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Original article

Mastalgia Among Women Attending the Outpatient Clinics in Alwahda Teaching Hospital, Derna

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ABSTRACT

Mastalgia, also known as mastodynia or breast pain, is a common symptom in clinical practice, with a prevalence ranging from 50% to 80% among women throughout their lives. While only a minority of women may require treatment, a proper assessment is essential for all patients to rule out underlying breast pathology. Addressing concerns, particularly the fear of harbouring cancer and the impact of severe pain on daily life, is crucial. This cross-sectional study aimed to determine the prevalence of both cyclical and non-cyclical mastalgia, identify underlying risk factors, and assess its impact on women's quality of life. A total of 580 patients were included in the study and evaluated using a closed-ended questionnaire. Among the 580 women studied, the prevalence of mastalgia was found to be 60%, with 43% experiencing noncyclical mastalgia. The majority of individuals experiencing mastalgia onset fall within the age range of 16-25 (41.7%). Mastalgia was positively correlated with stress (99.2%), a positive family history of mastalgia (22%), average body habitus (47.9%), lack of physical exercise (78.4%), high fat diet (20.8%) and excessive coffee intake (25%), a personal history of chronic illness (48.8%). It showed a weak correlation with other factors such as oral contraceptive pills (2.3%) and a positive family history of breast cancer (14.4%). The pain was primarily focal, unilateral, and of mild to moderate severity. Notably, 75% of cases had not undergone breast cancer screening despite their cancer phobia (64.6%). Improving mastalgia management requires increased awareness among women about its risk factors, reassurance, lifestyle modifications (such as regular exercise), and the use of local analgesics.

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INTRODUCTION

Mastalgia, commonly known as mastodynia or breast pain, is a frequently encountered symptom in clinical practice. Its prevalence ranges from 50% to 80% among women at any stage of their lives, with the cyclical variant being predominant [1-4]. While only a few women may require treatment, proper assessment is crucial for all patients to rule out underlying breast pathology. Additionally, addressing and providing reassurance are essential to alleviate two common concerns: the fear of harbouring cancer and the impact of severe pain on daily life [4-5].

Despite advancements in radiological and medical fields, the aetiology of mastalgia remains incompletely understood.

There is a gap in the literature regarding mastalgia studies from Derna city in Libya. To date, the incidence, prevalence, and associated risk factors of mastalgia in Libya are not fully elucidated. Furthermore, there is a lack of reported data on the correlation between mastalgia and various dietary factors, as well as mental health issues such as anxiety, depression, psychological symptoms, and high stress levels. Against this backdrop, the current cross-sectional study was conducted to examine the profile of mastalgia among Libyan females residing in Derna city.

METHODS

Study design and participants

Between March and April 2022, a collaborative cross-sectional study was conducted at Al Wahda Hospital in Derna, Libya, specifically in the outpatient gynecology and breast surgery clinics. The study included all females of Libyan origin aged 15 years and above residing in Derna. Exclusions were made for pregnant or breastfeeding women and those with a history of specific breast disorders or breast surgery.

Data collection

To gather data, an anonymous questionnaire featuring closed-ended questions about breast pain, demographic information, and lifestyle was developed. Informed consent was obtained from all participants prior to their inclusion in the study. Mastalgia was assessed in relation to the menstrual cycle, and pain severity was measured using the visual analogue scale (VAS). Participants provided self-reported information regarding their demographic details and academic qualifications.

Statistical analysis

Data analyses were conducted using SPSS version 12.0 for Windows and Microsoft Excel-2010. The results were presented as means and numbers with corresponding percentages. The significance level for all analyses was set at a p-value less than 0.05.

RESULTS

A total of 580 females agreed to take part in the study, with an average age of 46 ± 10 years (ranging from 15 to 62). The mastalgia group consisted of 348 patients (60%), while the asymptomatic group included 232 patients (40%). Figure 1 provides in-depth details regarding the age groups of individuals experiencing mastalgia, along with information on their occupation, educational level, and marital status.

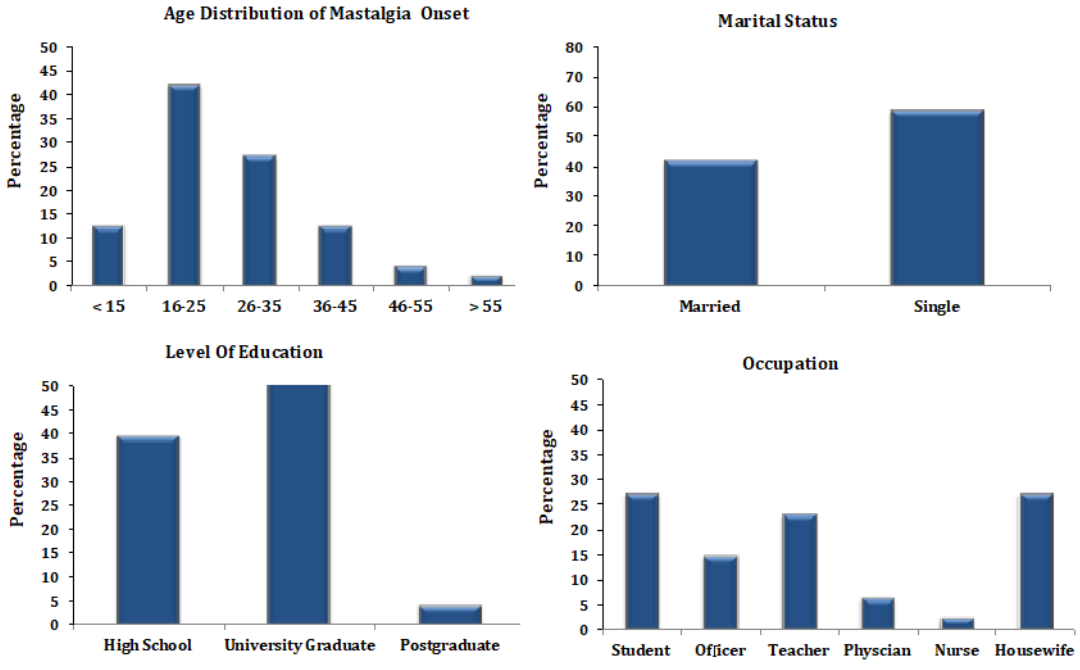

Figure 1. Age distribution and demographic characteristics of mastalgia onset.

The majority of individuals experiencing mastalgia onset fall within the age range of 16-25 (41.7%) and 26-35 (27%). Mastalgia is less common among individuals aged 36-45 (12.5%), 46-55 (4.2%), and those above 55 years old (2.1%). Significant portions of individuals with mastalgia onset are university graduates (56.3%). However, high school graduates also represent a substantial proportion (39.5%). There is a nearly equal distribution of mastalgia onset between married (41.7%) and single individuals (58.3%). Students constitute a notable portion (27.1%) of those experiencing mastalgia onset. Other occupations include officers (14.6%), teachers (22.9%), physicians (6.3%), nurses (2.1%), and housewives (27%).

A comprehensive overview of mastalgia characteristics in the study participants, including the distribution of pain laterality, duration, severity, and associations with menstrual cycle, pregnancy, and oral contraceptive intake are delineated in table 1. The data are presented in terms of frequency and percentage. 66.7% of participants experienced unilateral mastalgia (affecting one breast). The majority reported pain lasting 2-3 days (33.3%) or 4-7 days (25%). 50% reported mild pain (score 1-3). 56.8% of participants reported a connection between mastalgia and the menstrual cycle. 86.3% and 97.7% reported no relation to pregnancy or oral contraceptives respectively.

Table 1. Mastalgia profile in study participants.

Category	Frequency (n)	Percentage (%)
Laterality		
- Unilateral	232	66.7
- Bilateral	116	33.3
Duration of Pain per Month		
- 1 day	72	20.8
- 2-3 days	116	33.3
- 4-7 days	87	25.0
- 8-14 days	66	18.8
- more than 14 days	7	2.1
Average Pain Score (Visual Analogue Scale, out of 10)		
- 1-3 (mild)	174	50.0
- 4-6 (moderate)	145	41.6
- 7-10 (severe)	29	8.4
Relation to Menstrual Cycle		
- Yes	198	56.8
- No	150	43.2
Relation to Pregnancy		
- Yes	48	13.7
- No	300	86.3
Relation to Oral Contraceptive Intake		
- Yes	8	2.3
- No	340	97.7

Table 2 summarizes different aspects of risk factor for mastalgia emphasizing key percentages and trends in lifestyle, general health, dietary habits, passive smoking and family history characteristics among mastalgia participants. A significant proportion of participants have an average weight (47.9%), followed by underweight individuals (31.3%). Approximately 21.5% of participants engage in regular exercise, while the majority (78.4%) do not. Various dietary patterns are observed, with notable percentages for high-fat intake (20.8%) and excessive coffee consumption (25%). A vast majority of participants (99.2%) report a stressful lifestyle. A quarter of participants (25%) are exposed to passive smoking, while the majority (75%) are not. A considerable number of participants report a family history of mastalgia (22%) and breast cancer (14.4%). Nearly half of the participants (48.8%) have a family history of other chronic disorders such as diabetes, hypertension, hypothyroidism, or asthma.

Table 2. Lifestyle, general health, and family history criteria in mastalgia participants.

Criteria	Percentages
Body habitus	
- Severely Underweight	2.1%
- Underweight	31.3%
- Average weight	47.9%
- Overweight	16.7%
- Morbid obesity	2%
Regular exercise	
- Yes	21.5%
- No	78.4%
Dietary food intake	
- Vegetarian	4.2%
- Fast food	10.4%
- High fat	20.8%
- High meat	8.3%
- Excessive coffee	25%
Stressful lifestyle	
- Yes	99.2%
- No	0.8%
Passive smoking	
- Yes	25%
- No	75%
Family history of mastalgia	
- Yes	22%
- No	78%
Family history of breast cancer	
- Yes	14.4%
- No	85.6%
History of other chronic disorders	
- Yes	48.8%
- No	51.2%

A summarized overview of the holistic perspective on the multifaceted aspects of mastalgia, encompassing main concerns, impact on breast cancer screening decisions, medication patterns, and treatment outcomes is illustrated in figure 2. About 64.6% fearing cancer, 22.9% expressing concerns about the impact on daily life. Additionally, it highlights the impact of mastalgia on taking the personal decisions for breast cancer screening which is seen in only 25% of the studied population, while 75% have not undergone previous screening. The figure also indicates that systemic analgesics were the most commonly used medications for mastalgia relief. Notably, the majority of cases (83.3%) demonstrated an excellent response to treatment, with only 16.7% showing no improvement.

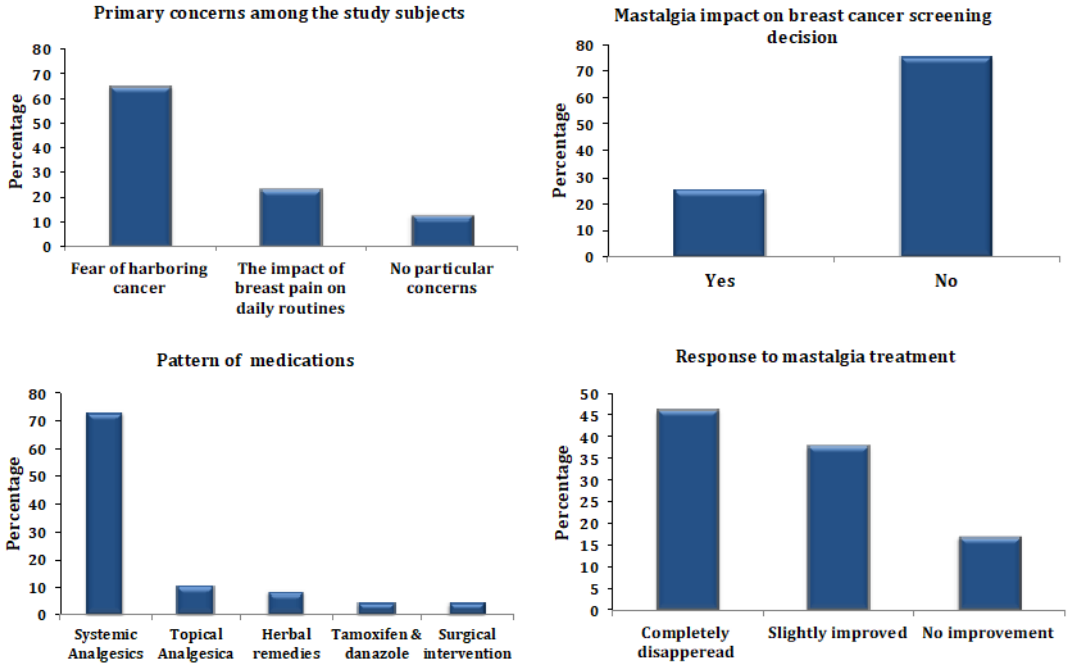

Figure 2. Overview of mastalgia concerns, screening decisions, common medications used and treatment response.

DISCUSSION

Mastalgia, initially documented in 1829 [6], remains a prevalent symptom affecting 50-80% of women throughout their lives. However, there is a scarcity of reports addressing breast disease patterns in African Arab females. Most women experience premenstrual mild cyclic breast pain, often considered normal. Yet, the reasons behind the higher frequency of cyclical mastalgia remain inadequately explained. Interestingly, the prevalence of mastalgia varies widely due to inter-individual differences and social features.

Numerous studies propose that mastalgia can be linked to factors such as advanced age, dietary patterns, psychological stress, hormonal fluctuations, underlying breast pathology (e.g., fibrocystic changes, duct ectasia, fibroadenoma), or abnormal menstrual cycles [7-9]. In his study, 60% of women attending the breast clinic reported experiencing mastalgia, with 43% specifically indicating noncyclical mastalgia. Interestingly, our findings deviate from Western statistics [10], where cyclical mastalgia is more prevalent (69%), and differ from Asian societies, where breast pain affects as few as 5% [10]. Furthermore, the majority of individuals experiencing mastalgia onset fall within the age range of 16-25 (41.7%) and 26-35 (27%). Our findings align with a previous study by Frances et al., highlighted that most women typically experience mastalgia in their 20s and 30s. [8].

Demographic data from Figure 1 revealed a diverse study population, reflecting positive engagement from various segments of society. Significant portions of individuals with mastalgia onset are university graduates (56.3%). However, high school graduates also represent a substantial proportion (39.5%). There is a nearly equal distribution of mastalgia onset between married (41.7%) and single individuals (58.3%).

Mastalgia showed slightly higher distribution among single individuals. The observation that all the participants are educated add to the fact that students constitute a notable portion of those experiencing mastalgia might be explained by the prolonged sedentary activities, the stress associated with academic endeavors, coupled with potential psychological factors such as anxiety or emotional stress, can contribute to the perception or experience of breast pain. Additionally, ergonomic factors such as prolonged study sessions or work-related activities, physical strain, hormonal fluctuation. Moreover, the elevated incidence of mastalgia in various demanding occupations; particularly in teaching or healthcare professions, may be explained by the heightened levels of stress associated with these professions. These findings underscore the multifaceted nature of mastalgia, emphasizing its complexity and the diverse contributing factors that need to be considered for a comprehensive understanding of the condition.

The majority of females in this study suffered breast pain for 2-3 days (33.3%). Notably, only 2.1% indicate enduring pain for more than 2 weeks per month. This pattern aligns with similar trends observed in various studies published in the literature. For instance, in the study conducted by Vaziri et al [11], 65% of females reported mastalgia lasting 5 days

or less, and Ader's and Brown's study [4] indicated that 70% of subjects experienced mastalgia for less than 5 days. However, in the study by Carmichael et al. [10], a notable 93% of patients had experienced breast pain lasting for more than 5 days.

Mastalgia exhibited positive correlations with various factors, including psychological stress (99.2%), smoking (25%), a positive family history of mastalgia (22%), an average body habitus (47.9%), a personal history of chronic illness (48.8%), and excessive coffee intake (25%). On the other hand, there was a weak to no correlation with factors such as oral contraceptive pills (2.3%) and a positive family history of breast cancer (14.4%). Only a small percentage of the studied population reflects a positive correlation between mastalgia and pregnancy (13.7%), oral contraceptive consumption (2.3%) and passive smoking (25%).

Interestingly, 31.3% of individuals who consumed a healthy diet reported experiencing mastalgia. This observation might be may be influenced by several factors such as individual variability, sensitivity to specific foods, hormonal influences, psychological factors or unexplored dietary factors. Notably, the pain was unilateral in 66.7% of the studied population, which was unexpected given the anticipated bilateral nature associated with the predominant cycle-related pattern. It is important to highlight that all women with underlying breast pathology were excluded from the study. This unilateral distribution, however, aligns with findings from an Asian study by Cheung et al., where mastalgia was predominantly observed to be unilateral [12]. Understanding the interplay of the risk factors in different populations is essential for a comprehensive assessment of mastalgia prevalence. This observation highlights the complex nature of the condition, which can be influenced by a combination of genetic, ethnic variations, environmental, cultural, lifestyle, dietary and social variances.

The majority of cases (75%) in this study had not undergone screening for breast cancer at any point in their lives. This finding contrasts with the results of a study by Goodwin et al., which suggested that women with cyclical mastalgia undergo more frequent breast investigations than women without mastalgia [13]. The discrepancy may be attributed to cultural, educational, and financial differences between countries, influencing access to healthcare services and screening programs. Interestingly, despite 22% and 14.4% of cases having a positive family history of mastalgia and breast cancer, respectively, the expected increase in the percentage of individuals expressing worry or concern about the condition was not observed. This suggests that factors beyond family history may influence individuals' perceptions and attitudes toward breast cancer concerns, highlighting the need for a comprehensive understanding of the cultural and contextual factors at play.

It was identified that the two primary concerns among the participants were the fear of harbouring breast cancer (64%) and the presence of severe pain affecting a woman's quality of life (22.9%) [14]. In contrast, a study by Ader and Browne [4] highlighted a greater impact of mastalgia on women's lives, with breast pain interfering with usual sexual activity in 48% of women and affecting physical, social, and work activities (37%, 12%, and 8% respectively). 12% of the studied population reported a negative impact of mastalgia on their routine life, a finding comparable to an Iranian study where less than 14% of females reported a similar impact [11]. This underscores the varied impact of mastalgia on different aspects of women's lives and emphasizes the need for a holistic approach to understanding and addressing the challenges associated with this condition.

The number of patients who declared increased emotional stress level was significantly higher than expected 99.2%. Similarly, suffering of mastalgia was significantly higher in those who lack physical activities and regular exercises (78.4%). To our knowledge, this is the first study that reports a positive correlation between mastalgia, stress, and lack of physical exercise. However, numerous reports in the literature have indicated a higher incidence of mental health conditions such as anxiety and depression, as well as social dysfunction, in patients experiencing mastalgia [15,16].

The vast majority of individuals in utilized medications to alleviate their mastalgia, with 72.9% opting for systemic analgesics, and 10.4% choosing topical analgesics. Among them, 45.8% reported experiencing complete relief, 49% noted improvement, and only 16.7% reported no benefit. The non-steroidal anti-inflammatory drugs (NSAIDs); whether taken orally or applied topically, was used for pain relief by 34 individuals (19.5%) at some point in our study. Several studies suggest that NSAIDs are effective in relieving mastalgia [17,18].

CONCLUSIONS

In summary, this study provides insights into the prevalence and the multifaceted nature of mastalgia, emphasizing the need for a comprehensive understanding of contributing factors. The findings underscore the impact on different aspects of women's lives, urging a holistic approach in addressing the challenges associated with mastalgia.

Conflict of interest

There are no competing interests of any of the authors, and they have no connection to the industry or organizations.

REFERENCES

1. Smith RL, Pruthi S, Fitzpatrick LA. Evaluation and Management of Breast Pain. Mayo Clin Proc. 2004 Mar;79(3):353-72.
2. Ader DN, South-Paul J, Adera T, Deuster PA. Cyclical Mastalgia: Prevalence and Associated Health and Behavioral Factors. J Psychosom Obstet Gynaecol. 2001 Jun;22(2):71–6.
3. Johnson K M, Bradley K A, Bush K, Gardella C, Dobie DJ, Laya MB. Frequency of Mastalgia Among Women Veterans Association with Psychiatric Conditions and Unexplained Pain Syndromes. J Gen Intern Med. 2006;21(Suppl 3): S70-5.
4. Ader DN, Shriver CD. Cyclical Mastalgia: Prevalence and Impact in An Outpatient Breast Clinic Sample. J Am Coll Surg 1997 Nov;185(5):466-70.
5. Scurr J, Hedger W, Morris P, Brown N. The Prevalence, Severity, and Impact of Breast Pain in the General Population. Breast J. 2014 Jul 7;20(5):508-13.
6. Cooper A. Illustrations of the Diseases of the Breast: Non-malignant. London, England: Longman, Rees, Orme, Brown & Green; 1829.89.
7. BeLieu RM. Mastodynia. Obstet Gynecol Clin North Am. 1994 Sep;21(3):461-77.
8. Norlock FE. Benign Breast Pain in Women: A Practical Approach to Evaluation and Treatment. J Am Med Womens Assoc (1972). 2002 Spring;57(2):85-90.
9. Peters F, Diemer P, Mecks O, Behnken L LJ. Severity Of Mastalgia in Relation to Milk Duct Dilatation. Obstet Gynecol. 2003 Jan;101(1):54-60.
10. Carmichael AR, Bashayan O, Nightingale P. Objective Analyses of Mastalgia in Breast Clinics: Is Breast Pain Questionnaire a Useful Tool in a Busy Breast Clinic? Breast. 2006 Aug;15(4):498-502.
11. Vaziri F, Samsami A, Rahimi Z, Rastgardoost N, Nick N. Prevalence, Severity and Factors Related to Mastalgia among Women Referring to Health Centers Affiliated with Shiraz University of Medical Sciences. J Health Sci &Surveillance Sys. 2016;4(2):64-69
12. Cheung KL. Management of Cyclical Mastalgia in Oriental Women: Pioneer Experience of Using Gamolenic Acid (Efamast) in Asia. Aust N Z J Surg. 1999;69(7):492-4.
13. Goodwin PJ, Miller A, Del Giudice ME, Ritchie K. Breast Health and Associated Premenstrual Symptoms in Women with Severe Cyclic Mastopathy. Am J Obstet Gynecol. 1997 May; 176(5): 998-1005.
14. Khan SA, Apkarian AV. Mastalgia and Breast Cancer: A Protective Association? Cancer Detect Prev. 2002; 26(3):192–6.
15. Colegrave S, Holcombe C, Salmon P. Psychological Characteristics of Women Presenting with Breast Pain. J Psychosom Res. 2001 Jun;50(6):303-7.
16. Ramirez AJ, Jarrett SR, Hamed H, Smith P, Fentiman IS. Psychosocial Adjustment of Women with Mastalgia. The Breast. 1995;4(1):48–51.
17. Irving AD, Morrison SL. Effectiveness of Topical Non- Steroidal Anti-Inflammatory Drugs in the Management of Breast Pain. J R Coll Surg Edinb. 1998 Jun;43(3):158-9.
18. Colak T, Ipek T, Kanik A, Ogetman Z, Aydin S. Efficacy of Topical Nonsteroidal Drugs in Mastalgia Treatment. J Am Coll Surg 2003Apr;196(4):525-30.

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ألم الثدي بين النساء المترددات على العيادات الخارجية بمستشفى الوحدة التعليمي، درنة

سعاد عجرود[1]، عائشة بوجازية[2،3*]، محمد بوهلالة[1،3]

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المستخلص

يعد ألم الثدي، المعروف أيضًا باسم ألم الثدي أو ألم الثدي، أحد الأعراض الشائعة في الممارسة السريرية، ويتراوح معدل انتشاره بين 50٪ إلى 80٪ بين النساء طوال حياتهن، مع كون المتغير الدوري هو السائد. في حين أن أقلية فقط من النساء قد يحتاجن إلى العلاج، إلا أن التقييم المناسب ضروري لجميع المرضى لاستبعاد أمراض الثدي الكامنة. إن معالجة المخاوف، وخاصة الخوف من الإصابة بالسرطان وتأثير الألم الشديد على الحياة اليومية، أمر بالغ الأهمية. تهدف هذه الدراسة المستعرضة إلى تحديد مدى انتشار ألم الثدي الدوري وغير الدوري، وتحديد عوامل الخطر الأساسية، وتقييم تأثيرها على نوعية حياة المرأة. تم تضمين ما مجموعه 580 مريضا في الدراسة وتم تقييمهم باستخدام استبيان مغلق. من بين 580 امرأة تمت دراستها، وجد أن معدل انتشار ألم الثدي هو 60%، مع 43% يعانين من ألم الثدي غير الدوري. غالبية الأفراد الذين يعانون من بداية ألم الثدي يقعون ضمن الفئة العمرية 16-25 (41.7٪). ارتبط ألم الثدي بشكل إيجابي بالإجهاد (99.2%)، والتاريخ العائلي الإيجابي لألم الثدي (22%)، ومتوسط عادة الجسم (47.9%)، وعدم ممارسة الرياضة البدنية (78.4%)، واتباع نظام غذائي غني بالدهون (20.8%) والإفراط في تناول القهوة. (25%)، تاريخ شخصي للإصابة بالأمراض المزمنة (48.8%). وأظهرت علاقة ضعيفة مع عوامل أخرى مثل حبوب منع الحمل عن طريق الفم (2.3٪) وتاريخ عائلي إيجابي لسرطان الثدي (14.4٪). كان الألم في المقام الأول بؤريًا وأحادي الجانب وخفيف إلى متوسط الشدة. ومن الجدير بالذكر أن 75% من الحالات لم تخضع لفحص سرطان الثدي على الرغم من خوفها من السرطان (64.6%). يتطلب تحسين إدارة ألم الثدي زيادة الوعي بين النساء حول عوامل الخطر، والطمأنينة، وتعديلات نمط الحياة (مثل ممارسة التمارين الرياضية بانتظام)، واستخدام المسكنات المحلية.

الكلمات الدالة. ألم الثدي، عوامل الخطر، الانتشار.