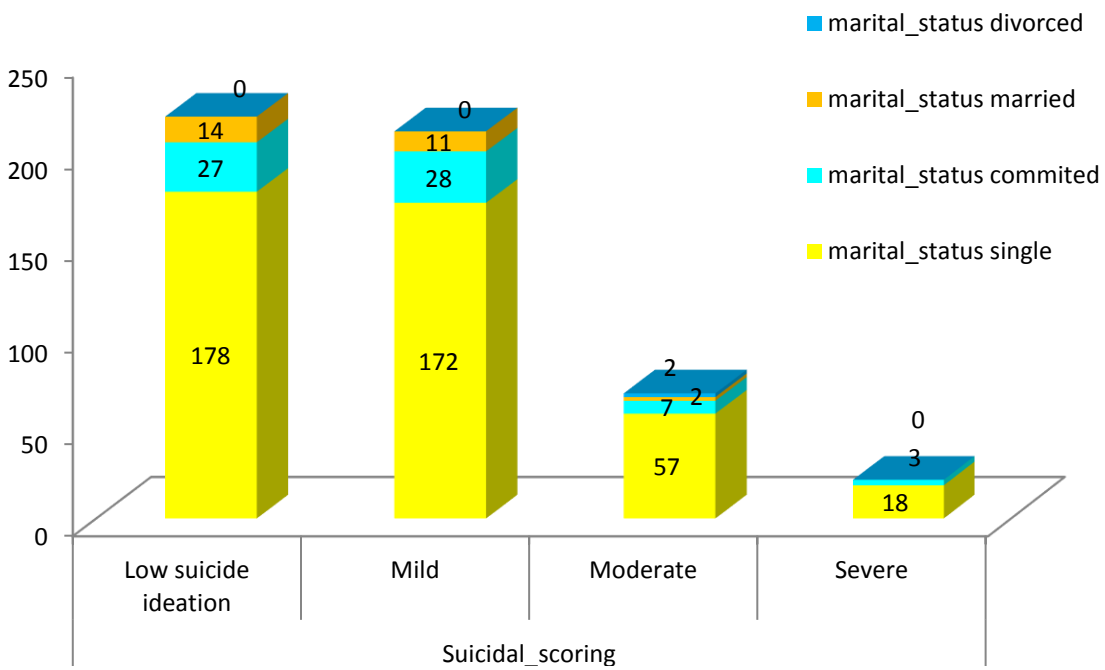


Figure 1.7 shows the prevalence of suicidal cognition in different marital statuses. Single subjects have the high fraction of mild to moderate suicide cognition as compared to engaged, in related and married population. However, divorced subjects show high rate of severe suicide cognition.

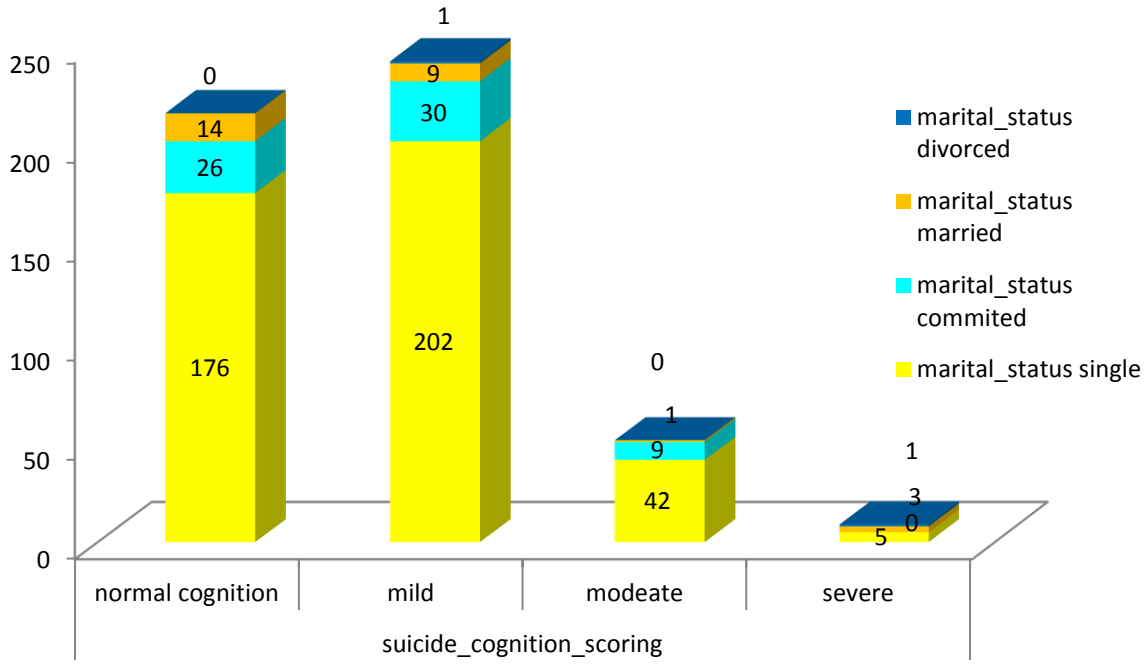


Figure 1.8 shows the abundance of suicidal ideation in different age groups. Age group of 18-21 is more prone to suicide ideation at every level of severity.

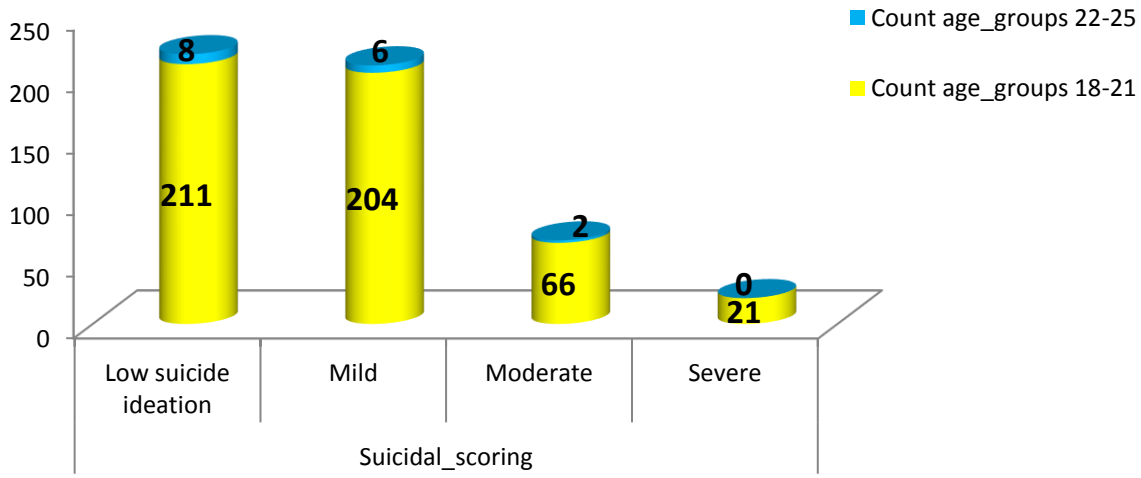


Figure 1.9 shows the abundance of suicidal ideation in different age groups. Age group of 22-25 scores more in severe suicide cognition degree as compared to that of Lower age group.

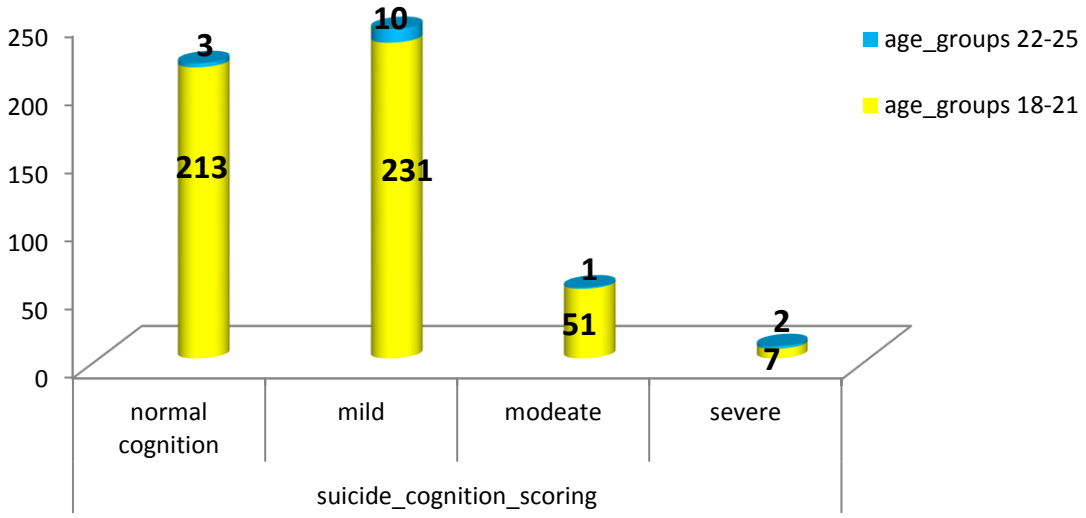


Figure 2.0 shows the prevalence of suicidal ideation in which non-working subject than working individuals.

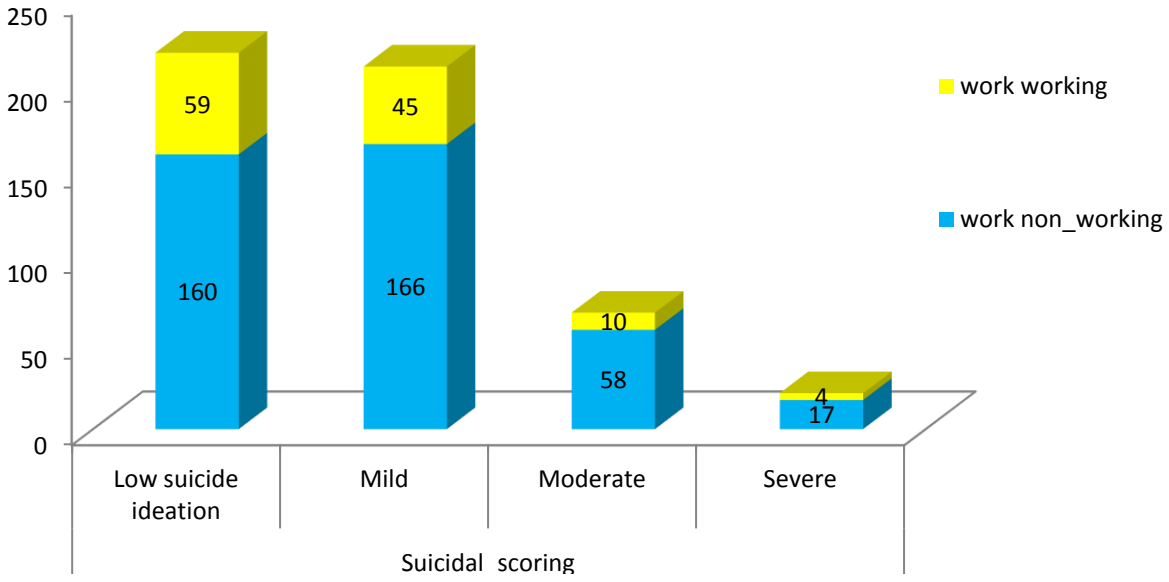


Figure 2.1 shows the prevalence of suicidal cognition in subjects with suicide cognition at every level is more frequent in the non-working individuals with respect to that of Working individuals.

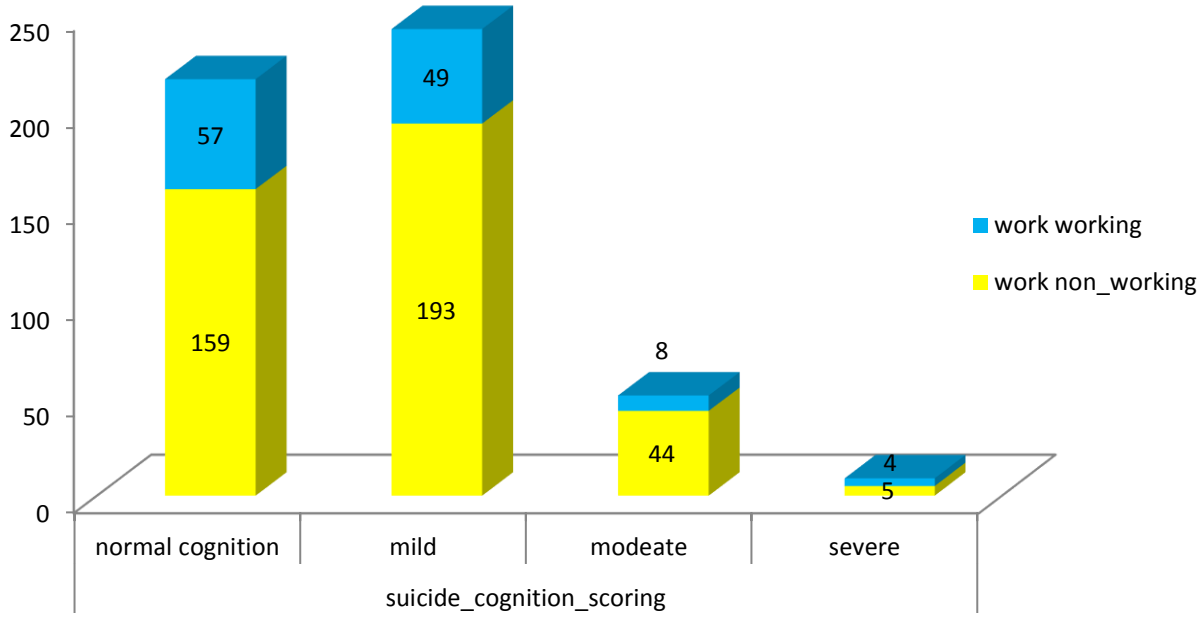


Figure 2.2 indicate the prevalence of suicidal ideation in the population. The graph reveals that people who are spending an active life-style showed more suicidal ideation as compared to those who live with a lazy life-style.

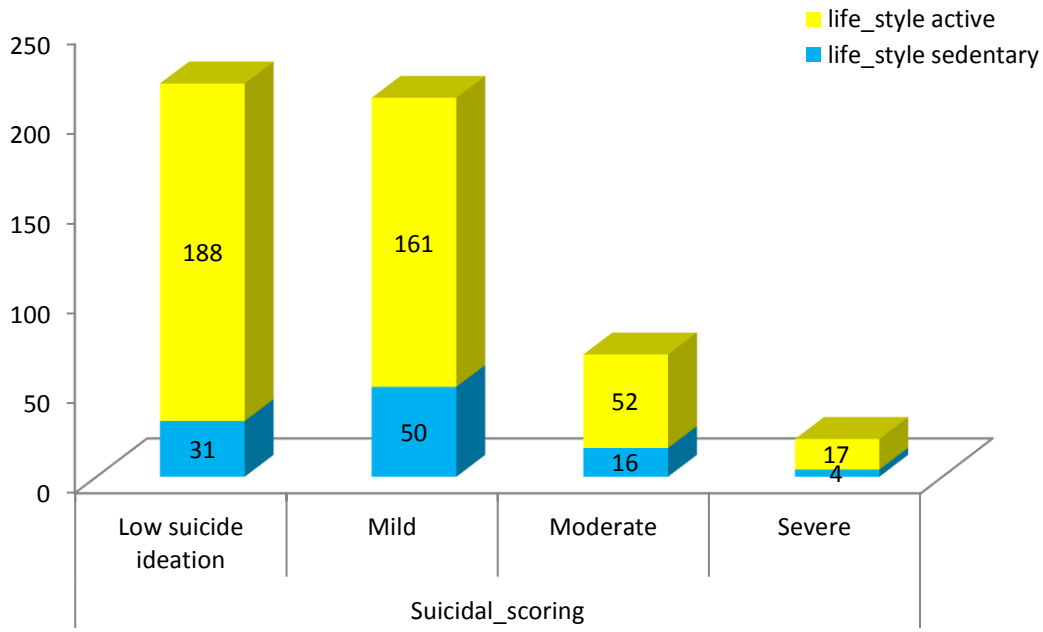


Figure 2.3 shows the prevalence of suicidal cognition with respect to the life-style activities of the individual. Here active subjects showed higher suicide cognition as compared to the lazy ones.

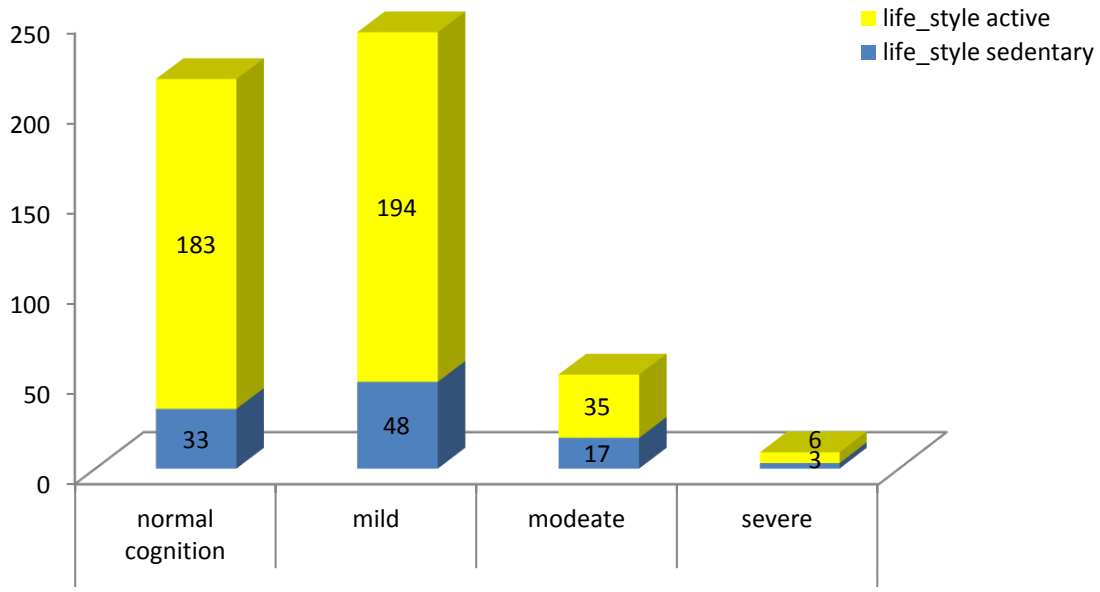


Figure 2.4 shows he relation of suicidal ideation with that of education level. The figure reveals that the subjects pursuing their graduation are seen to ideate suicide more as compared to any other educational level. It means that undergraduate students are more prone towards suicidal thoughts as compared to their correspondant pre-graduates and post graduates.

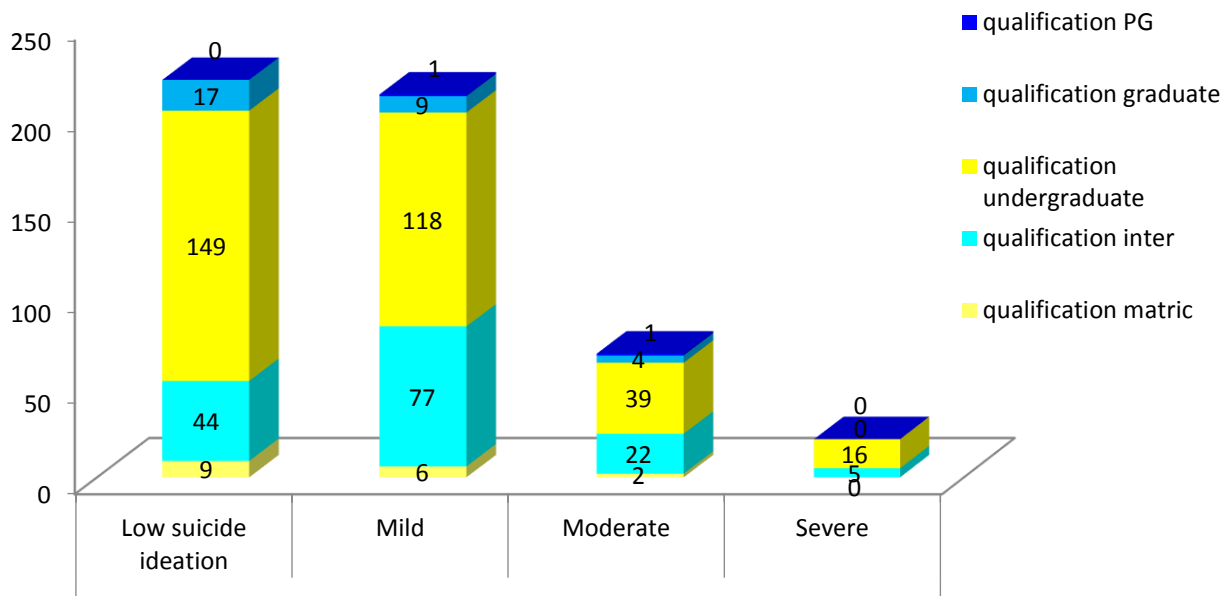
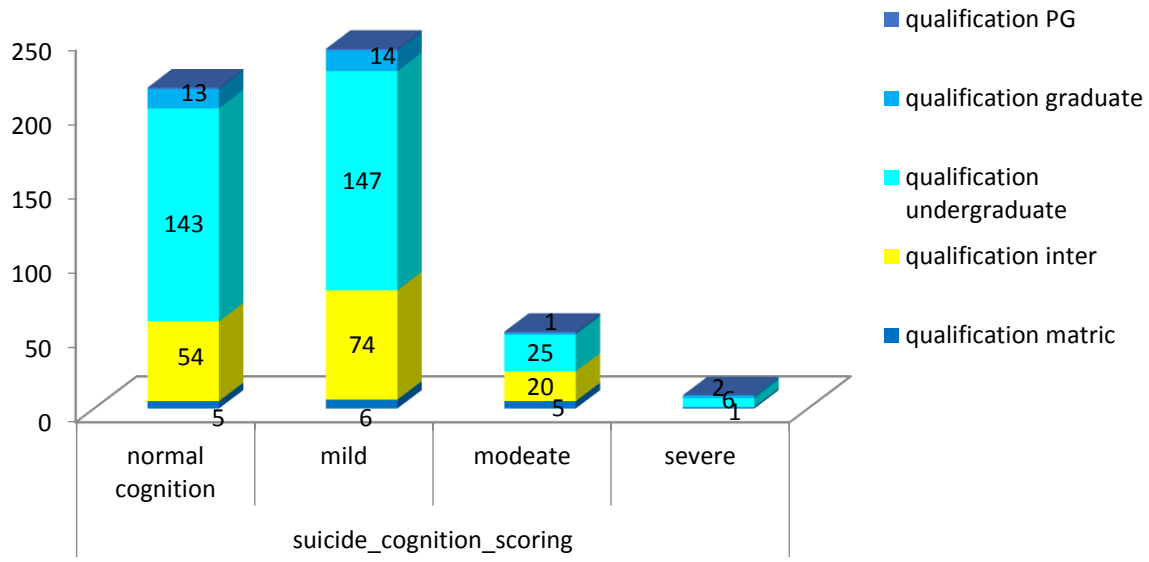


Figure 2.5 shows that severe suicide cognition is highest among undergraduate students as compared to other educational level.



Discussion

The prime objective of the study was to measure the prevalence of suicide ideation and suicide cognition among the local population of Karachi. Though, results summarized that about 42% of the population is having low suicidal ideation and an approximately same ratio of the populace have mild suicide ideation, which is prone towards severity as shown in Figure 1.0. The shocking revelation was that 4 in every 100 persons are severely ideating suicide in this population which is an alarming call for the whole country. Similarly, 3 individuals in every 100 subjects are having severe suicide cognition ratio as shown in Figure 1.1. Previous studies quoted that suicidal ratio among Muslim countries and other Asian countries are lowest as compared to non-Muslim countries (Bertolote & Fleischman, 2009 & Nock, et al., 2008). But these rising suicidal ideation and suicidal cognition among Karachi, Pakistan are leading us among those highly suicidal countries.

The current study also shows the intensity and frequency of suicidal thoughts with respect to different demographic characteristics of the population. The reported results of the survey and analytical measures reflect that some gender variations are present with respect to suicide ideation. Males ideate suicide more than females which is in the line of previous studies, who concluded that males are more supportive of the idea of suicide as compared to female (Domino & Leenaars., 1989; Domino, MacGregor, Hannah, 1988-89; Limbacher & Domino, 1985-86.) as it can be seen in Figure 1.2 and Figure 1.3. Similarly, another account of studies suggested similar resulted in a way that men are more likely than women to kill themselves (American Foundation for Suicide Prevention, 2007. Sejong, et al., 2005; Canetto & Lester, 1995).

However, Peter, et al. in 1996 reported that females tend to have significantly more suicide ideation in the course of their life time than males.

With respect to social status, it is estimated that a major ratio of the sample was found to be normally social thereby suicidal ratings are condensed at this level, as it can be seen in Figure 1.4. However, it is observed that severe suicidal ideation is found more in people who are socially active. In the meantime, mild suicide cognition exists in every social status, shown in Figure 1.5. This may be due to the fact that youth is more socialized now, no matter what they feel and think; they tend to express it to as many people as they can. Nonetheless, the results are contrary to previous studies that suggested that strong social relations likely to decrease suicidal risks (Meadows, 2005).

Relationship commitments have always been a protective factor for any kind of risky behavior including suicide. The study concluded similar results by showing high suicide ideation and suicide cognition among single and divorced ones while lowest rates among engaged and married ones; which shows that the committed ones are not likely supportive with the idea of suicide as compared to the loners or singles shown in Figure 1.6 and Figure 1.7. Justifiable researches include (Lorant, et al., 2005), who stated that marriage has a buffering effect on suicidal risk in the population. Similarly, (Agerbo, 2005; Gove, 1979; Qin, Agerbo, & Mortensen, 2003 & Jans, et al., 2012) are further studies summarized in the same array.

The age group in which suicidal ideation and cognition is more prevalent is found to be 18-21, agreeable by a range of past researches including (WHO, 2013; National center of health statistics, 2009; McKeown, et al.,2006; Kaplan, et al., 1998; Jacobs, et al., 2003; Watkins, 2006; Quin, 2005, Department of health statistics, 2000; National Youth Violence Prevention Resource Centre, 2006; Masango, et al., 2008 & Waldvogel, et al., 2008). Department of health statistics notes, 2000, see Figure 1.8 and Figure 1.9. The age group which is generally considered to be young adult age has higher suicidal prevalence which may be due to the fact that the maturity has not yet hit these individuals. Researches claimed that human brain has not developed completely till this age bracket as prefrontal cortex is still in developing stage. This immaturity reflects in their behavior and they end up ideating and even attempting suicide for few minor invalid reasons.

Further, in this study, suicide cognition is shown to be associated with employment. Generally, where there is un-employment; there comes depression, anxiety, hopelessness and thereby suicide ideation. The results are similar here; unemployed subjects reflect high suicide ideation and suicide cognition, when compared to employed ones, see Figure 2.0 and Figure 2.1. In 2000, Platt and Hawton found similar results and they concluded that suicidal risks are increased among un-employed people (Platt & Hawton, 2000). Similarly, Kraut and Walld in 2003 showed association of un-employment with higher likelihood of suicidal behaviors. Though, they compared unemployment with part time job and full time job in their study (Kraut A. & Walld R, 2003).

When life-style was compared with respect to the suicidal thoughts, it was seen that people with active life-style tend to have intensified suicidal ideation and suicidal cognition as compared to those who have sedentary life-style, consider Figure 2.2 and Figure 2.3. One

of the possible reasons behind these results would be the hyper secretion of epinephrine and nor-epinephrine in these individuals. This hyper-secretion would let them stay active, and sometime very active, but suicidal are occupied their place in their minds.

In addition to it, the level of qualification influences suicidal behavior as well. Subjects, who are pursuing graduation show high rates of suicidal ideation, consider Figure 2.4. The results are in the line of Minear and Brush (1980-81). This may be due to the peer pressures they are experiencing in their graduation life. Further participants who did matriculation and intermediate and also post-graduated ones reflect comparatively lower suicidal ideation and cognition, consider Figure 2.5.

Conclusion

The present study concluded that suicidal thoughts, including suicidal ideation and suicide cognition are widespread among the younger population of Karachi. And these prevalent self-harming thoughts are simultaneously linked with the demographic characteristics. Mild to moderate suicidal thoughts exist dominantly in males but the severity cases are almost equally prevalent among both genders. Similarly, being single and, aged 18-21, increases the risk of suicidal thoughts among youth. It is also analyzed that undergraduate students perceive suicidal thoughts more than any other educational level. Similarly, non-working subjects think about suicide more as compared to working individuals.

Recommendations

The future recommendations in regards to suicidal behavior, in general mental health, are more pronounced towards research area and awareness sessions on mental well-being. Thus, in every country, there should be launched some educational and awareness campaigns for the locals in order to spread the words on mental health. For this to happen, the main goal is to treat barriers in treatment and care by increasing awareness of the frequency of mental disorders, their treatability, their recovery process and the human rights of people with mental health. Ultimately, well planned public awareness and educational campaigns can reduce stigma and discrimination, increase the use of mental health service, and bring mental health and physical health come closer to each other.

Furthermore, new researches into biological and psycho-social aspects of mental health are needed in order to increase the understanding of mental disorders and to develop more effective interventions.

Conclusively, the study suggest that, through educational forum we can spread the awareness of significance of mental health in correspondence with the physical well-being; because one has to maintain a balance between the two in order to enjoy a complete circle of life.

References

- Agerbo, E., Gunnell, D., Mortensen, P. B., Eriksson, T., Qin, P., & Westergaard-Nielsen, N. (2001). Risk of suicide in relation to income level in people admitted to hospital with mental illness: nested case-control studyCommentary: Suicide and income—is the risk greater in rich people who develop serious mental illness? Bmj, 322(7282), 334-335.
- Andrus, J. K., Fleming, D. W., Heumann, M. A., Wassell, J. T., Hopkins, D. D., & Gordon, J. (1991). Surveillance of attempted suicide among adolescents in Oregon, 1988. American Journal of Public Health, 81(8), 1067-1069.

- Beautrais, A. L. (2000). Risk factors for suicide and attempted suicide among young people. Australian & New Zealand Journal of Psychiatry, 34(3), 420-436.
- Bertolote, J. M., & Fleischmann, A. (2009). A global perspective on the magnitude of suicide mortality. Oxford textbook of suicidology and suicide prevention: A global perspective, 91-98.
- Bostwick, J. M., & Pankratz, V. S. (2000). Affective disorders and suicide risk: a reexamination. American Journal of Psychiatry, 157(12), 1925-1932.
- Domino, G., Macgregor, J. C., & Hannah, M. T. (1989). Collegiate attitudes toward suicide: New Zealand and United States. OMEGA-Journal of Death and Dying, 19(4), 351-364.
- Frierson, R. L., Melikian, M., & Wadman, P. C. (2002). Principles of suicide risk assessment: How to interview depressed patients and tailor treatment. Postgraduate medicine, 112(3), 65-71.
- Kaplan R.M. Two pathways to prevention. Am. Psychol. (2000); 55:382–396.
- Kaplan, H. I., & Sadock, B. J. (1998). Kaplan and Sadock's synopsis of psychiatry: Behavioral sciences/clinical psychiatry. Williams & Wilkins Co.
- Kessler, R. C., Berglund, P., Borges, G., Nock, M., & Wang, P. S. (2005). Trends in suicide ideation, plans, gestures, and attempts in the United States, 1990-1992 to 2001-2003. Jama, 293(20), 2487-2495.
- Kraut, A., & Walld, R. (2003). Influence of lack of full-time employment on attempted suicide in Manitoba, Canada. Scandinavian journal of work, environment & health, 15-21.
- Krug, E. G., Mercy, J. A., Dahlberg, L. L., & Zwi, A. B. (2002). The world report on violence and health. The lancet, 360(9339), 1083-1088.
- Limbacher, M., & Domino, G. (1986). Attitudes toward suicide among attempters, contemplators, and nonattempters. OMEGA-Journal of Death and Dying, 16(4), 325-334.
- Lorant, V., Kunst, A. E., Huisman, M., Bopp, M., Mackenbach, J., & EU Working Group. (2005). A European comparative study of marital status and socio-economic inequalities in suicide. Social science & medicine, 60(11), 2431-2441.
- Lu, T. H., Chang, W. T., Lin, J. J., & Li, C. Y. (2011). Suicide method runs in families: A birth certificate cohort study of adolescent suicide in Taiwan. Suicide and life-threatening behavior, 41(6), 685-690).
- Mann, J. J., Currier, D., Stanley, B., Oquendo, M. A., Amsel, L. V., & Ellis, S. P. (2006). Can biological tests assist prediction of suicide in mood disorders? World Health Organization. (2003). The world health report 2003: shaping the future. World Health Organization. The International Journal of Neuropsychopharmacology, 9(4), 465-474.
- Masango, S. M., Rataemane, S. T., & Motojesi, A. A. (2008). Suicide and suicide risk factors: a literature review: CPD. South African Family Practice, 50(6), 25-29.
- McIntosh, J. L. (2006). USA suicide: 2001 official final data. 2003.
- Meadows, L. A., Kaslow, N. J., Thompson, M. P., & Jurkovic, G. J. (2005). Protective factors against suicide attempt risk among African American women experiencing intimate partner violence. American journal of community psychology, 36(1-2), 109-121.

- Minear, J. D., & Brush, L. R. (1981). The correlations of attitudes toward suicide with death anxiety, religiosity, and personal closeness to suicide. OMEGA-Journal of Death and Dying, 11(4), 317-324.
- Mutlu, C., Ozdemir, M., Yorbik, O., & Kilicoglu, A. G. (2015). Possible Predictors of Hospitalization for Adolescents with Conduct Disorder Seen in Psychiatric Emergency Service/Psikiyatrik acil serviste görülen davranim bozuklugu olan ergenler için hastaneye yatma olasi öngörücüleri. Dusunen Adam, 28(4), 301.
- Platt, S., Bille-Brahe, U., Kerkhof, A. J. F. M., Schmidtke, A., Bjerke, T., Crepet, P., & Philippe, A. (1992). Parasiticide in Europe: the WHO/EURO multicentre study on parasuicide. I. Introduction and preliminary analysis for 1989. Acta psychiatrica scandinavica, 85(2), 97-104.
- Posner, K., Oquendo, M. A., Gould, M., Stanley, B., & Davies, M. (2007). Columbia Classification Algorithm of Suicide Assessment (C-CASA): classification of suicidal events in the FDA's pediatric suicidal risk analysis of antidepressants. American Journal of Psychiatry, 164(7), 1035-1043.
- Thompson, E., & Sofo, S. (2016). Influence of Dietary Practices on Suicidal Thought and Planning among Adolescents in Ghana. International Journal of Health Sciences and Research (IJHSR), 6(12), 198-204.
- Waldvogel, J. L., Rueter, M., & Oberg, C. N. (2008). Adolescent suicide: risk factors and prevention strategies. Current problems in pediatric and adolescent health care, 38(4), 110-125.
- Watkins C. (2006). Suicide in Youth. Suicide and the school: Recognition and intervention for WHO Sites: Mental Health. World Health Organization. "Suicide prevention". Retrieved 2006-04-11
- World Health Organization. (2003). The world health report 2003: shaping the future. World Health Organization.
- World Health Organization. (2014). Mental health action plan 2013–2020. Geneva: World Health Organization; 2013. This document was produced in response to the World Health Assembly Resolutions WHA66. 8 and WHA65. 4, provides the necessary framework for improving mental health globally from the government to individual level, and provides a strong rationale for collaborative care.