The Relationship between Domestic Violence and the Prevalence of Depressive Symptoms in Married Women between 15 and 49 Years of Age in a Rural Area of Manisa, Turkey

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SUMMARY

Objective: The aim of this study was to evaluate the level of depression in women of reproductive age (15-49 years) and to determine if there was a relationship between depression score, and socioeconomic variables and the presence of domestic violence.

Method: The study group included women aged 15-49 years that lived in the Manisa/Muradiye Health Center catchment area. The minimum sample size was calculated as 224 and multistage sampling was used (random sampling plus cluster sampling). In all, 225 women enrolled in the study and were administered the BDI and a sociodemographic questionnaire that collected depressive symptomatology, domestic violence, and sociodemographic data. In addition to the descriptive data, univariate and multivariate odds ratios were obtained. Logistic regression was used for multivariate analysis.

Results: The prevalence of depressive symptoms (BDI score ≥17) was 14.7%. In all, 32.9% of the women had experienced domestic violence. Multivariate analysis revealed that the prevalence of depressive symptoms was significantly higher among the women that had experienced domestic violence and reported having a chronic illness ($p < 0.05$).

Conclusion: The rates of depressive symptoms and domestic violence were quite high among the married women in this study. Preventive mental health programs should be developed and implemented in the study area.

Key Words: Depression, woman, domestic violence

INTRODUCTION

Depression is a common disorder that negatively affects mental ability. It is a major public health issue and one of the most frequent diagnoses in primary care settings (Katon 1982; Rezaki 1995; Whooley et al. 1997). Its lifetime prevalence is between 10% and 21% (Noble 2005). The prevalence of depressive disorders, the chronicity of depression, and lifetime depression are more common in females (Kesler et al. 1993; Güleç 2006). Women struggle to cope with acute and challenging life events, and chronic social stress. In particular, hormonal factors, exposure to violence during childhood, learning to be passive, submissive, and dependent upon others, traditional social roles (e.g. responsibility for housework, and caring for children and husband), low level of education, income, and socioeconomic status, unemployment, and discrimination are risk factors that lead to high levels of depression among women (McFarland and Thomas 1991; Lee et al. 2005; Noble 2005; Ross et al. 2005).

Domestic violence is another risk factor for mental disorders in women. Domestic violence is defined as violent behavior directed towards a partner in order to coerce into performing a certain behavior, to insult or punish, to assert power, and/or to seek relief from anger/irritation. It is an ongoing process and increases in frequency during the course of the relationship (Heise 1993). Children and women are usually the victims of domestic aggression and violence (Vahip 2002). Domestic violence is a major health problem worl-

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dwide (WHO 2005; General Directorate on the Status and Problems of Women 2008). In the last 15-20 years many studies on domestic violence towards partners have been published. According to World Health Organization (WHO) analysis of the results of 48 studies, the prevalence of domestic violence towards women is 10%-69% (Krug et al. 2002).

In Turkey the National Research on Domestic Violence against Women study is the most comprehensive research project on the prevalence of domestic violence, the types of violence, and the factors affecting women's risk. This study reported that the prevalence of physical, sexual, and emotional violence/abuse are, respectively, 39%, 15%, and 44% (General Directorate on the Status and Problems of Women 2008). Arat and Altınay (2007) reported that 33% of women in Turkey are exposed to physical violence. Another study indicated that 49.9%-61.4% of women in Turkey experienced domestic violence (Mayda and Akkuş 2003; Yetim 2008; Naçar et al. 2009).

Women that experience domestic violence are at risk of developing psychological problems. After the shock and denial of the violence, these women tend to respond with violent behavior. Subsequently, such women develop depression and blame themselves for being victims of violence. Posttraumatic stress disorder, depression, attempted suicide, alcohol and drug abuse, and aggression towards children are frequently observed among such women (WHO 2005). Research has shown that a history of domestic violence is quite frequent among females that present to psychiatric outpatient and inpatient clinics in Turkey (Akyüz et al. 2002; Vahip and Doğanavşargil 2006).

Preventive mental health and mental health policies must be based on knowledge about the prevalence, distribution, and etiology of psychological problems, as well as which populations are at risk. This knowledge can be best obtained by field research. As such, the present study aimed to examine the prevalence of depressive symptoms, depression-related variables, and the relationship between depressive symptoms and domestic violence among married women aged 15-49 years living in a rural area of Turkey. The study also aimed to provide data to clinicians and public policy decision makers on the prevalence of depression among women in Turkey, and the relationship between depression, and sociodemographic characteristics and risk factors for depression.

METHODS AND MATERIALS

The present cross-sectional study was conducted in the Muradiye Health Center catchment area of Manisa, Turkey in August 2007. The Muradiye Health Center is located 15 km from the Manisa city center. It is a rural area in which agriculture is the primary source of income. The study included 1006 married women aged between 15 and 49 years. The sample size was determined using the EpiInfo 2000 program. The prevalence of depression was accepted as 25% (Ertan 2008). The sample size was determined to be 224, with a 5% margin of error and a 95% confidence interval level (n = 224); therefore, the minimum sample size was calculated as 224. The multistage sampling method (random sampling plus cluster sampling method) was employed. Each cluster involved 10 households. Households were randomly selected from the health centers' household records. Data collection was conducted using a structured questionnaire. In order to reduce the chance of any bias, all married woman aged 15-49 years in the randomly selected households were enrolled in the study. Although the target sample size was 224, 225 participated in the study because there were 2 wives in 1 of the households. Women that had difficulty completing the questionnaires due to reading problems or illiteracy were offered help by the researcher.

All the participants were informed about the nature of the study and all consented to participate. The questionnaire collected data on sociodemographic characteristics (i.e. the wife's age, level of education, history of immigration, and employment status, the husband's age, level of education, and employment status, household level of income level, and whether or not someone is included in government health insurance & retirement plan). In addition, the from collected data on the wife's social network, family relationships, and history of mental illness, history of mental illness in first-degree relatives, routine daily events in the household, and the presence of domestic violence toward the wife. Some of the questions also addressed a history of domestic violence before and after age 15 (and during marriage). If any of the women experienced one of the following violent behaviors she was considered to have been exposed to domestic violence:

- Slapped or had an object thrown at her
- Pushed, or hair pulled
- Punched or hit with an object
- Kicked, dragged, or beaten
- Choked or burned
- Threatened or attacked with a knife or gun
- Forced sexual intercourse
- Engaged in sexual intercourse due to fear of husband/partner,
- Forced to perform sexually insulting or humiliating acts
- Sworn at or reviled
- Insulted or humiliated in front of other people.

The Beck Depression Inventory (BDI) (Beck et al. 1961) was used to measure depressive symptoms. The BDI was adapted by Hisli (1988) for use in Turkey and was reported to be reliable and valid. The BDI is compromised of 21 items, each of which has 4 potential answers. Respondents choose the most appropriate answer for their condition during the last 7 days. Each item is scored from 0-3; higher scores indicate more seve-

re depression. We accepted total scores >17 as clinical depression. Descriptive data were analyzed, and univariate and multivariate odds ratios were obtained at the 95% confidence level. Logistic regression was used for multivariate analysis.

RESULTS

In all, 36.4% of the participants had a primary level education, 88.0% were housewives, and 88.9% had health insurance. Among the participants, 54.7% reported that their income level and expenses were equal, 20.0% had a chronic illness and ongoing drug treatment (Table 1), 14.7% had a BDI score ≥17, 5.3% had a history of mental disorder, 2.7% reported the presence of mental disorder in first-degree relatives, 2.7% had a history of attempted suicide (Table 2), 47.1% experienced domestic violence during childhood and/or adolescence, and 32.9% were exposed to domestic violence during marriage, of which 64.8% were victims of verbal violence (Table 3).

Table 4 shows the factors that were related to depressive symptomatology. Women that had at most a primary level education, married at 18 years of age or younger, had an income level lower than their expenses, and those that reported problems with their relationship with husband or husband's extended family members had statistically more severe depression, as compared to the other women ($p < 0.05$). Moreover, depression scores were significantly higher in the women with a chronic illness and related drug treatment, a history of mental disorder, a history of attempted suicide, and were exposed to domestic violence during marriage ($p < 0.05$). Depression was not significantly related to the women's employment status, having a child/children, living apart from first-degree relatives, a history of domestic violence during childhood, having had an arranged marriage and/or kinship marriage, or the women's and husband's use of alcohol or drugs ($p > 0.05$).

In order to determine the risk factors for depression we utilized logistic regression analysis. We performed correlation analysis with the variables related to depression. Among the variables with a strong correlation, those that were strongly correlated with depression were included in the regression analysis. As such, level of education, level of income, the presence of chronic illness, and a history of domestic violence were included in the regression model. The correlation coefficients for these variables ranged between

$r = 0.20$ and $r = 0.43$. The regression model indicated that symptoms of depression were 2.76-fold more frequent in the presence of chronic illness (95% CI: 1.15-6.58) and 4.96-fold more frequent in the presence of domestic violence (95% CI: 2.04-12.09) (Table 5).

TABLE 1. Sociodemographic characteristics of the participants.

Variable	Frequency	Percentage (%)
Level of education		
Illiterate	10	4.4
Literate	34	15.1
Primary education	82	36.4
Secondary education	43	19.1
High school	48	21.3
University/College	8	3.6
Employment status		
Unemployed/housewife	198	88.0
Employed	27	12.0
Health Insurance		
None	25	11.1
Insurance for workers and their family	95	42.2
Insurance for retired civil servants and their family	23	10.2
Insurance for self-employed or artisans (and their family)	56	24.9
Insurance for poor	26	11.6
Family type		
Nuclear family	190	84.4
Extended family	35	15.6
Perception of level of income		
Income level < expenses	89	39.6
Income level = expenses	123	54.7
Income level > expenses	13	5.8
Presence of chronic illness		
Yes	45	20.0
No	180	80.0
Disability status		
Yes	5	2.2
No	220	97.8
Total	225	100.0

TABLE 2. The presence of depressive symptoms and mental illness.

	Frequency	Percentage (%)
Presence of depressive symptoms		
Yes	33	14.7
No	192	85.3
History of mental illness diagnosis		
Yes	12	5.3
No	213	94.7
History of mental illness in first-degree relatives		
Yes	11	4.9
No	214	95.1
History of attempted suicide		
Yes	6	2.7
No	219	97.3
Total	225	100.0

TABLE 3. Presence of domestic violence.

	Frequency	Percentage (%)
History of domestic violence before marriage		
Yes	106	47.1
No	119	52.9
Domestic violence during marriage		
Yes	74	32.9
No	151	67.1
Type of violence*		
Physical violence	48	64.8
Verbal violence	49	66.2
Sexual violence	11	14.8

*Can choose more than one option.

DISCUSSION

The present study shows that the prevalence of depression among the participants was 14.7%. Kayahan et al. (2003) reported that in the Izmir city center (Turkey) 51.3% of women aged 15-49 years had symptoms of depression according to BDI scores. Moreover, Çetin et al. (1999) reported that the prevalence of depressive symptoms was 42.9% in housewives that presented to a health center in Trabzon, Turkey. The prevalence rate of depression in the present study was lower than those previously reported, which might be due to differences in diagnostic tools, classification of depressive disorder, and research methodologies (e.g. cross-sectional, cohort). Additionally, women in rural areas tend to have lower levels of depression than those in urban areas (Ertan 2008).

We observed that women with a low level of education level, and low level of income, married at younger than 18 years, had a chronic illness and ongoing drug treatment, and had problems in their relationships with their husband and the social environment had a higher tendency to be depressed, as compared to the other participants. Similarly, previous studies report that depression was more frequent in women with a low socioeconomic status, low level of education, low-paying job, and marital problems (Çetin et al. 1999; Kayahan et al. 2003; Lee et al. 2005; Ertan 2008). One study investigated the factors that were common in married women that presented to psychiatric outpatient clinics, which were marrying at younger than 18 years, low level of education level, weak social relationships, economic dependence on others, and living within a semi-rural sociocultural context, increasing their sensitivity to trauma (Sarımurat 1993).

Multivariate analysis was used in the present study to determine which factors were related to depressive symptomatology. Depression was more severe in the women with a chronic illness (2.76-fold) and in those exposed to domestic violence (4.96-fold). These findings support previous reports that depression can become more severe during the course of a chronic illness, and that chronic illness can cause depression (Mete 2008). Tadegge (2008) reported that the risk of depression was 2.8-fold higher in women in Ethiopia that were exposed to violence from their husband. Yang et al. (2006) reported that the risk of depression in women in Taiwan was 1.93-fold higher in the presence of domestic violence perpetrated by husbands. Similar studies conducted in Bosnia-Herzegovina and Iceland showed that violence towards women significantly increased the prevalence of depression and other mental disorders (Avdibegovic and Sinanovic 2006; Svavarsdottır and Orlygsdottir 2009).

The present study shows that the prevalence rate of domestic violence during marriage was 32.9%. Among the study group, the 32.4% of participants that reported experiencing domestic violence during marriage had depressive symptoms. In contrast, the prevalence rate of depressive symptoms was 6% in women without a history of domestic violence during marriage. One has to be very careful when interpreting the relationship between depression and domestic violence in a cross-sectional study. Depressive symptoms or a tendency to have depression might make a woman vulnerable to domestic violence, or domestic violence might lead to depression. There were 33 women in the present study that had symptoms of depression, but only 2 agreed to further clinical evaluation. This deterred us from solidifying the possible causal relation between depressive symptoms and domestic violence.

The WHO (2005) reported that the frequency of psychological disorders in association with domestic violence was high. Studies conducted with female psychiatric patients indicate that the prevalence of a history of exposure to physical violence ranges from 57% (Akyüz et al. 2002) to 62% (Vahip and Doğanavşargil 2006). Akyüz et al. (2002) reported that 98% of female patients did not mention domestic violence during clinical interviews unless they were specifically asked, and even when they did mention domestic violence, they tended to provide only limited information about it.

TABLE 4. Factors related to depressive symptoms.

Variables	Depressive symptoms		OR (95% CI)*
	Yes	No	
	Percentage(%)	Percentage (%)	
Education level			
Above the primary level (n = 99)	5.1	94.9	Ref: 1.00**
At or below the primary level (n = 126)	22.2	77.8	5.37 (1.99-14.49)
Perception of level of income			
Income equal to expenses (n = 136)	8.1	91.9	Ref: 1.00
Income level greater than expenses (n = 89)	24.7	75.3	3.73 (1.70-8.15)
Age at marriage			
≤18 years (n = 137)	10.2	89.8	Ref: 1.00
>18 years (n = 88)	21.6	78.4	2.41 (1.14-5.12)
Presence of chronic illness			
No (n = 180)	10.6	89.4	Ref: 1.00
Yes (n = 45)	31.1	68.9	3.82 (1.73-8.43)
Presence of aversive life events during the previous 6 months			
No (n=175)	8.6	91.4	Ref: 1,00
Yes (n=50)	36.0	64.0	6.00 (2.74-13.13)
History of attempted suicide			
No (n = 219)	12.8	87.2	Ref: 1,00
Yes (n = 6)	83.3	16.7	34.1 (3.84-302.73)
History of mental illness diagnosis			
No (n = 213)	11.3	88.7	Ref: 1.00
Yes (n = 12)	75.0	25.0	23.62 (5.98-93.33)
Quality of the marital relationship			
Good (n = 176)	6.8	93.2	Ref: 1.00
Medium (n = 33)	27.3	72.7	5.12 (1.95-13.44)
Bad (n = 16)	75.0	25.0	41.00 (11.46-146.6)
Quality of the relationship with the husband's extended family			
Good (n = 145)	6.2	93.8	Ref:1.00
Mediocre (n = 62)	19.4	80.6	3.62 (1.44-9.12)
Bad (n = 18)	66.7	33.3	30.22(9.19-99.31)
Quality of the relationship with her own extended family			
Good (n = 181)	11.0	89.0	Ref: 1.00
Mediocre (n = 33)	27.3	72.7	3.01 (1.23-7.39)
Bad (n = 11)	36.4	63.6	4.60 (1.23-17.10)
History of domestic violence during childhood			
No (n = 119)	12.6	87.4	Ref: 1.00
Yes (n = 106)	17.0	83.0	1.41 (0.67-2.97)
History of domestic violence during marriage			
No (n = 151)	6.0	94.0	Ref: 1.00
Yes (n = 74)	32.4	67.6	7.57 (3.29-17.38)
Presence of violence toward her children			
No (n = 150)	11.3	88.7	Ref: 1.00
Yes (n = 75)	21.3	78.7	2.12 (1.04-4.48)

*OR: Odds ratio; CI: confidence interval, **Ref: Reference.

Women exposed to domestic violence tend to present to primary healthcare settings and psychiatric outpatient clinics and, therefore, the quality of care provided to such women is very important. Standard interview procedures do not reveal the history of domestic violence and this is one of the major deficits of current psychiatric care. Physicians should be aware of the possibility of domestic violence, and should further develop their knowledge and skills on the issue.

Most women with a history of domestic violence present to psychiatric outpatient clinics with somatic, depressive, or anxious complaints (Akyüz et al. 2002). Physicians should investigate a history of domestic violence in women with chronic anxiety, depression, or psychosomatic symptoms, and those that report being fatigued, experiencing widespread pain, worries about losing control, and/or multiple suicide attempts. Women exposed to domestic violence usually exhibit violent behavior,

TABLE 5. Logistic regression model for the factors related to depressive symptoms.*

Variable	Multivariate analysis odds ratio (95% CI)
Presence of chronic illness	2.76 (1.15-6.58)
Exposure to domestic violence	4.96 (2.04-12.09)

*The following variables were included in the model: level of education, level of income, the presence of chronic illness, and exposure to domestic violence.

self-mutilation, and/or suicidal ideation. The present study indicates that all of the women that had a history of attempted suicide were exposed to domestic violence. Other studies have also reported that the risk of suicide was higher among those exposed to domestic violence (Yang et al. 2006; Tadegge 2008). The 67.6% of women in the present study that were exposed to domestic violence had a tendency to exhibit violent behavior, versus 16.6% among those without a history of domestic violence.

In conclusion, we observed that 10% of the women in the present study had depressive symptoms and a history of domestic violence. A history of domestic violence should be investigated during psychiatric examinations. Psychiatrists should encourage victims of domestic violence to talk about their experiences and offer then the appropriate support.

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