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The Prevalence of Suicide Ideation and Attempt in Manisa City Centre

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SUMMARY

Objective: Suicide attempts are a major public health problem. This study aimed to investigate the lifetime prevalence of suicide ideation and suicide attempts in Manisa city centre. Risk factors related to suicide ideations and attempts were also studied.

Method: This study was carried out in Manisa city centre. Using cluster and systematic samples, data were collected from 1086 persons 15-65 years old. Separate questions were asked about the lifetime occurrence of suicide ideation (''Have you ever seriously thought about committing suicide?''), and suicide attempts (''Have you ever attempted suicide?''). A form for suicide attempters was used to determine the characteristics of the attempts.

Results: The lifetime prevalences of suicide ideation and suicide attempts were 6.6% (n=72) and 2.3% (n=25), respectively. Marital problems were the most common stressor in suicide attempts (44%, n=11). Approximately two thirds of the suicide attempters used a drug overdose for suicide. Of all the suicide attempters, 24% (n=6) had made previous attempts. The essential risk factors for suicide ideation were being female (p=0.012), smoking (p=0.001), consuming alcohol (p=0.028), having a previous psychiatric disorder (p<0.0001), and a family history of psychiatric disorders (p=0.021). The essential risk factors for suicide attempts were smoking (p=0.005), having a previous psychiatric disorder (p<0.0001), and a family history of psychiatric disorders (p=0.029).

Conclusion: The results of the present study suggest that suicide attempts must be carefully evaluated in subjects with previous psychiatric disorders, previous suicide attempts and a family history of psychiatric disorders. It is necessary to know the clinical and demographic features related to suicide attempts.

Key Words: Suicide ideation, suicide attempt, prevalence, risk factor

INTRODUCTION

Odağ (1995) quoted suicide definition from Durkheim and reported as “all deaths which are direct or indirect consequences of negative activities of a victim who is aware of the result”. It may be seen in a large spectrum of people which changes from normal individuals who reacts against stressful life events to patients with severe mental disorders. A person who attempts suicide may really want to die or wish to express pain, despair or hopelessness (Sayıl 2002). According to World Health Organization (WHO) suicide is among first ten causes of death. Approximately 0.9% of all deaths are due to suicides (Roy 2000). Suicide attempts are found to be related with some psychiatric problems like depression or alcohol-substance dependency and other causes like negative familial interferences, lack of social solidarity, economic problems or migration (McClure 2000, Sır et al. 1999, Roy 2000, Gould et al. 1990, Baxter and Appleby 1999). Moreover, some socio-demographic factors like gender, age, marital status, profession, educational or economic level have influence on suicide attempts (Foster et al. 1999, Gould et al. 1996).

Various clinical studies performed between 1970-2000 on worldwide epidemiology of suicide attempts revealed that the frequency varied between 2.6-1100/100000 and the prevalence varied between 720-5930/100000 according to cultural differences. In this review most prominent risk factors were determined as younger age, female gender, being single or divorced, loss of work, significant change in life style, presence of a psychiatric disor-

der and previous suicide attempt (Welch 2001). In a observatory study which was performed in Baltimore, USA, 3481 volunteers were followed for 13 years; prevalence of suicide attempts was found as 148.8/100000 and prevalence of suicide ideation was found as 419.9/100000. In this study high risk determinants were reported as socio-demographic factors like younger age, lower socio-economical level and being divorced and psychiatric disorders like depression and substance dependency (Kuo et al. 2001).

In another study with 3021 individuals who were between 14-24 years old and had suicide behaviors, it was found that most of them were females, had sexual abuse history and showed anxiety manifestations. Economical problems and alcohol use disorders were more prominent in males who attempted suicide (Wunderlich et al. 2001). Suicide was more frequent in males and suicide attempt was more frequent in females (McClure 1984, Hawton 1987).

Determining of the method depends upon psychiatric structure, gender, age and social values. Some of widely used methods are drug use, hanging, jumping from a high position, self-shooting or incising wrist vessels (Odağ 1995). Most widely used method is suicide attempt with drugs (McClure 2000). Males are known to prefer more lethal methods as self shooting or hanging (Bekaroğlu et al. 1999, Wiedenmann and Weyerer 1993).

Institute of State Statistics (DIE) has collected suicide data from all regions of our country since 1962. This data have been published separately once a year since 1974. It was reported that there were 1172 deaths in 1989 and 1802 deaths in 2000 due to suicides (DIE 1990, DIE 2000). Suicide rates increased 100% in our country between 1974 and 1998 and became an important problem (Altındağ et al. 2001).

In this study we aimed to determine lifelong prevalence of suicide ideation and attempt in a city centre and related risk factors. It was observed that in our country there were not adequate studies on this subject, so our study was expected to fill up this space.

METHOD

The Universe and Sampling

This study was performed in city centre of Manisa. There were nine first grade health facilities in city centre. According to records of these health facilities, total population was 235 617 people and there were 162 522 individuals who were between 15-65 years (Provincial Health Directorate of Manisa, 2000).

This study was a component of a larger project. The objective of the project was to determine the prevalence of conversion disorder, suicide ideation and attempt in Manisa and compare two different scales of life quality (SF-36, WHOQOL-BREF). Prevalence of dependant variant was presumed as 7% both for conversion disorder (Sağduyu et al. 1997) and suicide ideation and attempt (Weismann et al. 1999) in determining sampling size. Following formula was used to determine sampling size which represented the individuals who were between 15-65 years:

$$n = \frac{(t_{0.05})^2 \, p \, (1-p) \, D}{d2 \, (0.02)} = \frac{(1.96)^2 \, X \, (0.07) \, X \, (0.93) X2}{X \, (0.02)} = 1249$$

n= Total number of individuals

$(t_{0.05})^2$ = Square of t statistics at (α=0.05) level

p = Presumed prevalence (7%)

D = Design effect (2)

d = Margin of error (2%)

(Sümbüloğlu and Sümbüloğlu 1998).

Sampling size was calculated as 1249. ıt was estimated that there were minimally two individuals between 16-65 years, so it was planned to visit 625 houses. Cluster sampling method which was reflecting population characteristics of the neighborhood was used. Each cluster included 10 houses. Inclusion criteria were determined as being between 15-65 years of age, giving consent for the procedure and being in adequate intellectual and physical capacity to answer the questions. In 625 houses the first question was the number of inhabitants between 16-65 years of age. Then intellectual and physical capacities of the candidates were evaluated and lastly they were asked whether they would like to participate the study. Totally 1086 participants were interviewed with. The reasons for not accessing 163 individuals of calculated size of sampling were not being at home despite visiting twice (n=124) and not giving consent (n=39).

TABLE I. Socio-demographics and clinical characteristics of sampling and individuals with suicide ideation or attempt.

	Sampling (n=1086)		Suicide ideation (n=72)		Suicide attempt (n=25)	
	n	%	n	%	n	%
Gender						
Female	594	54.7	49	68.1	17	68.0
Male	492	45.3	23	31.9	8	32.0
Level of education						
Illiterate	118	10.9	6	8.3	1	4.0
Literate	71	6.5	0	0.0	0	0.0
Primary school	465	42.9	28	39.0	12	48.0
Secondary school	131	12.1	11	15.3	3	12.0
High school	220	20.3	23	31.9	8	32.0
University	81	7.5	4	5.6	1	4.0
Marital status						
Married-living together	823	75.8	49	68.1	17	68.0
Never married	201	18.5	17	23.6	6	24.0
Divorced-widow	62	5.7	6	8.4	2	8.0
Profession						
Housewife	421	38.8	31	43.1	9	36.0
Student	82	7.6	8	11.1	3	12.0
Unemployed	90	8.3	7	9.8	3	12.0
Worker	164	15.1	7	9.8	1	4.0
Employee	120	11.0	9	12.6	4	16.0
Retired	72	6.6	6	8.4	2	8.0
Self-employed	137	12.6	4	5.6	3	12.0
Smoking more than 6 months						
No	655	60.3	30	41.7	7	28.0
Yes	431	39.7	42	58.3	18	72.0
Alcohol intake more than 6 months						
No	978	90.1	52	72.2	21	84
Yes	108	9.9	20	27.8	4	16.0
Disability						
No	1068	98.3	72	100.0	25	100.0
Yes	18	1.7	0	0.0	0	0.0
Chronic disease						
No	861	79.3	53	73.6	18	72.0
Yes	225	20.7	19	26.4	7	28.0
Self history of psychiatric disease						
No	1027	94.6	52	72.2	16	64.0
Yes	59	5.4	20	27.8	9	36.0
Family history of psychiatric disease						
No	1034	95.2	60	83.3	18	72.0
Yes	52	4.8	12	16.7	7	28.0

MATERIALS

Following forms were administered to participants who met inclusion criteria:

1. Socio-demographics and Health Information Form: This form was designed in order to learn socio-demographics and health data of the subjects and administered during face to face interview. In this form gender, date of birth, educational level, marital status, place of inhabitance till 12 years of age, cigarette smoking for more than six months at least one a day until now, alcohol intake for more

TABLE 2. Effects of Socio-demographic Characteristics and Personal Health Status on suicide Ideation and Attempt.

	p	Regression coefficient	Estimated relative risk	95% confidence interval
Effective on suicide attempt				
Cigarette smoking for more than six months at least one a day until now	0.005	1.373	3.948	1.529-10.194
Positive self-history for psychiatric disease	<0.0001	2.054	7.797	2.999-20.269
Positive family history for psychiatric disease	0.029	1.264	3.539	1.141-10.979
Effective on suicide ideation				
Gender	0.012	.871	.418	.212-.827
Cigarette smoking for more than six months at least one a day until now	0.001	.974	2.648	1.502-4.670
Alcohol intake for more than six months at certain intervals until now	0.028	.840	2.317	1.094-4.905
Positive self-history for psychiatric disease	<0.0001	1.907	6.732	3.445-13.156
Positive family history for psychiatric disease	0.021	.960	2.612	1.153-5.919

than six months with certain intervals, profession, presence of a known chronic disease, disability, self and family history of psychiatric diseases were asked. Alcohol consumption more than "social drinking" level was accepted in "alcohol intake for more than six months with certain intervals" group. The amount and frequency of intake were not taken into consideration.

2. Characteristics of Suicide Attempt Form: This form was developed by the investigators in order to obtain data about suicide attempt and administered during face to face interview. It was designed according to evaluation of many studies about suicides and suicide attempts. Suicide ideation was assessed with "Have you ever seriously thought about committing suicide?" question and suicide attempt was assessed with "Have you ever attempted suicide?" question. These two questions were used by Kessler and colleagues in order to determine prevalence of suicide ideation and attempt (1999). Only for the subjects who attempted suicide, Characteristics of Suicide Attempt Form was administered. In this form life event which preceded suicide, presence of suicide plan, previous reporting of suicidal behavior or risk, note for suicide, localization of suicide, method for suicide attempt, presence of previous suicide attempts, number of previous suicide attempts, methods of previous suicide attempts, presence of suicide attempts in the family, presence of suicide attempts in the neighborhood, fragmented family condition in childhood or adolescence period, history of cranial trauma, criminal record and presence of childhood abuse were questioned.

Procedure

Approval from Ethics Committee of Celal Bayar University Medical Faculty was obtained. The study was performed in collaboration with primary health units following written approval of Provincial Health Directorate. Thirty two students from Nurse College and Medical Faculty were trained as pollsters in a two stage program. The first stage included information about suicide and suicide attempt and the second stage was about interview techniques. Moreover, the pollsters were informed about how to choice the houses to be visited.

Socio-demographics and Health Information Forms which included 12 questions were administered to all subjects who formed the sampling. The duration of this administration was approximately 6 minutes. Later two basic questions ("Have you ever seriously thought about committing suicide?" and "Have you ever attempted suicide?") about suicide ideation and attempt were asked to the subjects and if the answers were "No", no other questions were asked. But, if any of the answers was "Yes", then Characteristics of Suicide Attempt Form was administered. This second form included 15 questions and its administration period was approximately 10 minutes.

Statistical Evaluation

The results were transferred to SPSS for Windows 10.0 database. Logistic regression analysis was used in order to determine the relationship between suicide ideation and attempt with independent variants (socio-demographics and health information). The codes which were given for analysis purposes were as follows: female (0), male (1); 24 years or less (1), 25 years or more (0); secondary school or less (1), high school or more (0); being married or living together (0), being unmarried, divorced or separate (1); being an unemployed, housewife or student (0), having a profession, i.e. an income (1); cigarette smoking for more than six months at least one a day until now (1), non-smokers (0); alcohol intake for more than six months with certain intervals (1), non-users (0); presence of any chronic illness (1), absence (0); presence of any disability (1), absence (0); positive self-history for psychiatric disease (1), absence (0); positive family history for psychiatric disease (1), absence (0). Zero codes were accepted as reference values. Suicide ideation and attempt were accepted as dependent variants and socio-demographics and health information were accepted together as independent variants. The effect of independent variants on dependent variants was evaluated with "enter method".

FINDINGS

Socio-demographic characteristics of sampling

Of the subjects 54.7% (n=594) were females, 42.9% (n=465) were graduated from primary school, 75.8% (n=823) were married and 38.8% (n=421) were housewives. Mean age was 38.2 ± 13.4. Socio-demographic characteristics of sampling were presented in Table 1.

The Prevalence of Suicide Ideation and Attempt

Lifetime prevalence was 6.6% (n=72) for suicide ideation and 2.3% (n=25) for suicide attempt.

Socio-demographic Characteristics of Subjects with Suicide Ideation or Attempt

Of the subjects with suicide ideation, 68.1% (n=49) were females, 39% (n=28) were graduated from primary school, 68.1% (n=49) were married or living together and 43.1% (n=31) were housewives (Table 1). Of the subjects with suicide attempt, 68 % (n=17) were females, 48% (n=12) were graduated from primary school, 68% (n=17) were married and 36% (n=9) were housewives (Table 1).

Characteristics Related with Suicide Attempt

There was a preceding life event in 88% (n=22) of suicide attempts. Most prevalent reason was fractiousness with the spouse (n=11, 44%). Other reasons were collision with mother-in-law (n=3, 12%), economic difficulties (n=3, 12%), collision with mother (n=2, 8%), loss of spouse (n=1, 4%), witnessing a death (n=1, 4%) and collision with a friend (n=1, 4%). There was not any plan in 64% (n=16) or any note in 92% (n=23) of suicide attempts. Pre-suicide notifying was not present in 88% (n=22) of suicide attempts. Suicide localization was home in 88% (n=22) of suicide attempts.

When suicide methods were evaluated, 64% (n=16) was drug intake in excessive doses, 16% (n=4) was using incisory tools, 8% (n=2) was jumping from a high place and 4% (n=1) was hanging on. There was previous suicide attempt in 24% (n=6), family history of suicide in 16% (n=4) and suicide attempt in the neighborhood in 40% (n=10) of suicide attempters.

The percentages of separated family in childhood, criminal record and childhood abuse were 12% (n=3), 4% (n=1) and 8% (n=2) respectively.

The Effects of Socio-demographic Characteristics and Personal Health Status on Suicide Ideation and Attempt

Logistic regression analysis revealed that suicide ideation was statistically prevalent in females (p=0.012), in cigarette smokers for more than six months at least one a day until now (p=0.001), in alcohol users for more than six months with certain intervals (p=0.028), in subjects who had previous psychiatric disease history (p<0.0001) or positive family history for psychiatric diseases (p=0.021). Similarly, it was found that suicide attempt was more prevalent in cigarette smokers for more than six months at least one a day until now (p=0.005), in subjects who had previous psychiatric disease history (p<0.0001) or positive family history for psychiatric diseases (p=0.029) (Table 2).

DISCUSSION

In this study, suicide ideation and attempt in Manisa city centre (6.6% and 2.3%) were found

to be lower than Western populations. Suicide ideation was assessed with “Have you ever seriously thought about committing suicide?” question and suicide attempt was assessed with “Have you ever attempted suicide?” question. These two questions were used by Kessler and colleagues in order to determine prevalence of suicide ideation and attempt (1999). In National Comorbidity Study from United States, totally 5877 people were interviewed with and prevalence of suicide ideation was found as 13.5% and suicide attempt as 4.6% (Kessler et al. 1999). In another study, Weismann and colleagues studied with 40 000 people from USA, Canada, Puerto Rico, France, Germany, Lebanon, Taiwan, Korea and New Zealand and aimed to evaluate risk factors besides prevalence of suicide ideation and attempt. In this study which was considered as the first multi center study with general population, prevalence of lifetime suicide ideation was found to differ between 10-18% and suicide attempt was found to differ between 3-5%. Lifetime prevalence of suicide ideation (2.09% in Beirut and 18.51% in New Zealand) and suicide attempt (0.72% in Beirut and 5.93% in Puerto Rico) changed according to geographic localization and cultural differences, but female gender and being divorced were determined as risk factors in many of these countries. Relatively lower prevalence of suicide attempts in our country like some others might be explained with some cultural and religious causes like adequacy of social support systems, stronger family ties and tendency to help desperate people.

In our study we found that suicide ideation was more prominent in females and this finding was consistent with the literature (McClure 1984, Hawton 1987, Kessler et al. 1999, Hirschfeld and Russell 1997).

Most frequent method of suicide was drug intake in excessive doses (64%). This method was reported as the most prevalent way of suicide attempt in the literature (Goldstein et al. 1991, Bille-Brahe et al. 1997). Most frequently used medications were reported as analgesics, anti-depressants, anti-psychotics and cardiovascular drugs (Andersen et al. 2001).

It was reported that 25% of suicide attempts were repeated and 30% of them were resulted with death (Goldstein et al. 1991). Most risky period was reported as first six months following first suicide attempt (Rygnestad 1997, Tejedor et al. 1999, Cheng et al. 2000). Suicide attempt risk was reported to be high in the first year in especially males (Suokas et al. 2000). Death risk was reported to be increased with more serious suicide methods and decreased in females (Dingman and McGlashman 1988). We found that 24% of suicide attempters had previous suicide history. Previous suicide history was considered as an important predictor of suicide attempt.

In our study we determined that most of suicide attempters did not either previously notify anyone about their intent (88%), prepare a plan (64%) or leave a written note (92%). These unplanned and intensive suicide attempts might be explained as a reaction to a life event. Another support of this consideration was the presence of a life event in majority of cases (88%) which preceded suicide behavior. Suicide attempters were generally reported to be immature, ego centric, in need of excessive dependency and with poor impulsion control individuals (Mann et al. 1999, Foster et al. 1999). Suicide attempters who had these characteristics besides type B personality disorders were reported to be more depressive, anxious and impulsive, but lethality of suicide attempt was found to be lower in them (Stanley et al. 2001, Roy 2000, Siever and Davis 1991).

Suicides generally follow stressful life events (Brent et al. 1993, Gould et al. 1996). These events are generally psycho-social stress factors like spouse related problems, unemployment and low socio-economic level (Stack 2000). Relationship problems with individually important people are in first line (Sayıl 2002). Individually important person may be the spouse, boy or girl friend. The reason of the suicide is a serious conflict with that individually important person within the last week (Odağ 1995). In this study, a relationship problem, mostly like fractiousness with the spouse (47.8%) was found to be impulsive factor. Thirty-six percent of suicide attempters were housewives. Studies from Turkey revealed that suicide attempts were more prevalent in people like housewives or students who were economically dependent (Sayıl et al. 1993, Çayköylü et al. 1997).

Presence of a psychiatric disorder, especially depression, is a risk factor for suicide attempt (Kuo et al. 2001, Cheng et al. 2000, Harris and Barraclough 1997). In the study of Bekaroğlu and colleagues, it was found that the number of people with psychiatric disorder at the time of the suicide

or in self history was high (1999). We determined psychiatric disease in 36% of suicide attempters. This finding was consistent with previous results which concluded that psychiatric diseases were preceding factors in suicide attempts.

In our study we found that the prevalence of smoking and alcohol consumption in individuals with suicide ideation and smoking in suicide attempters was high. Suicide ideation and attempt were reported to be frequent in substance abuse (Borges et al. 2000, Cheng et al. 2000). Bekaroğlu and colleagues reported that there were data about alcohol use in suicide attempters (1999). Alcohol dependency was considered as a prolonged suicide activity (Sayıl 2002). Destructive attitudes of alcohol dependents against their works, bodies and relationships were reported as an occult tendency towards suicide. It was reported that alcohol, cigarette and other substance dependents preferred slow death despite direct suicide (Odağ 1995).

Previous studies from our country revealed that the rates of suicide and suicide attempts increased in the last decade, but they were still below mean values of the world. Welch reported incidence of suicide attempt to differ between 2.6-1100/100 000 in different countries and cultures (2001). Sayıl and Devrimci-Özgüven reported that the prevalence of completed suicides increased 25% in Ankara between 1988 and 1998 (2002). In Trabzon the incidence of suicides in 1995 was reported as 2.6/100 000 (Bekaroğlu et al. 1999) and suicide attempts as 31.5/100 000 (Bekaroğlu et al. 2000). In a four year survey which aimed to determine the incidence of suicide attempts in Mamak-Ankara between 1998-2001, annual rate was reported as 57.9/100 000 in the first year and 112.1/100 000 in the last (Devrimci-Özgüven and Sayıl 2003).

An important limitation of this study was to evaluate lifetime prevalence of suicide ideation and attempt with only two questions and not to use any scale. But there were some other studies which employed same methods (Kessler et al. 1999). Another limitation was the absence of any question about alcohol and cigarette consumption level. But as it was employed in a greater sampling which was able to represent the community, it was considered as a reliable study which presented epidemiologic data about suicidal behavior in our country. We concluded that female gender, presence of cigarette and alcohol use history, self and family history for psychiatric disorders was related with suicide ideation and attempt. Besides these factors other risks which will be determined in further studies will be helpful in developing strategies to prevent suicide attempts.

REFERENCES

Altındağ A, Sır A, Özkan M (2001) Türkiye'de intihar hızlarındaki değişimler (1974-1998). Türkiye'de Psikiyatri, 2:79-86.

Andersen UA, Andersen M, Rosholm JU et al. (2001) Psychopharmacological treatment and psychiatric morbidity in 390 cases of suicide with special focus on affective disorders. Acta Psychiatr Scand, 104:458-465.

Baxter D, Appleby L (1999) Case register study of suicide risk in mental disorders. Br J Psychiatry, 175:322-326.

Bekaroğlu M, Bilici M, Hocaoğlu Ç et al. (1999) Trabzon'da 1995 yılı intihar insidansı. Türk Psikiyatri Dergisi, 10(3):190-200.

Bekaroğlu M, Bilici M, Hocaoğlu Ç et al. (2000) Trabzon'da 1995 yılı intihar girişimi insidansı. Türk Psikiyatri Dergisi, 11(2):95-102.

Bille-Brahe U, Kerkhof A, De Leo D (1997) A repetition prediction study of European parasuicide populations. Acta Psychiatr Scand 95: 81-86.

Borges G, Walters EE, Kessler RC (2000) Associations of substance use, abuse, and dependence with subsequent suicidal behavior. American Journal of Epidemiology, 151:781-789.

Brent DA, Perper JA, Moritz G et al. (1993) Stresful life events, psychopathology, and adolescent suicide: a case control study. Suicide Life Threat Behav, 23:179-187.

Cheng ATA, Chen THH, Chen CC et al. (2000) Psychosocial and psychiatric risk factors for suicide. Br J Psychiatry, 177:360-365.

Çayköylü A, Coşkun İ, Kırkpınar İ et al. (1997) Özkıyım girişiminde bulunanlarda sosyodemografik özellikler ve tanı dağılımı. Kriz Dergisi, 5(1):37-42.

DİE (1990) İstatistiklerle Türkiye 1990. T.C. Başbakanlık Devlet İstatistik Enstitüsü, Ankara.

DİE (2000) İstatistiklerle Türkiye 2000. T.C. Başbakanlık Devlet İstatistik Enstitüsü, Ankara.

Devrimci-Ozguven H, Sayıl I (2003) Suicide attempts in Turkey: Results of the WHO-EURO Multicentre Study on Suicidal Behaviour. Can J Psychiatry, 48(5):324-329.

Dingman CW, McGlashman TH (1988) Characteristics of patients with serious suicidal intentions who ultimately commit suicide. Hosp Comm Psychiatry, 39(3):295-299.

Foster T, Gillespie K, McClelland R et al. (1999) Risk factors for suicide independent of DSM-III-R Axis I disorder. Br J Psychiatry, 175: 175-179.

Goldstein RB, Black DW, Nasrallah A et al. (1991) The prediction of suicide. Arch Gen Psychiatry, 48:418-422.

Gould MS, Wallenstein S, Kleinman M et al. (1990) Timespace clustering of teenage suicide. Am J Epidemiology, 131:71-78.

Gould MS, Fisher P, Parides M et al. (1996) Psychosocial risk factors of child and adolescent completed suicide. Arch Gen

Psychiatry, 53:1155-1162.

Harris EC, Barraclough B (1997) Suicide as an outcome for mental disorders: a meta-analysis. Br J Psychiatry, 170:205-228.

Hawton K (1987) Assesment of suicide risk. Br J Psychiatry, 150:145-153.

Hirschfeld R, Russell JM (1997) Assessment and treatment of suicidal patients. N Engl J Med, 337:910-915.

Kessler RC, Borges G, Walters EE (1999) Prevalence and risk factors for lifetime suicide attempts in the National Comorbidity Survey. Arch Gen Psychiatry, 56(7):617-626.

Kuo WH, Gallo JJ, Tien AY (2001) Incidence of suicide ideation and attempts in adults: the 13-year follow-up a community sample in Baltimore, Maryland. Psychol Med, 31(7):1181-1191.

Mann JJ, Waternaux C, Haas GL et al. (1999) Toward a clinical model of suicidal behavior in psychiatric patients. Am J Psychiatry, 156:181-189.

McClure GMG (2000) Changes in suicide in England and Wales, 1960-1997. Br J Psychiatry, 176:64-67.

McClure GMG (1984) Recent trends in suicide among the young. Br J Psychiatry, 144:134-138.

Odağ C (1995) İntihar (Özkıyım) Tanım-Kuram-Sağaltım. İzmir Psikiyatri Derneği. Ege Üniversitesi Basımevi, Bornova-İzmir.

Rygnestad T (1997) Mortality after deliberate self-poisoning. A prospective follow-up study of 587 persons observed for 5279 person years: risk factors and cause of death. Soc Psychiatry Psychiatr Epidemiol, 32:443-450.

Roy A (2000) Psychiatric Emergencies. Kaplan and Sadock's Comprehensive Textbook of Psychiatry VII.Ed. (Eds) BJ Sadock, VA Sadock. Williams and Wilkins, Baltimore, s. 2031-2055.

Sağduyu A, Rezaki M, Kaplan İ et al. (1997) Sağlık ocağına başvuran hastalarda dissosiyatif (konversiyon) belirtiler. Türk Psikiyatri Dergisi, 8(3):161-169.

Sayıl I (2002) İntihar Davranışı ve Epidemiyolojisi. Psikiyatrik Epidemiyoloji (Ed) O. Doğan. Ege Psikiyatri Yayınları, İzmir, s. 118-123.

Sayıl I, Devrimci-Ozguven H (2002) Suicide and suicide attempts in Ankara in 1998: results of the WHO/EURO Multicentre Study on Suicidal Behaviour. Crisis, 23(1):11-16.

Sayıl I, Oral A, Güney S et al. (1993) Ankara'da intihar girişimleri üzerine bir çalışma. Kriz Dergisi, 1(2):56-61. 9.

Sır A, Özkan M, Altındağ A et al. (1999) Diyarbakır'da Özkıyım ve Özkıyım Girişimleri. Türk Psikiyatri Dergisi, 10(1):50-57.

Siever U, Davis KL (1991) A psychobiological perspective on the personality disorders. Am J Psychiatry, 148:1647-1658.

Stack S (2000) Suicide: a 15-year review of the sociological literature. Part II: modernization and social integration perspectives. Suicide Life Threat Behav, 30:163-176.

Stanley B, Gameroff MJ, Michalsen V et al. (2001) Are suicide attempters who self-mutilate a unique population? Am J Psychiatry, 158(3):427-432.

Suokas J, Suominen K, Isometsa E et al. (2001) Long-term risk factors for suicide mortality after attempted suicide-findings of a 14-year follow-up study. Acta Psychiatr Scand, 104:117-121.

Sümbüloğlu K, Sümbüloğlu V (1998) Örnekleme. Biyoistatistik (Ed) K Sümbüloğlu, V. Sümbüloğlu. Hatiboğlu Yayınevi, Ankara:245-267.

Tejedor M, Diaz A, Castillon J et al. (1999) Attempted suicide: repetition and survival–findings of a follow-up study. Acta Psychiatr Scand, 100:205-211.

Weissman MM, Bland RC, Canino GJ et al. (1999) Prevalence of suicide ideation and suicide attempts in nine countries. Psychol Med, 29(1):9-17.

Welch SS (2001) A review of the literature on the epidemiology of parasuicide in the general population. Psychiatr Serv, 52(3):368-375.

Wiedenmann A, Weyerer S (1993) The impact of availability, attraction and lethality of suicide methods on suicide rates in Germany. Acta Psychiatr Scand, 88:364-368.

Wunderlich U, Bronisch T, Wittchen HU et al. (2001) Gender differences in adolescents and young adults with suicidal behaviour. Acta Psychiatr Scand, 104(5):332-339.