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Psychological Symptoms and Health Related Quality of Life in Patients with Mastalgia

Gizem Oner[a,b,c*], Zeynep Sener Bahce[d], Nazmiye Kocaman Yıldırım[e], Fatih Yanar[c], Bedia Silahsızoglu[c], Adnan Haslak[f], Yıldız Gökalp Argun[f], Heybet Semur[f], Beyza Ozcınar[c]

[a]*Multidisciplinary Oncologic Centre Antwerp (MOCA), Antwerp University Hospital, Edegem, Belgium*

[b]*Center for Oncological Research (CORE), University of Antwerp, Wilrijk, Belgium*

[c]*Department of General Surgery, Istanbul University, Istanbul Medical Faculty, Istanbul, Turkey*

[d]*Department of General Surgery, Memorial Hospital, Diyarbakır, Turkey*

[e]*Faculty of Nursing, Bolu University, Bolu, Turkey*

[f]*Department of General Surgery, Ergani Hospital, Diyarbakır, Turkey*

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ABSTRACT

Background: Mastalgia is common among women and its aetiology is still not fully understood. Many studies have been conducted to reveal the relationship between breast pain and psychosomatic disorders. The goals of the project are to compare the interaction of psychological symptoms and health related quality of life (HRQL) in patients with mastalgia between Eastern and Western Turkey.

Materials and methods: Seventy-four women from the General Surgery Clinic of Diyarbakır Ergani Hospital (Eastern group) (n=39) and Istanbul University, Istanbul Faculty of Medicine (Western group) (n=35) were included in the study. The symptom checklist-90-revised (SCL-90-R) scale was used to evaluate physiological findings and Short Form-36 (SF-36) scale was used for evaluating health related quality of life (HRQL).

Results: The median age of patients from Eastern group was 27.54 (18-39) years and 35.57 (18-70) years in Western group (t=-4.585, P<0.0001). Average Global Severity İndex (GSI) scores of the eastern group were statistically significantly higher than those of the western group (P<0.01). When the SCL-90-R values of the eastern and western groups were compared, somatization, interpersonal sensitivity, phobic anxiety, psychoticism, depression and anxiety in the eastern group were higher than in the western group. According to SF-36 results, the mean scores in the eastern group tended to be lower than those in the western group.

Conclusion: The results revealed that psychological symptoms differ between eastern and western Turkey. This may indicate that socio-economic differences may also have effects on psychological symptoms. In addition, mastalgia negatively affects women's quality of life.

***Address for correspondence:**
Gizem Oner, M.D.,
University of Antwerp, Wilrijkstraat 10, 2650 Edegem/ Belgium
Tel: +32 498 53 18 33
E-Mail: onergizem@hotmail.com

INTRODUCTION

Breast pain, also called mastalgia, is one of the most common complaints in breast surgery clinics and the prevalence of mastalgia varies between 41% and 80% among women.[1-3] Breast pain can be mild or severe, as well as cyclical or noncyclic. The most

recent literature stresses that cyclic mastalgia is the most common form and is associated with menstruation. The aetiology of cyclical mastalgia addresses a disturbance in hormonal balance between oestrogen, progesterone, prolactin, and the responsiveness of target organs to these hormones. Therefore, hormonal treatments such as antiestrogen agents, danazol, and LHRH analogue are recommended in the treatment of pain.[3-6] On the other hand, some women struggle with severe non-cyclic mastalgia, which affects their daily activities. The underlying physiopathology of non-cyclic pain is less obvious than cyclic mastalgia and this hinders the effectiveness of the management of the treatment.[5,7]

Mastalgia is thought to have a connection with psychosomatic disorders because there is no clear organic cause identified in its aetiology. It was mentioned for the first time in 1949 that mastalgia may be related to a psychological problem.[8] This idea has gained considerable support when an association has been shown between treatment resistant mastalgia and psychological symptoms such as anxiety, depression and somatization.[9-12] In addition, mastalgia has a connection with psychosocial problems. Professional, social and psychological lives of women are negatively affected due to this pain.[8] Despite the widespread belief that psychological and social factors affect breast pain, empirical evidence is very limited.

Research has demonstrated that regional disparities, such as differences in socioeconomic composition, have a major impact on health.[13,14] Turkey has regional inequalities; hence employment rates, education levels, welfare and economic structure are affected. There is a large East-West distinction in the development of agriculture and industry, in working and earning conditions, in public or private investment potential, and in the direction of migration flows.[15] The present study aims to illuminate the differences in psychological symptoms and health related quality of life (HRQL) between Eastern and Western Turkey in patients with mastalgia.

MATERIAL AND METHODS

Patient selection

The current study was carried out in Istanbul University, Istanbul Faculty of Medicine, Department of General Surgery and Diyarbakır Ergani Hospital, General Surgery Clinic. The study, approved by the Ethical Committee of Istanbul University, Istanbul Faculty of Medicine and Ergani Hospital, was conducted in accordance with the guidelines of the 1975 Declaration of Helsinki and signed informed consent was obtained from all patients. Women who were suffering from breast pain for at least 3 months were offered the opportunity to participate in the study. Patients with a history of an organic breast disease such as cancer, abscess or known breast pathology, or a history of previous breast surgery were not included in the study. Pregnant, breastfeeding women and patients who could not complete the questionnaires were excluded from the study. Routine radiological breast screening was carried out via mammography or/and ultrasonography according to patient age and clinical findings. The Breast Imaging-Reporting and Data System (BI-RADS) 1 and BI-RADS 2 were included in the study. A score of four or greater on a breast-pain survey with pain scores from 1 to 10 (10 being worst pain) was also required. In addition, patients with a score of over 30 (maximum 78) in the McGill Pain Questionnaire were included in the study. The psychological findings of the patients were evaluated using SLR-90-R. Turkey's western (Istanbul University, Istanbul Faculty of Medicine) and eastern (Diyarbakır Ergani Hospital) regions were compared. Seventy-four patients who were admitted to general surgery clinics of Diyarbakır Ergani Hospital (n=39) and Istanbul Faculty of Medicine (n=35) were included in the study. The psychological findings of the patients were evaluated by the symptom checklist-90-revised (SCL-90-R) and HRQL was evaluated by the short-form health survey (SF-36) scale.

The symptom checklist-90-revised (SCL-90-R)

The SCL-90–R is a validated scoring index for assessing a broad range of psychopathological problems and symptoms.[16,17] This psychiatric evaluation index contains 90 questions that are scored on a 5-point scale (1-5) ranging from “not at all” to “extremely,” reflecting the occurrence rate of symptoms during the time reference. The questionnaire covers the previous week, and includes the current day. It measures symptom intensity on nine different subscales: somatization, obsessive–compulsive behavior, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid thinking and psychoticism. Higher scores show increased psychological adversity. The total score is evaluated as the Global Severity İndex (GSI). This checklist comprises 90 questions with five response options: 0=not at all, 1=a little bit, 2=moderately, 3=quite a bit, 4=extremely.[18] GSI is found by dividing the scores obtained from clinical subtests by the total number of questions. Make general judgment depending on the general symptom average of GSI. If the average is greater than one, it indicates a psychological problem. If the average is less than 0.5, it indicates that there is no psychological problem.

Short-Form Health Survey (SF-36)

The SF-36 scale is a self-reported scale which consists of 36 items comprising 8 subscales, including physical functioning, role limitations due to physical health or emotional problems, bodily pain, general health, vitality (energy), social function and mental health. The SF-36 scale is scored over 100, and the obtained scores vary between 0 and 100 scores for each subscale. In this scale, while higher scores indicate good health, the lower scores demonstrate deterioration in health.[19,20] In addition, SF-36 is a commonly used instrument for measuring HRQL.

Statistical analysis

Data were analysed using SPSS v.21.0 for Windows. The clinical characteristics of the patients were evaluated using descriptive statistics including means, medians and standard deviation. Since the data showed a normal distribution, independent sample *t* test was used for the statistical comparison of two patient groups. In addition, Spearman's rho correlation test was used for determining the relationship between psychological findings. Significance was accepted at P<0.05.

RESULTS

Seventy-four patients were included in the current study and the median age of the patients was 31.81±9.6 (18-70) years. The median age of the patients from the General Surgical Clinic of Diyarbakır Ergani Hospital (Eastern group) (n=39, 52.7%) was 27.54 (18-39) years and 35.57 (18-70) years for the patients from Istanbul University, Istanbul Faculty of Medicine, Department of General Surgery (Western group) (n=35, 47.3%). The difference between median ages of the groups was statistically significant (t=-4.585, P<0.0001). There was no statistically significant difference between age and other variables.

Psychopathological findings were compared using SCL-90-R scales. The results are shown in Table 1.

Average GSI scores of the eastern group were statistically significantly higher than those of the western group (P<0.01). In addition, the average of all subscale scores of the eastern group, except for phobic anxiety, was over one. On the other hand, in the western group, somatization and obsessive-compulsive subscales averages were found to be above one. When the SCL-90-R values of the eastern and western groups were compared, somatization, interpersonal sensitivity, phobic anxiety, psychoticism, depression and anxiety in the eastern group were statistically higher than what was observed in the western group. No statistically significant difference was found between age and SCL-90-R subscales.

Table 1. Comparison of SCL-90-R scale points for Eastern and Western groups.

SCL-90-R subscales	Eastern group average ±SS	Western group average ±SS	T	P
Somatization	1.75±0.71	1.11±0.55	4.277	<.001
Obsessive-compulsive	1.46±0.81	1.11±0.69	2.019	.047
Interpersonal sensitivity	1.54±0.88	0.87±0.65	3.659	<.001
Hostility	1.34±0.87	0.80±0.71	2.923	.005
Phobic anxiety	0.96±0.72	0.41±0.47	3.834	<.001
Paranoid thinking	1.16±0.81	0.90±0.68	1.516	.134
Psychoticism	1.02±0.79	0.48±0.42	3.631	.001
Depression	1.48±0.80	0.98±0.62	2.975	.004
Anxiety	1.45±0.77	0.77±0.49	4.433	.000
Additives	1.48±0.86	0.95±0.65	2.939	.004
GSI	1.39±0.66	0.84±0.47	4.059	<.001

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HRQL between groups were compared using SF-36 scales and results are presented in Table 2. According to SF-36 results, the average points of physical, physical role difficulty and social functions were found to be lower in the eastern group than in the western group (respectively P= 0,029, P= 0.002, P<0.001).

DISCUSSION

Studies have shown that regional inequalities, such as differences in socioeconomic areas, have an impact on health.[13,14] There are differences between Eastern and Western Turkey. On average, Istanbul, Ankara, and Izmir constitute 52% of Turkey's GDP. On the other hand, the contribution of the East to GDP

is 1.28%.[21] The rate of illiterate women is 6.30% in Marmara region (Istanbul zone), whereas 34.08% in Southeast regions.[22] Sozmen *et al*. indicated that inequalities in self-assessed adult health which is well known as an important predictor of morbidity, mortality and health services utilisation, has been mainly related to educational level, household wealth and geographical area.[23] The Eastern group's average SCL-90-R scores were statistically significantly higher than those of the Western group (P<0.01). These results may show us that the underlying psychosocial problems in women with breast pain may be affected by regional and socioeconomic factors. When looking at the sub-scales, somatization and obsessive-compulsive scores were over one in both groups, this means that obsessive-compulsive and somatization symptoms are dominant findings in mastalgia patients. In addition, some studies have even suggested that mastalgia is one of the somatization signs of fibromyalgia syndrome.[24]

Table 2. Comparison of SF-36 scale points for the Eastern and Western groups.

SF-36 subscales	Eastern group average ±SS	Western group average±SS	T	P
Physical function	62.17±36.69	75.28±23.66	-2.224	.029
Physical role difficulty	45.51±37.11	82.85±60.86	-3.223	.002
Pain	49.05±17.90	52.45±19.88	-.775	.441
General health	54.07±12.59	52.34±19.51	.459	.648
Vitality (Energy)	59.74±20.48	50.71±18.63	1.975	.052
Social function	48.39±20.91	71.78±20.18	-4.882	< .001
Emotional role difficulty	48.71±45.14	55.23±43.49	-.631	.530
Mental health	53.47±19.54	54.51±16.86	-.243	.809

There are many studies that analyze the interaction between mastalgia and psychological stress and psychological symptoms.[9-12] Our results are similar in many respects to those from previous studies on mastalgia and psychological symptoms such as anxiety, depression and somatization. When the mean age of mastalgia patients in the east and west was compared, it was found that patients in the east area were statistically younger than those in the west (P<0.0001). Further research is needed to improve our understanding of the underlying causes of the age difference. However, this may be due to the early marriage and childbirth and taking the responsibility of the family as a woman at such a young age (mainly before 18 years).

Colgrave *et al.* compared psychological characteristics of women presenting to a breast clinic for mastalgia and they found that, in addition to anxiety, depression and somatization symptoms, a history of emotional abuse was associated with mastalgia.[11] In the current study, the scores of all sub-scales except paranoid thinking were significantly higher in the eastern group (somatization, obsessive-compulsive, interpersonal sensitivity, hostility, phobic anxiety, psychoticism, additives, depression and anxiety). This increase may be related to the role of the woman in the eastern region in the social and cultural environment. Women's desire to be more valuable in their environment and families may lead to somatization of pain as mastalgia. This is because the woman may have a belief that her family and especially her husband will love her more when she gets sick. Otherwise, the woman has only the role of childcare, doing the household chores and cooking and that's why she wants to change her current position in the home.

Research has raised an important point that severe mastalgia in women's daily life may be related to the fear of breast cancer.[25,26] Physical examination, ultrasonography examination may affect the psychological state of the patient and reduce the patient's pain and anxiety.[26] In the west part of Turkey, women are more educated than the east part of Turkey. Therefore, women in the west may have higher psychological satisfaction rates after normal radiological imaging and doctor examinations.

Professional, social and psychological lives of women are negatively affected due to breast pain.[8,27] We used SF-36 scales to compare HRQL and the results showed that the physical function, physical role difficulty, and social functions were affected significantly in the eastern part. While the pain scores in the two groups were similar, the effect of pain on social life and physical functions were more strongly felt in the eastern group. This means that women's daily life activities and social functions are limited due to breast pain. However, whether this limitation is a result of psychology or chronic pain is not clear. It has been shown that chronic breast pain may also be associated with other chronic pain syndromes and this will lead to more negative effects on the socio-psychological life of the woman.[12,24] The limitation of our study is that other chronic pain syndromes such as fibromyalgia and chronic pelvic pain were not questioned in detail in patients with long-term breast pain.

CONCLUSION

The etiology of mastalgia is still not fully understood. This study shows that psychological symptoms in a patient with breast pain differ between the east and west of Turkey. This may indicate that socio-economic differences may also have effects on psychological symptoms. Adding SCL-90-R to the diagnosis and treatment of resistant mastalgia patients could help provide a more accurate and reliable treatment. Further investigations are necessary for detailed evaluation of psychosocial effects on mastalgia and the results of psychological therapies in the treatment of mastalgia.

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CONFLICTS OF INTEREST

The authors declare that they have no conflict of interests.

DATA AVAILABILITY

Available.

ETHICAL CONSIDERATIONS

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The study was approved by the Ethical Committee of Istanbul University, Istanbul Faculty of Medicine and Ergani Hospital (2018/1515). The authors declare that the subjects have given their informed consent and that the study protocol has been approved by the institute's committee on human research.

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