

How is Quality of Life Affected in Women in The Presence of Anxiety and Depression Symptoms?

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SUMMARY

Objective: To assess how quality of life is affected among reproductive age women from the presence of anxiety and depression symptoms and the risk factors related to both.

Method: A cross sectional analytic study was performed in person with 461 women. General Health Questionnaire-12 and WHOQOL-BREF were used.

Results: 35.5% of the women displayed symptoms of anxiety and depression and those who had experienced domestic violence had a 2.61-fold increase in symptom frequency and those with an income below 500 YTL had a 2.49-fold more frequent occurrence of symptoms compared to others. General health quality mean score was 3.33 ± 0.804 , the mean overall quality of life was 3.62 ± 0.791 ; Physical Health Domain: 15.95 ± 2.422 ; Psychological Health Domain: 14.70 ± 2.337 ; Social Relations Domain 14.64 ± 3.027 ; Environmental Domain 14.27 ± 2.20 ; National Domain 14.29 ± 2.144 . The total score of GHQ-12 and the first two questions of WHOQOL-BREF had a negative, moderate and highly significant correlation, whereas the Psychological HD score had a negative,, strong and significant correlation All other domains and the total score of GHQ-12 had negative, moderate and significant correlations.

Conclusion: Screening with GHQ-12 as well as offering the possibility of early diagnosis and treatment, is also important to prevent impairment in all areas of quality of life among women. Early diagnosis and treatment of psychological problems of women with risk factors such as exposure to domestic violence and low socio-economic status are the intervention areas with priority.

Key words: Anxiety, depression, General Health Questionnaire, quality of life, women, WHOQOL-BREF

INTRODUCTION

At present, and parallel to developments in medicine, not only is elimination of diseases expected, but also an increase in the quality of life. According to the World Health Organization (WHO), quality of life is how an individual perceives their position in life associated with their aims, expectations, and areas of interest and life standards in the framework of the culture they live in and value system (WHOQOL Group 1998). Quality of life includes the place where the individual lives, his/her aims, expectations, standards and interests. The quality of life concept involves physical health, psychological health, independence level, social relations, environmental factors and personal beliefs on the basis of subjectivity

(Fidaner et al 1999). Evaluation of the quality of life can be made through various ways. Scales developed for this aim measure physical, social, emotional and psychological functions, energy, fatigue, pain and general health perception and include general quality of life criteria (WHOQOL, Nottingham health profile) or quality of life criteria specific to disease (Functional life index –cancer , St George dyspnea score) (Arslan and Gökçe Kutsal 1999).

The impact of diseases and their treatment on quality of life has increasingly become a focus of interest. Initial investigations evaluating quality of life, which is the subjective measurement of health, were published in 1973. Recently, the idea that evaluation of medical care should also encompass

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outcomes relevant for quality of life has become more dominant (Avcı and Pala 2004; Şahin 1999). In this context, quality of life scales are used primarily for the cost effectiveness of analysis of new programs and treatments, as well as monitoring medical care and treatment, comparing them with other methods after determining their effect, improving physician-patient relations, improving health services and for developing health policies (Eser *et al* 1999).

Psychological disorders are important public health problems in that they are common, they cause stigmatisation and suicide attempts, disability and high cost (WHO 2008). 25% of people experience psychological problems at some point in their lives. It is estimated that psychological, behavioral or psychosocial problems influence about 450 million people (Prince *et al.* 2007, WHO 2001). At any moment, at least 10% of the adult population has a psychological disorder, which means that there is at least one person with a psychological disorder out of every four families (WHO, 2001). At the global level, psychological health problems, which accounted for 10% of disease burden in 1990, reached 20% in 2000. It is predicted this figure will rise to 15% in 2020 (Brundtland 2000, WHO 2001). As for the rest of the world, in Turkey psychological health problems have reached significant levels. In field studies in Turkey, it has been pointed out that the prevalence of psychological disorders is around 20% (Küey and Güleç 1987). In the report on the psychological health profile of Turkey, it was stated that in the population aged 18 years and over, 17% had psychological health problems (Kılıç 1998) while in children and adolescents this rate was 10% (Erol and Şimşek 1998).

Among psychological problems, anxiety disorders and depressive disorders are the most common ones (WHO 2001). The fact that these diseases can coexist with other psychological disorders and tend to recur makes the problem even more important. It is known that depressive symptoms occur at the rate of 10-20% in the community, with a life long prevalence of (20-25%) in women, which is twice as high as men (8-12%) (Noble 2005). Depression affects 121 million people as of present.

An emerging need for measuring health related problems brought new criteria into the agenda. One of these is DALY (Disability Adjusted Life Year) and its sub component YLD (Years Lost with Disability). The DALY concept aims to evaluate disease burden caused by diseases which do not result in premature death, but lead to long term disability and loss of function using a single criterium. DALY also includes years of life lost due to early death and loss of healthy years of life due to disability or poor state of health. 'One DALY' means one year of life lost from healthy life (T.C. SB RSHSM 2004). Therefore, it is important in that it incorporates the perspective of quality of life. According to global data from 2001, it was established that unipolar depressive disorders are

problems leading to YLD in both sexes, and that its burden in women is 50% higher than that in men (Lopez *et al* 2001). It is estimated that depression will be the second important cause of DALY in 2020 in both sexes and at all ages. In the study of National Disease Burden in Turkey, it was demonstrated that unipolar depressive disorders are fourth among diseases causing highest DALY with a rate of 4.4% (T.C. SB RSHSM 2004). Depression is the second cause of DALY in women between the ages of 15-44 (WHO, 2001). Similarly, in Turkey, 65-70% of depression patients are female and 30-35% are male. In a study carried out in Turkey, it was reported that depression has a 33% higher rate of prevalence in women (Küey and Güleç 1989). It was also determined that unipolar depressive diseases are the leading cause of DALY, especially in women between the ages of 15-59 with a rate of 9.8% and this figure rose to 10.7% when only urban areas were taken into consideration (T.C. SB RSHSM 2004).

Depression and anxiety are problems that can be treated with current approaches. However, they reduce quality of life owing to the loss of ability they cause and the changes in the perception of health (Bonomi *et al* 2006). Thus, it is obvious that investigations on psychological health should also evaluate quality of life.

The aim of the present study was to determine how quality of life is affected by depression and anxiety symptoms in women at reproductive age in Aydın city and to investigate risk factors for both conditions.

MATERIAL and METHOD

Type of Study and Sample Selection

This is a cross sectional analytic study. The sample population for the study comprised women between the ages of 15-49, which is defined as reproductive age, living in Aydın city center. Sample size was determined as 384 with 50% prevalence estimation with 0.05 error level (Lwanga and Lemeshow 1991). The aim was to reach 461 people with the addition of 20% as substitutes. According to the proportion of the female population between 15-49 in each district health center, the number of cases that will participate in the study from each center was determined. In addition, according to the population of women in the primary health center midwife region, the number of women that will participate from each midwife region was again determined. Participants were selected from a household population record files of households in which women between the ages of 15-49 lived with a systematic sampling method with one women from each household to be represented in the sample. When the household was visited, one woman from the suitable age group was interviewed and in cases where there were more than one suitable women, all volunteering women were included in the study. If there

was no suitable woman at the first visit, the household was visited a second time and if the results were the same, it was accepted that the sample could not be reached.

Data collection and evaluation

Questionnaire

Data were collected by an in person interview method and in order to standardize data collection, training was given before the data collection stage. The questionnaire includes two parts.

Questionnaire Part 1: Demographic, socio-economic characteristics,

Questionnaire Part 2: Includes 77 questions relating to status of disability and chronic disease, drugs used, daily living activities, intra family physical violence, hobbies, frequency of reading books and newspapers, the presence of anxiety and depression symptoms and quality of life, daily living activities, domestic violence, hobbies, reading newspapers and books, the presence of anxiety and depression symptoms and quality of life. Domestic physical violence was defined as kicking, slapping, beating and pushing, etc. attack by the people living in the household. Answers were classified as 'never', 'rarely', 'at times' and 'frequently'. Of these answers, 'never' was coded as absent and 'rarely' 'at times' and 'frequently' as present. The presence of anxiety and depression symptoms was evaluated with general health questionnaire GHQ-12, and quality of life with WHOQOL-BREF TR.

General Health Questionnaire GHQ-12

Its reliability and validity study in Turkey was carried out by Kılıç and Cronbach. The alpha coefficient was found to be 0.78; test-repeat test reliability $r = 0.84$, and yarım test reliability $r = 0.81$ (Kılıç 1996). For GHQ-12, GHQ type scoring was taken as the basis and in each item the first two responses were scored as 0 and the last two responses as 1. Cut off score was accepted as $\frac{1}{2}$ and those who obtained a score of 2 or over were considered to have anxiety and depression symptoms (Aydemir Köroğlu, 2000).

WHOQOL-BREF

The reliability and validity study of this scale in Turkey was carried out by Eser et al.. Cronbach alpha values calculated for inner consistency of the scale were found to be 0.83 in the physical domain, 0.66 in the psychological domain, 0.53 in the social relations domain 0.73 in the environmental domain and 0.73 in the national domain. Pearson coefficients calculated to measure test and repeat test reliability of each question were found to have values ranging between 0.57 and 0.81 (Eser et al 1999). It includes 27 questions with the addition of one national question during the Turkish reliability

study. The first question is on perceived quality of life and the second question is on perceived health status and they are scored between 0-5. The five domain scores were calculated using questions apart from the first two. The content of the five domains used in the scale were as follows:

1. *Physical Health Domain (PHD)*: conducting daily activities, dependence on drugs and treatment, fitness and fatigue, physical mobility, pain and discomfort, sleep and rest, the power to work.

2. *Psychological Health Domain (PHD)*: Body image and external appearance, negative feelings, memory, attention capacity.

3. *Social Relations Domain (SRD)*: Relations with others, social support, sex life

4. *Environmental Domain (ED)*: Material sources, physical security, access to health services, house environment, opportunity for resting and having free time, physical environment and transportation

5. *National Domain (ND)*: Social pressure

Domain scores were calculated out of 0-20. Quality of life increases as scores rise.

Data analysis:

The data were evaluated using SPSS 11.5 program. In descriptive statistics, percentage, mean $\pm$ standard deviation (Sd) values were calculated; in comparison between groups Fisher's exact test, chi-square, Mann Whitney-U test, and Student's t test were used; Pearson's correlation test and logistic regression as multi variable analysis (95% Confidence Interval) were used. Type 1 error (Alpha error) level was taken as 0.05

RESULTS

General Information

In the present study, 1.7% of the women ($n=8$) could not be found at home and 1.0 % ($n=5$) refused to participate in the study; hence 97.1% of the sample ($n=448$) could be reached. Mean age of the 448 participants was 33.98 ± 8.78 ; 75.2% of the women ($n=337$) had children and the mean number of children were 2.23 ± 1.31 . Socio demographic data of the women participating in the study is presented in **Table 1**.

Mean ages of the spouses of married women were 39.88 ± 8.77 years ($n=354$) and 28.2% of the spouses ($n=100$) were primary school graduates or lower. 91.8% had social security, 37.7% were private workers, 29.9 % were workers and 22.9% were public servants. Of the women participating in the study, 67.4% ($n=302$) lived with their spouse and children; 12.3% ($n=55$) with their parents and 4.7 % ($n=21$) lived alone.

Table 1. Sociodemographic data of the women participating in the study

	Sayı	%
Education status		
Illiterate	14	3.1
Literate	14	3.1
Primary school	126	28.1
Secondary school	68	15.2
High school	161	35.9
University	65	14.5
Employment status		
House wife	293	65.6
Public servantr	59	12.9
Student	29	6.5
Free enterprise	22	4.9
Worker	22	4.9
Unemployed	15	3.3
Retired	8	1.8
Marital status		
Married	354	79.0
Single	70	15.6
Divorced	16	3.5
Widow	7	1.6
Lives separately	1	0.2
Social security status		
Present	367	81.9
Absent	81	18.1
Private income source		
Present	118	26.3
Absent	330	73.7
Income status		
<500 YTL	73	16.3
500-1000 YTL	190	42.4
>1000 YTL	185	41.3

15.8% of the women (n=71) stated that they experienced domestic violence. The person who was active in the marriage decision was the spouse and the woman in 55.3% (n=203) while parents were active in 41.4% (n=152). 16.7 % of the women (n=75) had a chronic disease and 2.7% (n=12) had a physical disability. 17.6% were on drugs constantly (n=79). 50.2 % (n=225) had a hobby and 46.4% read the daily newspaper (n=208) and 35% (n=157) read books.

Anxiety and depression symptoms

It was established that there were anxiety and depression symptoms in 35.5% of the women (n=159). The relation between anxiety and depression symptoms and various factors are shown in **Table 2**.

Following logistic regression analysis using 'the status of anxiety and depression symptoms' as a dependent variable, it was found that "depression and anxiety symptoms" were 2.61 (95% CI: 1.45-4.65) fold higher in those experiencing domestic violence and 2.49 (95% CI: 1.37-4.52) fold higher in women whose income was lower than 500 YTL than those with income of 500 YTL or higher.

Table 2. The relation between anxiety and depression symptoms in women and various factors

	Anxiety and depression symptoms				p
	absent		present		
	n	%	n	%	
Social security status					
Present	241	65.7	126	34.3	0.275
Absent	48	59.3	33	40.7	
Education status					
Primary school or less	95	61.7	59	38.3	0.367
Over primary school	194	66.0	100	34.0	
Employment status of women					
Works	99	75.0	33	25.0	0.628
does not work	230	72.8	86	27.2	
Age					
35 and below	172	67.5	83	32.5	0.135
36 and above	117	60.6	76	39.4	
Marital status					
Married	234	66.1	120	33.9	0.172
Other *	55	58.5	39	41.5	
Evde yaşayan kişi					
Alone	15	71.4	6	28.6	0.497
Other†	274	64.2	153	35.8	
The status of personal income					
Present	78	66.1	40	33.9	0.674
Absent	211	63.9	119	36.1	
Income status					
Under 500 YTL	37	50.7	36	49.3	0.007
500 YTL and more	252	67.2	123	32.8	
Person who decided on marriage					
Spouse and herself	146	71.9	57	28.1	0.005
other‡	95	57.9	69	42.1	
Chronic disease					
present	45	60.0	30	40.0	0.371
Absent	244	65.4	129	34.6	
Physical disability					
Present	7	58.3	5	41.7	0.761§
Absent	282	64.7	154	35.3	
Constant drug use					
Uses	47	59.5	32	40.5	0.305
Does not use	242	65.6	127	34.4	
Children					
present	220	65.3	117	34.7	0.551
absent	69	62.2	42	37.8	
Domestic violence					
present	35	49.3	36	50.7	0.003
absent	254	67.4	123	32.6	
Hobbies					
Present	151	67.1	74	32.9	0.248
Absent	138	61.9	85	38.1	
Reading books					
Reads	105	66.9	52	33.1	0.441
Does not read	184	63.2	107	36.8	
Reading daily newspapers					
Reads	144	69.2	64	30.8	0.052
Does not read	145	60.4	95	39.6	

*single, divorced, spouse dead , † with children, spouse and parent
‡with parents and relativesbaba, §Fisher's exact test

Quality of life

The distribution of the answers given to the first two questions of WHOQOL-BREF-TR questionnaire is presented in **Figures 1 and 2**. The scores obtained by the women participating in the study were as follows: mean general health score of 3.33 ± 0.804 ; mean general quality of life score of 3.62 ± 0.791 ; PHD of 15.95 ± 2.422 ; PHD of 14.70 ± 2.337 ; SRD of 14.64 ± 3.027 ; ED of 14.27 ± 2.20 and a ND 14.29 ± 2.144 . The relation between WHOQOL-BREF TR domain scores and various factors is presented in **Table 3**.

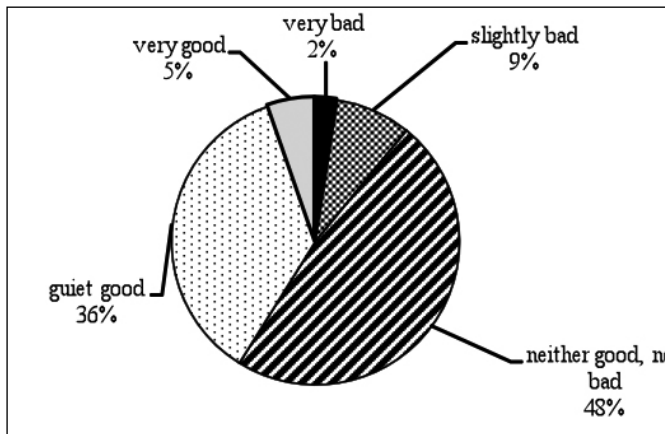


Figure 1. The distribution of the answers to the question 'what do you think of your quality of life?' (Perceived quality of life)

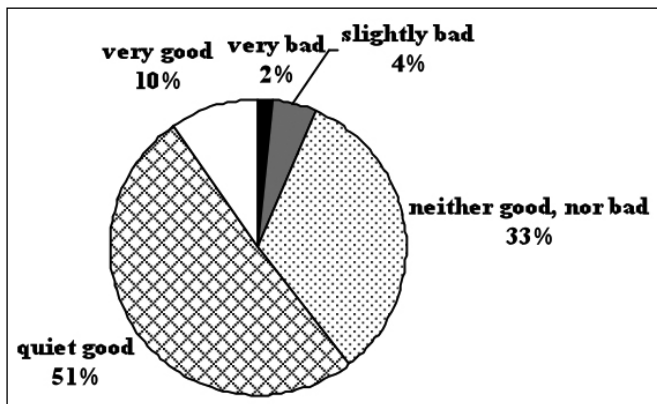


Figure 2. The distribution of the answers to the question 'How satisfied are you with your health?' (Perceived health status)

A negative, moderate and highly significant correlation was found between overall score of GHQ-12 and the first two questions of WHOQOL BREF TR questionnaire (respectively $r = -0.36$, $p < 0.001$, $r = -0.39$, $p < 0.001$).

While there was a negative, strong and highly significant correlation between overall score of GHQ-12 and Psychological Health Domain score ($r = -0.510$, $p < 0.001$), negative, moderate and significant correlation was found between overall score and Physical Health Domain score, Social Relations Domain score, Environmental Domain score and National

Domain score (PHD score $r = -0.494$ and $p < 0.001$, SRD score $r = -0.352$ and $p < 0.001$, EDS score $r = -0.352$ and $p < 0.001$, ND score $r = -0.378$ and $p < 0.001$).

In **Figure 3**, the distribution of the domain scores in WHOQOL BREF TR of women with depression and anxiety symptoms and those without them are presented comparatively.

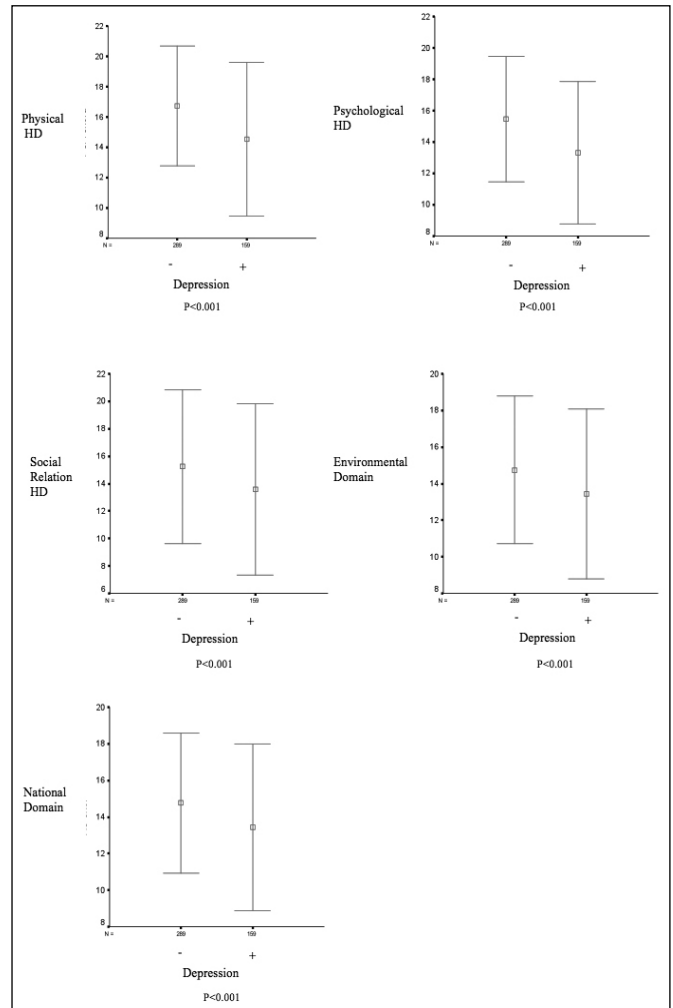


Figure 3. The distribution of WHOQOL-BREF domain scores in women who have depression and anxiety symptoms and those who do not have them.

DISCUSSION

The most important aspect of this study is that it evaluated quality of life together with anxiety and depression symptoms. This is a community based study carried out with women in reproductive age. As of the date when this article was written, in screening made in Pub-Med, 8 matching articles were found in which GHQ-12 and WHOQOL-BREF were used together and only one article was found in ULAKBİM data base, however, in that study another scale was used in combination with WHOQOL-BREF. 18 articles were found matching GHQ-12 and quality of life and in some of these

Table 3. The relation between domain scores of WHOQOL-BREF TR and various factors

Variables	PHS score mean.±Sd	Psych. HD score mean .±sd	SRD score mean.±SD	ED score mean.±Sd	NDscore mean.±Sd
Social security					
Present	16.07±2.37	14.92±2.25	14.74±2.94	14.47±2.17	14.47±2.07
Absent	15.38±2.54	13.70±2.45	14.20±3.36	13.35±2.21	13.43±2.25
p	0.020	<0.001	0.146	<0.001	<0.001
Education status					
İlkokul ve altı	15.50±2.61	14.38±2.29	14.44±3.17	13.74±2.17	13.82±2.14
İlkokul üzeri	16.18±2.28	14.86±2.34	14.74±2.94	14.55±2.20	14.53±2.10
p	0.007	0.038	0.314	<0.001	0.001
Employment status					
works	16.18±2.159	15.30±2.242	15.19±3.165	14.75±2.262	14.74±2.175
Does not work	15.88±2.493	14.52±2.337	14.48±2.971	14.13±2.190	14.15±2.120
p	0.276	0.003	0.038	0.012	0.016
Age					
35 or less	16.45±2.09	15.14±2.28	15.05±2.89	14.56±2.18	14.51±2.09
36 or more	15.28±2.65	14.12±2.28	14.09±3.12	13.89±2.21	13.98±2.17
P	<0.001	<0.001	0.001	0.002	0.010
Marital status					
Married	15.88±2.43	14.70±2.30	14.71±2.92	14.56±2.18	14.25±2.17
other*	16.19±2.16	14.70±2.46	14.36±3.38	13.89±2.21	14.41±2.02
P	0.270	0.987	0.357	0.306	0.512
People living at home					
Alone	16.71±2.49	16.14±2.08	15.76±3.31	15.29±2.02	15.38±1.80
other†	15.91±2.41	14.63±2.32	14.59±3.00	14.22±2.21	14.23±2.14
p‡	0.100	0.005	0.058	0.046	0.024
Private income source					
present	16.09±2.24	15.26±2.25	15.14±3.17	14.78±2.28	14.72±2.19
Absent	15.89±2.48	14.50±2.33	14.46±2.95	14.09±2.16	14.13±2.10
P	0.444	0.002	0.038	0.004	0.010
Income status					
Under 500 YTL	15.38±3.02	14.03±2.64	14.14±3.72	13.47±2.41	13.52±2.34
500 YTL and more	16.06±2.27	14.83±2.25	14.74±2.86	14.43±2.14	14.43±2.07
P	0.075	0.017	0.195	0.001	0.001
Perseon who decides on marriage					
Spouse and herself	16.13±2.42	15.04±2.27	15.28±2.82	14.54±2.16	14.55±2.08
otherr§	15.43±2.47	14.21±2.33	13.84±3.02	13.73±2.32	13.80±2.28
P	0.006	0.001	<0.001	0.001	0.001
Chronic disease					
present	14.39±2.88	14.07±2.43	14.03±3.42	13.97±2.21	13.96±2.19
absent	16.26±2.19	14.83±2.29	14.76±2.92	14.33±2.21	14.35±2.13
P	<0.001	0.010	0.085	0.205	0.150
Physical disability					
present	13.92±1.83	13.58±2.23	14.42±3.84	14.67±2.18	14.50±1.83
absent	16.00±2.41	14.73±2.33	14.65±3.00	14.26±2.22	14.28±2.15
p‡	0.002	0.102	0.758	0.577	0.823
Continuous drug use					
Uses	14.25±2.78	13.85±2.42	14.28±3.38	13.89±2.10	13.94±2.09
Does not use	16.31±2.17	14.88±2.27	14.72±2.94	14.35±2.23	14.36±2.15
p	<0.001	<0.001	0.242	0.090	0.111
Children					
Present	15.86±2.45	14.61±2.29	14.57±2.96	14.16±2.25	14.19±2.18
Absent	16.03±2.24	15.50±2.23	15.97±2.15	14.69±2.16	14.75±2.10
P	0.704	0.027	0.001	0.178	0.147
Domestic violence					
Present	14.83±2.26	13.34±2.36	12.77±3.18	12.80±2.51	12.85±2.53
Absent	16.16±2.39	14.95±2.24	14.99±2.86	14.55±2.04	14.56±1.95
P	<0.001	<0.001	<0.001	<0.001	<0.001

Table 3. Continued

Hobbies					
present	16.21±2.35	15.02±2.38	12.77±3.18	14.53±2.18	14.51±2.11
Absent	15.68±2.46	14.38±2.24	14.99±2.86	14.01±2.23	14.06±2.15
P	0.021	0.004	0.004	0.013	0.028
Status of reading books					
Reads	16.20±2.35	15.33±2.33	15.28±3.04	14.99±2.15	14.99±2.06
Does not read	15.81±2.45	14.36±2.26	14.30±2.96	13.88±2.16	13.90±2.09
P	0.107	<0.001	0.001	<0.001	<0.001
Status of reading daily newspaper					
Reads	16.31±2.12	15.33±2.33	15.13±2.85	14.87±2.13	14.85±2.09
Does not read	15.63±2.61	14.36±2.26	14.22±3.10	13.75±2.16	13.80±2.06
P	0.002	<0.001	0.001	<0.001	<0.001
Status of reading book or newspaper					
reads	16.21±2.20	15.15±2.31	15.18±2.84	14.78±2.13	14.79±2.07
Does not read	15.63±2.62	14.17±2.25	14.12±3.15	13.67±2.17	13.70±2.08
P	0.012	<0.001	0.001	<0.001	<0.001
*single, divorced, dead spouse †with spouse, children, parents ‡ Mann-Whitney U test \$parents, relatives					

quality of life was measured with different tools (e.g. SF-36). Common points of these studies were that they were all carried out in a special patient group (Gülseren *et al* 2001, Yazıcı *et al* 2003, Fellingner *et al* 2005; Furlong and Connor 2007). However, women in the present study have not referred to any health institution. Therefore, it reflects an unseen part of the iceberg better. Hence, the data collected with this study is important in terms of providing data for the target of 'Health for Everyone' policy of the Ministry of Health aiming to decrease psychological disorders by 20% until 2020 (T.C. Ministry Of Health, 2001).

It was established in the present study that in those with anxiety and depression symptoms, all domain scores, WHOQOL-BREF TR were significantly lower. There was a moderate, negative correlation between perceived quality of life and perceived health status and overall GHQ-12 score. GHQ-12 overall was most strongly related with PHD score with a strong and significant negative correlation between them. Likewise, PHD, SRD, ED and ND scores had moderate negative correlation with overall GHQ-12 score. In two community based studies in which GHQ-12 was evaluated together with quality of life, (Pirkola *et al* 2009; Serrano-Aguilar *et al* 2009), a different scale was used as a quality of life scale. In both studies, a significant negative correlation was found between scores of both scales. In the presence of psychological problems, Psychological Domain scores are expected to be low. Psychosomatic symptoms that may arise from psychological problems are likely to adversely influence physical health domain and impairment of social relations are likely to adversely influence social domain. Another probability is that negative emotions may lead to lower perception of quality of life in all domains.

GHQ-12 is a screening test carried out by taking the last few weeks into account (Kılıç 1996). A large majority of the

studies carried out in our country focus on various disease groups or professions (Tezcan and Aslan, Özkan *et al* 2004). In the present study, the prevalence of anxiety and depression symptoms was found to be 35.5% in women between the ages of 15-49 using GHQ-12. In a study carried out by Belek (1999), in Antalya province with a population over 15, the prevalence of psychological disorders was reported to be 40.0%. The study of Belek also used GHQ-12 and had the same cut-off point as the present study. Therefore, similarity between the results is significant. Belek worked in two different regions and found higher rates in the slum area compared to urban areas. However, in Belek's article rates in two different regions can not be evaluated separately. Hence, value as high as 40% may be partly ascribed to the values of the women in slum areas increasing the average value. If only the prevalence in urban women was considered, a result closer to the present study could be found. When comparing studies using GHQ-12, it is important to evaluate cut off point. In a study carried out on women 15 or older in Gölbaşı county center in Ankara, a mean score of GHQ-12 was found to be 1.94±2.77, and prevalence of psychological diseases defined as a score of 4 or higher was found to be 21.7% (Baykan *et al* 2001). When cut off points was kept higher, prevalence was found to be lower. Baykan reported that GHQ mean score was found to be 1.06 in the same region in 1991 in women referring to primary health centers. However, Baykan *et al* described that the frequency was lower for those having psychological problems in that 1992 study which had a study group referring to primary health center. The prevalence of anxiety and depression among 15-40 year old women in Sanliurfa Education Health Center was found to be 25.9% (Şimşek ve ark 2007). Cut-off point was not given in the article in the study in Şanlıurfa. Different cut-off points used may be the probable reasons for differences as well as regional and temporal differences. However, considering that the study

of Belek was a community based one, the presence of anxiety and depression symptoms in one of every three women is a significant finding with similar results to ours. In National Burden of Disease Study, it was determined that depressive disorder was the leading cause of DALY in women between the ages of 15-59 with higher prevalence in the west and urban regions (T.C. SB RSHSM 2004). It can be seen that the findings of this study are also parallel to ours. It is striking that in the study group with more developed sociodemographic characteristics than national averages depression and anxiety symptoms were found at a high rate. It is thought that especially women in reproductive age should be targets with priority in increasing health levels. It is important to recognize depression, which has a life long prevalence of 20-25% in women, at an early stage as it is concurrent with other diseases and tends to recur. In the present study, according to results of univariable analysis, anxiety and depression symptoms were found at a significantly higher rate in women with low income level, history of domestic violence, and who did not decide on marriage with her spouse. However, after multivariate analysis, low income status and the presence of domestic violence were found to be most important risk factors. Likewise, in the study carried out by Belek in Antalya, it was established that those with low income and whose income was lower than their expenditure were found to be in a more unfavourable situation (Belek 1999). In a study on women referring to primary health center in İstanbul, it was determined that low economic status was associated with highest GHQ scores (Buzlu *et al* 2006). In the studies of Patel *et al* (1997) and Baum (1999), it was reported that psychological disorders occurred more frequently in those with lower income and those with economic problems had higher risk of psychological disorders.

Consistent with the present study, various studies found that in the presence of domestic violence, anxiety and depression symptoms were more common (Şimşek *et al* 2007, Bonomi *et al* 2006, Bonomi *et al* 2007). Domestic violence is a risk factor for psychological diseases since it is a traumatic life event. Participation of the women in the decision to marry is a sign of her status in the family and the society. In the present study, although it was found, according to univariate analysis results, that depression and anxiety symptoms were significantly more common in women who did not play an active role in marriage decision, this significance did not remain after logistic regression analysis.

In the present study, Physical HD scores were found to be significantly higher in women with social security, and high education level, who are younger and do not have chronic disease or physical disability, who have hobbies and read daily newspaper and books. Given the fact that disease and disability increase with advancing age, it is not surprising that score are higher in younger women with high socio economic levels.

It has been reported in various studies that Physical Health Domain scores are in parallel to functionality in daily lives (Arslantaş *et al* 2006, Tokuç *et al* 2006).

Psychological HD scores were found to be higher in women who are young and have social security and high education levels, who have work and personal income, who do not live alone, without chronic diseases, who were active in the decision to marry, who do not have children and domestic violence history and who have hobbies. Psychological HD is one which has strong and significant correlation with GHQ-12. In a study carried out in Eskişehir, (Arslantaş *et al* 2006), Psychological HD scores were found to be significantly higher in younger individuals without chronic disease, who have high education level and who do not live alone. In another study conducted in Manisa on pregnant women, (Altıparmak 2006), Psychological HD Scores were significantly higher in those with high education and income level and social security. In another study carried out in İzmir, (Karabilgin 2001), scores were similarly found to be high in those who are younger, have social security and no history of domestic violence.

SRD Scores were higher in women who work, have their own income, are younger and participated in the decision to marry, who do not have children and history of violence and who have hobbies. Social support and social relations network is an indicator of social quality of life. Participation of women in work life contributes to the development of social support systems by enlarging her social environment. In a study conducted in İzmir, (Karabilgin 2001), SRD scores were found to be significantly higher in younger, single women without children, who work and have social security. In a study on pregnant women, (Altıparmak 2006), SRD scores were found to be higher in those with high income and education level. In the study carried out by Arslantaş *et al* (2006) in Eskişehir, SRD scores were found to be lower in those who have chronic disease. It is expected that women who have better social support and interpersonal relations have higher SRD scores. Women with low socio-economic level and social status have more difficulty in social relations and feel more social pressure, which has an adverse effect on their SRD scores. Lower SRD scores may be associated with individualist living patterns dominant in urban areas. However, in this study, cases were women who mostly stay at home and have limited social relations, which may account for their lower SRD scores.

ED scores were higher in women who are younger, have higher education level and social security, whose income level was high and who are active in the decision to marry and have hobbies. As to ND scores, they were determined to be higher in those who are younger and work with personal high income level, with social security and higher education level, who live alone, who are active in decision to marry and have hobbies. In the study carried out by Altıparmak (2006), ED scores were found to be higher in women who have high

education level, work and have social security while in the study of Karabilgin (2001), they were found to be high in young, single women who have social security. It was determined that ED may be considered as an indicator of socio-economic status since it includes work, income and social security components. In addition, it also includes success to education and evaluating free time components, which makes it natural for women with high education levels and hobbies to have high ED scores.

The most important limitation of the present study is that cause and effect relation between the presence of anxiety and depression symptoms and impairment of the quality of life could not be completely clarified since the study was carried out using the cross sectional method. However, it is though that significant inverse relation found in many scale scores may form the basis for future studies examining causality.

It is the conclusion of this study that it is important to make further psychiatric evaluation once depression and anxiety symptoms are detected using GSA-12, which may prevent the decrease in the quality of life in all domains. In increasing the quality of life in the community, the following issues are those that should be prioritized in intervention: educating women for being more aware of the symptoms of psychological disorders, social support, developing the skill of coping with stress, early diagnosis and treatment of the psychological problems of women who have domestic violence history and low socio-economic level and social status, and forming a high risk group.

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