Demographic And Psychosocial Risk Factors Relevant In Completed Suicides In The Region Of Eskisehir, Turkey

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Abstract

Aims: To identify the demographic and psychosocial characteristics of people who committed suicide by sex and age factors.

Methods: This study recruited 154 cases who had committed suicide between 1997 and 2001. Our cases were scanned retrospectively from the files of the Central Administration of Justice in Eskisehir The data collected were evaluated using chi-square (x^2) test and percent ratios.

Results: The suicide rate for men was higher than that for women (68.8% vs. 31.2%, respectively). The contributing factors of economic problems and/or unemployment, as well as a history of alcohol abuse as reasons for suicide were reported more in men than in women (57.5% vs. 14.6% and 29.2% vs. 2.1%, respectively, p<0.001, each), whereas not actively working outside the home was reported more in women than men (89.5% vs. 60.4%, p<0.001).

Conclusions: Future studies need to focus on regional demographic data and psychosocial risk factors in order to decrease and prevent the important public health problem of suicide. Such studies would attribute to the solution of the problem.

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INTRODUCTION

Suicide is an occurrence that has tragic results, affecting various psychological, sociological, economic, genetic, familial and cultural factors. It may be seen in a large community, from the average person reacting to stressful life conditions to the patients with severe mental ill disorders. A person likely to commit suicide kills himself by a behavior that is neither changeable nor without intention.[1,2]

Suicide is still a very controversial matter, due to its being one of the main reasons for death in recent years. It is now among the three leading causes of death among those aged 15-44 (both sexes).[2,3] Although suicide rates have traditionally been highest amongst elderly males, the rates among young people have been increasing to such an extent that they are now the group at highest risk in a third of all countries.[2]

The crude suicide rate for the Central Anatolian region in Turkey, which includes Eskisehir, changed from between 2.87 to 3.44 per 100.000 between 1997 and 2001.[4]

In a multi centre study that included Turkey, the rates for both attempted and completed suicides were found to be lower in the capital of Turkey, Ankara (also situated in central Anatolia), than those of other participating centers in Europe.[5]

Mental disorders, namely depression and substance abuse, are associated with more than 90% of all cases of suicide. However, suicide results from many complex sociocultural factors and is more likely to occur during periods of socioeconomic, family and individual crisis (e.g. the loss of a loved one, employment, honor).[2,3]

A difference can be seen in regard to relationships between sociodemographic characteristics such as sex, marital status and working status, and psychosocial risk factors from country to country.[3,6,7,8,9,10,11]

In this study, we evaluated whether completed suicides

committed between 1997 and 2001 in a city in central Anatolia, Turkey changed according to demographic characteristics such as age and sex, and we also attempted to determine those psychosocial risk factors that may be contributing reasons for suicide.

MATERIAL AND METHODS

The study was carried out in the city of Eskisehir, Central Anatolia, Turkey and with a population (n=700 000) of 1.05% in proportion to Turkey. This study recruited all 154 cases who had committed suicide between the years 1997 and 2001. We first collected our cases retrospectively from the completed suicide files of the Central Administration of Justice in Eskisehir between those years. We then registered each individual suicide case's demographic characteristics such as sex, age, marital status, working status, and suicide reasons on a datum collecting form prepared by the researchers. The data collected were evaluated using chi-square (x^2) test and percent ratios.

In this study, if the reasons reported for suicide numbered more than one, they were evaluated separately. The ages of the suicide cases ranged from 15 to 64. All cases were divided into two age groups called young adults and those middle-aged (those aged 15-34 and 35-64, respectively) according to literature.[12,13,14]

The data collected were evaluated using chi-square (x^2) test and percent ratios on SPSS 10.0 packet program.

Local authorities, such as the health authority and university in the city concerned, and Eskisehir Central Administration of Justice, approved this study.

RESULTS

Between 1997 and 2001 there were 154 deaths due to various reasons. Of the cases, 106 were male, and their average age was 41.7+18.4 years (ranging from 17 to 64), while 48 were female, and their average age 35.8+17.3 years (ranging from 15 to 63). The average age of the 154 cases was 39.9+18.4 years (ranging from 15 to 64). Of the cases, 85 (55.1%) were married, 52 (33.8%) single and 17 (11.1%) widow(er)/divorced.

Taking into consideration the years, the highest percentage of suicide was found in 1997 (27.9%), followed by the year 2000 (21.4%), whereas the lowest percentage was found in 1998 (13.6%). The detailed data are showed in Table 1.

Figure 1

Table 1: The distribution according to ages and sexes of those committed suicide by years

Years	Male 106(68.8%)		Female 48(31.2%)		Total n=154(100%)	
1997	26	24.5	17	35.4	43	27.9
1998	16	15.1	5	10.4	21	13.6
1999	23	21.7	7	14.6	30	19.5
2000	25	23.6	8	16.7	33	21.4
2001	16	15.1	11	22.9	27	17.5

In the region, the suicide rate in men was higher than that in women (68.8% vs. 31.2%, respectively). The contributing factors of economic problems and/or unemployment (57.5 vs. 14.6%, respectively), as well as a history of alcohol abuse (29.2% vs. 2.1%, respectively) as reasons for suicide were reported more in men than in women, whereas not actively working outside the home was reported more in women than men (89.5% vs. 60.4%).

There was no statistically significant difference among the other risk factor between women and men (p>0.05, each).

The most frequently encountered reason among the top ten suicide reasons were not being in active work (69.5%), psychiatric illnesses (63.6%), being single/widow(er)/divorced (44.8%), and economic problems and/or unemployment (44.2%). Table 2 shows the psychosocial risk factors determined by the sexes of the cases.

Figure 2

Table 2 : Psychosocial risk factors determined by the cases' sexes

Determined characteristics	Male n=106(%)	Female n=48(%)	Total n=154(%)	x^2	p
Not being in actively working life*	64(60.4)	43(89.5)	107(69.5)	13.31	.000
Psychiatric illness	68(64.1)	30(62.5)	98(63.6)	0.04	.844
Single/widow(er), divorced	42(39.6)	27(56.3)	69(44.8)	3.69	.055
Economic problems and/or unemployment	61(57.5)	7(14.6)	68(44.2)	24.77	.000
Unsatisfactory relationships	24(22.6)	11(22.8)	35(22.7)	0.01	.970
History of alcohol abuse	31(29.2)	1 (2.1)	32(20.8)	14.81	.000
Physical illness	19(17.9)	10(20.8)	29(18.8)	0.18	.669
Serious illness or death for cases' relatives	16(15.1)	13(27.0)	29(18.8)	3.11	.078
Repeated suicide attempt	11(10.3)	8(16.7)	19(12.3)	1.21	.272
Being childless	8 (7.5)	-	8 (5.1)	**FAT	.101

*Housewife, retired, pensioner or student
**FAT: Fisger's Exact Test

The proportion of physical illness in those aged 35-64 was higher (30.5% vs. 5.5%, p<0.001), whereas being single/widow(er)/divorced (66.7% vs. 25.6%, respectively) and not having a child (6.9% vs. 3.6%) in those aged 15-34 were higher (p<0.001 and p<0.05, respectively). Table 3 shows the psychosocial risk factors determined by the cases' ages.

Figure 3

Table 3: Psychosocial risk factors determined by the cases' ages

Determined characteristics	Those aged 15-34 n=72(%)	Those aged 35-64 n=82(%)	Total n=154(%)	x^2	p
Not being in actively working life	46(63.9)	61(74.4)	107(69.5)	1.99	.158
Psychiatric illness	45(62.5)	53(64.6)	98(63.6)	0.06	.784
Single/widow(er), divorced	48(66.7)	21(25.6)	69(44.8)	26.13	.000
Economic problem and/or unemployment	34(47.2)	34(41.5)	68(44.2)	0.52	.473
Unsatisfactory relationships	15(20.8)	20(24.3)	35(22.7)	0.28	.599
History of alcohol abuse	17(23.6)	15(18.3)	32(20.8)	0.66	.417
Physical illness	4 (5.5)	25(30.5)	29(18.8)	15.59	.000
Serious illness or death for cases' relatives	10(13.9)	19(23.1)	29(18.8)	2.16	.142
Repeated suicide attempt	8(11.1)	11(13.4)	19(12.3)	0.19	.665
Being childless	5 (6.9)	3 (3.6)	8 (5.1)	6.26	.012

DISCUSSION

The proportion of men who committed suicide was 2.1 fold higher compared to women. While this result is similar to those of most research, it is not consistent with some: Cheng and Lee (2000)[15] showed that completed suicide rates for young women in particular were higher than men's; however, other researches found that the results were higher in men.[16,17,18,19]

In our study, in those not being actively employed, the suicide rate was more for women than men (89.5% vs. 60.4%, respectively, $p<0.001$). This finding is in line with previous reports conducted in Turkey, showing that both completed suicides and suicide attempts were more frequently found among economically inactive housewives.[20,21]

In "The United States Human Development 2000 Report", in the section conducted according to the index of woman's social location and improvement level, it was found that the attending proportion to economic activity of women aged 15 and over fell from 34% in 1990 to 26% between the years 1995-2001.[22] In another study in which the cause of this rapid drop was researched, it was found that productive power which was 70% in 1955 has dropped to the current low levels, emigration from village to city, unemployment due to low education levels, and either being a housewife or working in the informal sector as a result of abandonment by the spouse, all factors which have led to restricted work opportunities.[23] In addition, in some studies, it is maintained that the reasons for women committing suicide were fast social changes together with emigration from rural areas to urban areas, a patriarchal family structure, marriages which were mostly unwanted and made at an early age, connected to the Muslim imam wedding, not being able to tolerate one's own realities against the idealistic family life presented by the mass media, as well as not actively working.

Experiencing different forms of domestic violence is regarded as an important factor in the reasons for women committing suicide. The high value attached to a woman's virginity, as well as the existence of a traditional social structure that gives this virginity to men due to the value, judgment and attitudes attributable to woman in some regions are also regarded as significant.[24,25]

Of the completed suicides, economic problems and/or unemployment (14.6% vs. 57.5%, respectively) and history of alcohol use (2.1% vs. 29.2%, respectively) were found to be the reason for suicide more in men than in women ($p<0.001$, each one). This finding is similar to those of some previous researchers, indicating a relationship between alcoholism and suicide in men.[26,27]

Psychiatric disorders, mostly depression and drug abuse, are informed in over 90% of completed suicides. Of these cases, 33-50% had had a previous diagnosis and about 15% were taking actively psychiatric treatment when they committed suicide. Researchers further stated that 15% of all suicides were contributable to having mood disorders, 10% to schizophrenia, and 4% to alcohol and drug abuse particularly in hospitalized patients.[1,2,16,28,29,30,31]

In the present study, the most frequently reported reason for suicide was psychiatric disorders, with the exception of not being in working life outside the house (69.5%).

Our result showing that psychiatric disorders were the grounds for suicides at a higher proportion than economic problems and/or unemployment (63.6% vs. 44.2%, respectively) is compatible with the study showing that psychiatric conditions, personal and social problems figured prominently as factors of etiological significance in suicide compared to unemployment.[32]

Even when we consider that having economic problems and/or unemployment is a lesser risk factor compared to that of psychiatric illnesses in suicides, in our study we still found that almost half of the total number of suicides (44.2%) were committed due to these factors. In particular, it has been shown in many studies that being in employment was a protective factor for men in suicides.[33,34,35]

Lewis and Sloggett (1998)[36] maintained that the suicide rate would fall with the decrease of economic problems, attracting attention to the relationship between psychiatric disorders and unemployment. With these results we may assume that attending to women being in an active working

life and being able to contribute to the family budget would decrease the suicide rates in men with regard to those experiencing economic problems. In this way, the social sex equality to be formed would be appropriate to the Millennium Development Goals accepted by all members of the United States.

When compared to their age groups, physical illness in those aged 35-64 was a more important risk factor than the other age group ($p<0.001$). This is compatible with the previous study results showing that physical illnesses such as cancer, prostate and chronic lung illnesses led to suicide in old age.[31,37]

The proportion of single/widow(er)/divorced men or women in those aged 15-34 was higher (66.7% vs. 25.6%, respectively) than those in aged 35-64 ($p<0.001$). This result shows a resemblance to those found in the literature.[7,9] In Greece, Zacharakis et al (1998)[38] reported that being married for men and women constituted a lesser suicide risk than being single/widow(er)/divorced. Similarly, Heikkinen et all (1995)[27] reported that in men who had a history of a psychiatric illness, were in the group of younger age, had never married or were living parents or alone, suicide rates were more frequent when compared to women.

In the current study, being childless in those aged 15-34 was a higher reason for suicide (6.9% vs. 3.6%, respectively) than in those aged 35-64 ($p<0.05$). This finding is in harmony with studies indicating that a married pairs' having a child decreases suicide significantly.[35,39,40] In Turkey, especially in rural areas, having a male child is important because of cultural characteristics. Both receiving an economic income and not having a child may be evaluated as a risk factor owing to this cultural structure.

CONCLUSION

Although there are no definite predictions or signs for those who would commit suicide and notwithstanding some of them are estimated but prevented, it is maintained by various studies that the suicide risk was higher in those who had psycho-social problems together with psychiatric disorders, and that estimation of suicide in the beginning was possible.[41,42]

Cavanagh et al (2003)[43] stated that focusing on psychiatric disorders and psychosocial risk factors plays an effective part in preventing suicide.

Suicide affects not only the suicidee's relatives and family members, but also the treatment teams such as the physician or nurse, because most of those who want to commit suicide, first tell their physician their intentions.[28,44] Thus, physicians should know the patient well enough to evaluate the risk of attempting suicide. In order to prevent suicides, it is not only important to hinder the obtaining of instruments that could be used to commit suicide, but to also provide an appropriate treatment approach. In addition, the implementation of social and economic politics to decrease economic problems or unemployment, present amongst the risk factors, would be effective in preventing suicide and suicide attempts.

Suicides should be seen as a major public health and social problem throughout the world. In future studies to be conducted in order to decrease and prevent suicides and decide on the precautions to be taken, determination of psychosocial risk factors, taking into consideration regional demographics related to suicide, would be useful.

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References

1. Kaplan HI, Sadock BJ (1998) Synopsis of Psychiatry. Eighth Edition. Williams and Wilkins. Mass Publishing Co. Egypt.
2. World Health Organization, Suicide Statistics (2000). Available at http://www.suicidereferencelibrary.com/476.html. Received on 6 March, 2004.
3. Cheng ATA, Chen THH, Chen CC. Psychosocial and psychiatric risk factors for suicide. Br J Psychiatry 2000; 177: 360-365.
4. Suicide statistics 1998-2000. State Institute of Statistics, Printing Division, Ankara, September. 2002.
5. Sayil I, Ozguven HD. Suicide and suicide attempts in Ankara in 1998: results of the WHO/EURO Multicentre Study of Suicidal Behaviour. Crisis 2002; 23(1): 11-6.
6. Conner KR, Beautrais AL, Conwell Y. Risk factors for suicide and medically serious suicide attempts among alcoholics: analyses of Canterbury Suicide Project data. J Stud Alcohol 2003; 64(4): 551-4.
7. Marcikic M, Ugljarevic M, Dijanic T, Dumencic B, Pozgain I. Epidemiological features of suicides in Osijek County, Croatia, from 1986 to 2000. Coll Antropol 2003; 27 (Suppl 1): 101-10.
8. Guaiana G, D'Avanzo B, Barbui C Update of suicide trends in Italy from 1986 to 1996. Soc Psychiatry Psychiatr Epidemiol 2002; 37(6): 267-70.
9. Zonda T Suicide in Nograd County, Hungary, 1970-1994. Crisis 1999; 20(2): 64-70.
10. Michel K. Suicide risk factors: a comparison of suicide attempters with suicide completers. Br J Psychiatry 1987;

150: 78-82.
11. Foster T, Gillespie K, McClelland R. Patterson C. Mental disorders and suicide in Northern Ireland. Br J Psychiatry 1997; 170: 447-452.
12. Phillips MR, Li X, Zhang Y. Suicide rates in Chine, 1995-99. Lancet 2002; 359(9): 835-40.
13. Appleby L, Cooper J, Amos T, Faragher B. Psychological autopsy study of suicides by people aged 35 under. Br J Psychiatry. 1999; 175:168-74.
14. McKenzie K, Van Os J, Samele C, van Horn E, Tattan T, Murray R; UK700 Group. Suicide and attempted suicide among people of Caribbean origin with psychosis living in the UK. Br J Psychiatry 2003; 183:40-4.
15. Cheng ATA, Lee CS. Suicide in Asia and the Far East. In The International Handbook of Suicide and Attempted Suicide (eds: Hawton K, Van Heeringen C). Chichester: John Wiley & Sons. 2000: 121-135
16. Andreasen NC, Black DW. Introductory Textbook of Psychiatry. Third Edition. American Psychiatric Publishing Inc, Washington, DC London England 2001: 553-568.
17. Cantor CH. Suicide in the Western world. In The International Handbook of Suicide and Attempted Suicide (eds: Hawton K, Van Heeringen K), Chichester: John Wiley & Sons, 2000: 9-28.
18. Hawton K. By their own young hand. Br Med J 1992; 304: 1000.
19. Kelly S, Bunting J. Trends in suicide in England and Wales, 1982-96. Popul Trends 1998; 92: 29-41.
20. Caykoylu A, Coskun I, Kirkpinar I, Ozer H. Ozkiyim girisiminde bulunanlarda sosyodemografik ozellikler ve tani dagilimi. Kriz Dergisi 1997; 5(1): 37-42.
21. Sayil I, Berksun O, Palabiyikoglu R, Oral A, Hasan S, Guney S. Attempted suicides in Ankara in 1995. (Eds: Kosky R, Eskevari HS, Goldney RD, Hassan R.) Suicide Prevention in Global Context, 1997: 201-204.
22. United Nations Statics Division. Demographic, Social and Housing Statistics. Available at http://unstats.un.org/ansd/demographic/ww.2000/table5d.htm. Received on 01 Nov, 2003: 2003
23. Ilkaracan I, Selim R. The Role of Unemployment in Wage Determination: Further Evidence on the Wage Curve from Turkey. 2002; Available at: http://www.newschool.edu/cepa/papers/archive/cepa200211.pdf. Received on 23 Oct., 2003
24. Deniz I, Ersoz AG, Ildes N, Turkaslan N. 1995-2000 yillari resmi kayitlarindan Batman'da gerceklesen intihar ve intihar girisimleri üzerine bir inceleme. Aile ve Toplum Dergisi 2001; 4(1): 1-29.
25. Heise LL, Raikes A, Watts Ch, Zwi AB. Violence against women: a neglected health issue in less developed countries. Soc Sci Med 1994; 39: 1165-71.
26. Murphy GE. Psychiatric aspects of suicidal behaviour: substance abuse. In The International Handbook of Suicide and Attempted Suicide (eds: Hawton K, Van Heeringen K). Chichester: John Wiley & Sons, 2000; 135-146.
27. Heikkinen ME, Isometsa ET, Marttunen MJ, Aro HM, Lonnqvist JK. Social factors in suicide. Br J Psychiatry 1995; 167(6): 747-53.
28. Shafii M, Carrigan S, Whittinhill JR, Derrick A. Psychological autopsy of completed suicide in children and adolescent. Am J Psychiatry1985; 142: 1061-1064.
29. Brent, DA, Perper JA, Goldstein CE, Kolko DJ, Allan MJ, Allman CJ, Zelenak JP. Risk factors for adolescent suicide: A comparison of adolescent suicide victims with suicidal inpatients. Arc Gen Psychiatry 1988; 45:581-588.
30. Brent, DA, Perper JA, Moritz G, Allman CJ, Roth C, Scheweers J, et al. Psychiatric risk factors for adolescent suicide: a case control study. J Am Acad Child Adolescent Psychiatry 1993; 32: 521-529.
31. Rich CL, Young D, Fowler RC. San Diego suicide study 1. Young vs old subjects. Arc Gen Psychiatry 1986; 43: 577-582.
32. Thacore VR, Varma SL. A study of suicides in Ballarat, Victoria, Australia. Crisis 2000; 21(1): 26-30.
33. Platt S, Hawton K. Suicidal behaviour and the labour market. In The International Handbook of Suicide and Attempted Suicide (eds: Hawton K, Van Heeringen K). Chichester: John Wiley & Sons, 2000;.303-378.
34. Hawton, K. Why has suicide increased in young males? Crisis 1988; 19: 119-124.
35. Qin P, Agerbo E, Westergrd-Nielsen N, Eriksson T, Mortensen PB. Gender differences in risk factors for suicide in Denmark. Br J Psychiatry 2000; 177: 546-550.
36. Lewis G, Sloggett A. Suicide, deprivation, and unemployment: record linkage study. BMJ 1988; 7; 317 (7168): 1283-1286.
37. Quan H, Arboleda-Florez J, Fick GH, Stuart HL, Love EJ. Association between physical illness and suicide among the elderly. Soc Psychiatry Psychiatr Epidemiol 2002; 37(4): 190-7.
38. Zacharakis CA, Madianos MG, Papadimitriou GN, Stefanis CN. Suicide in Greece 1980-1995: patterns and social factors. Soc Psychiatry Psychiatric Epidemiol 1988; 33(10): 471-6.
39. De Leo D, Ormskerk SCR. Suicide in elderly: General characteristics. Crisis 1991; 12(2): 3-17.
40. Appleby L. Suicidal behavior in childbearing women. International Review of Psychiatry 1996; 8: 107-115.
41. Appleby L. Suicide in psychiatric patients: risk and prevention. Br J Psychiatry 1992; 161: 749-758.
42. Powell J, Geddes J, Deeks J, Goldacre M, Hawton K. Suicide in psychiatric hospital in-patients risk factors and their predictive power. Br J Psychiatry 2000; 176: 266-272.
43. Cavanagh JT, Carson AJ, Sharpe M, Lawrie SM. Psychological autopsy studies of suicide: a systematic review. Psychol Med 2003; 33(3): 395-405.
44. Bille-Brahe U, Juel-Nelsen N. Trend in attempted suicide in Denmark in 1976-1980. Suicide Life Threat Behav 1986; 16: 46-55.

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