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Psychological effects of breast cancer in women and their families: A systematic review

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Abstract

Introduction: Breast cancer may have a significant impact on the psychosocial well-being, not only of the women diagnosed, but also on their family members.

Aim: The purpose of this review and narrative synthesis is to investigate the affect of breast cancer on women and their family.

Methods: The electronic databases Scopus, Psycinfo, Science Direct and Pubmed were searched during the period 2010-2020. We followed the PRISMA guidelines and the PICO framework with Boolean operators. Of the 1126 articles identified, only 35 were used in the final configuration of the systematic review, based on the inclusion and exclusion criteria that were set.

Results: The 35 articles that were finally included in this review focused mainly on the relationship of women with breast cancer with their family. More specifically, family seems to play a significant role for women with breast cancer. Dynamics and roles among the family members are affected and burdened because of the disease. Family caregivers provide support to women with breast cancer, and patients receiving family care seem to respond more effectively to their treatment and manage to cope with their illness. Both breast cancer patients and family caregivers seek psychosocial support. Breast cancer can also have a detrimental effect on their family caregivers, their partners and the extended family.

Conclusion: A supportive family may a have a positive impact on patients' psychosocial wellbeing. Providing psychosocial support to both patients and family members may significantly improve the quality of life for the whole family.

Keywords: Breast cancer and family; Partner and children; Family caregivers; Psychosocial impact on family

1. Introduction

Breast cancer is the most common form of gynecological neoplasms in contemporary society, both in developed and developing countries. Breast cancer rates are higher in high-income countries than in middle- and low-income countries (1-2). It affects 2.1 million women worldwide each year (3-5), while 19% of cases affect women under the age of 50 (6-10). In 2020, 2.3 millions new cases of breast cancer were diagnosed worldwide. Also, approximately 0,5 million people

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worldwide die from metastatic breast cancer every year. The five-year survival rates of patients with breast cancer are about 90% (3, 11-13).

According to the latest studies, women suffering from breast cancer experience a multitude of negative and painful symptoms, which in turn affect their mental health and consequently their families. Women are affected emotionally, socially and psychologically and the problems become more intense with mastectomy and chemotherapy followed. Thus, women experience pain, fatigue, physical problems, discomfort, change of body image, pain, uncertainty, frustration, anger, anxiety, depression, fear of abandonment, fear of relapse, sexual dysfunction, sleep disorders, low self-esteem, etc. (11, 14-15).

Treatment-related symptoms can last for weeks, months or even years. Even if the symptoms of the disease subside, it is possible that breast cancer treatment may cause long-term consequences adversely affecting patients' quality of life (16). In particular, mastectomy may negatively affect woman's body image, self-esteem, sexuality and the way her partner relates to her body. Research findings suggest that pain and fatigue along with negative mood may lead to increased anxiety and depression (11). On the other hand, the quality of life after mastectomy seemed to increase among breast cancer patients who underwent breast reconstruction and received psychosocial support (17).

The relationship between breast cancer patients and their family seems to affect their physical and mental health. Family members can provide breast cancer patients with psychological support, reinforcement and encouragement (18). Moreover, family does not only play an important role in providing care for the majority of cancer patients, but it is often responsible for difficult decision making concerning patients' care (19).

Family support seems to be associated with positive psychological outcomes among women with breast cancer, though family caregivers' quality of life may be adversely affected. Both patients and partners may experience significant emotional distress (7). Finally, a study showed that family-related factors predict post-traumatic growth (20).

Family caregivers are usually a person from the extended family environment (spouse / partner, children, grandchildren, siblings, other relatives, etc.), who takes care of and supports women with breast cancer. The family environment consists of either the nuclear family or the extended family or the significant others women who support and care for women.

Aim

The purpose of this systematic review and narrative synthesisis to investigate the psychological effects of breast cancer in women and their family environment, the role of their extended family, their family and partner relationships, the mother-child relationship and the role of their family caregivers.

2. Material and Methods

2.1. Search strategy and methodology

The conduct of the present systematic review has been based on the reporting guidelines PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) (21-22). The strategy used to formulate the review was with the PICO model (Population, Intervention, Comparison and Outcomes). Population: women of breast cancer and their family; Intervention to identify those psychosocial factors that seem to have an impact among women diagnosed with breast cancer and their families and highlight the role of their family; Comparison: not applicable; Outcome: Empowerment of women and their family caregivers / improvement of their family relationships (23).

Four electronic databases (Pub Med/Medline, PsycInfo, Science Direct and Scopus) were systematically searched using search terms found in the related literature. The time frame of the research was 2010-2020. The following search terms (and their combinations) were used: "breast cancer", "breast neoplasm" "family caregivers", "family environment", "family", "partner", "spouse", "children", "extended family", "psychosocial impact on family" (24).

2.2. Eligibility criteria.

The criteria used in the present systematic review were:

The inclusion criteria:

- Published between 2010 -2020.
- Studies reflect the purpose of the review. That is, studies on women with breast cancer and the impact on the family environment.
- The studies should refer to humans and not to experimental animals.
- There was a language restriction in English and Greek.
- Original quantitative research surveys were included in order to ensure a methodological and scientific uniformity and be able to compare studies' findings.

The exclusion criteria:

- The qualitative studies were excluded.
- Case studies, reviews, articles to the publisher, special articles were excluded.
- Studies that were not exactly relevant to the subject of the review were excluded.
- Not eligible in quality assessment were not included.
- Studies published before 2010 were excluded.
- Studies related to another type of cancer or compared to another type of cancer or metastatic cancer were not included.

2.3. Description of studies based on criteria

Of the 1126 articles found in the Pubmed, PsycInfo, Science Direct and Scopus databases, only 35 were eventually used to complete the systematic review. More specifically, 452 studies were read by Pubmed/ Medline, 30 studies by PsycInfo, 230 by Science Direct and 414 by Scopus and based on the above criteria we came to 35 studies.

Moreover, a list of articles that met the inclusion criteria based on titles and summaries was compiled. The full texts of these studies and those of uncertain significance were retrieved. Two authors (D.C. and M.A.) independently evaluated the fulfillment of the inclusion criteria from the studies. In case of any discrepancy, athird person was appointed until a final set of studies was agreed upon. The following data were extracted from all included studies, such as general information, authors, year of publication, country of research, population, intervention, comparison group, study design and study results.

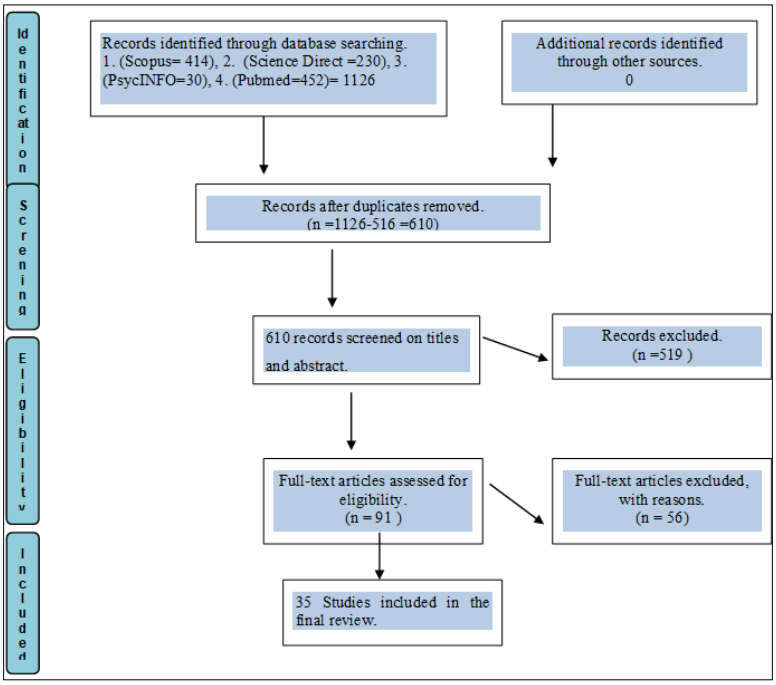

Figure 1 Systematic review flowchart

The results of the review process are described in figure 1, according to PRISMA flow chart (figure1).

2.4. Quality assessment and risk of bias assessment

The quality and risk of bias assessment of the review was assessed by two independent reviewers (DC and MA). When there was a disagreement, a third reviewer was consulted. The selection and screening of the articles was done by the two reviewers based on the Risk of Bias Instrument for Cross-Sectional Surveys of Attitudes and Practices. Based on the risk of bias table all studies had a low risk of bias or medium risk of bias. Studies that had a high risk of bias and low quality were rejected from the review (25).

3. Results

Of the 1126 articles identified, only 35 were used in the final configuration of the systematic review. This table briefly describes the 35 studies and analyzes the findings of the studies (table 1).

The analysis of the results of the studies focuses on the following areas:

- Women's breast cancer can be experienced as a crisis in the family affecting its functionality and the dynamics change; the roles, rules, routine and balances, as well the emotions and functionality of the family members are affected. Family members and family caregivers are emotionally, psychologically, socially, financially and professionally burdened (5, 10, 26- 41).
- The family supports women with breast cancer emotionally, socially and financially (5, 37).
- In children and adolescents, their mother's cancer is a fact that affects both their behavior and their emotional health, especially when their family relationships are dysfunctional (9).
- Women's partners experience similar psychological distress with breast cancer patient, and a constructive relationship based on mutual trust and communication helps to better manage illness and distress (15, 42-49).
- The burden on family members combined with conflicting relationships and lack of family psychological support results in a reduction in the quality of life of both patients and caregivers (5, 10, 28, 36, 43, 48, 50).
- The family resilience of a family plays a key role in the burden and quality of life of patients and caregivers. Resilience is the skills and abilities to mobilize resources and the ability to adapt to the difficult situation. High family resilience along with effective communication increases quality of life and reduces distress (10, 34-35, 51).
- Social support is beneficial for both patients and family members (26, 29, 46, 52-53).
- Psychosocial support helps reduce discomfort, better manage illness and stress and, ultimately, increase quality of life (5, 30, 41-42, 48-49, 54-55). Finally, some studies refer to several areas combining common variables.
- Most studies were cross sectional study. Sixteen studies took place in America, two in Malaysia, one in Australia, one in France, three in Turkey, two in Italy, one in Israel, two in Iran, one in Switzerland, one in India and five in China.

Table 1 Characteristics of included studies

No	Mean age	Year	Sample	Design	Author/ Country	Aim	Results
1.	Mean age: 50,58 women and 44.32 caregivers	2019	234 Women with breast cancer and 234 their informal caregiver	Novel dyadic test/Actor–Partner Interdependence Model (APIM) Survey	Segrin et al USA	"The aim of this research is to provide a dyadic test of a model of loneliness and health-related quality of life of breast cancer and their caregivers"	"The results of the study showed that loneliness was negatively associated with health-related quality of life for both survivors and caregivers"
2.	Mean age: 50.19 women and 40.2	2017	230 dyads, Women with breast cancer and family caregivers	Dyadic analysis/ Actor-Partner Interdependence Mediation Model (APIMeM) Survey	Sergin et al USA	"The purpose of the study was to study the predictors of negative psychosocial outcomes in a dyadic breast cancer context"	"The results of the study showed that for both breast cancer survivors and caregivers, significant effects of perceived stress on both depression and anxiety were observed. Caregiver stress was predictive of depression, and survivor stress was predictive of family conflict."

3.	Mean age: 52.82 women with breast cancer 41 caregivers	2017	130 caregiver-patient dyads	Cross-sectional study	Din et al Malaysia	"The purpose of the study was to determine the prevalence and factors associated with anxiety disorders among breast cancer caregivers"	"Of the total sample, 11.5% of caregivers reported suffering from anxiety disorders. Duration of care, shared care and type of treatment of patients were associated with anxiety disorders."
4.	Mean age: 45.2	2010	151 spouses of women with breast cancer	Cross-sectional Study	Fletcher et al USA	"The purpose of this study was to describe spouses' reported cancer-related demands attributed to their wife's breast cancer"	"According to study findings, spouses of breast cancer patients are concerned about spouses' functioning, spouses' well-being and response to treatment, couples' sexual activities, family and children's well-being, and role in supporting their husbands. When spouses had more depressive symptoms they had more worries about breast cancer."
5.	Mean age: 52.48 women with breast cancer 42.81 family caregivers	2014	130 women of breast cancer and their family caregivers	Cross-sectional Study	Jaafa et al Malaysia	"The aim of the study was to determine the rates of major depressive disorder and dysthymia in caregivers"	"The results of the study showed that 17.69% of the caregivers were diagnosed as having depressive disorders, where 12.31% had major depressive disorder and 5.38% had dysthymic disorder. Factors associated with depression were patients' functional status, length of care, ethnicity and caregivers' level of education."
6.	Mean age: 45.76 women with breast cancer 43.46 family caregivers	2019	150 women with breast cancer and 150 family caregivers	Cross-sectional study	Nimekari, et al Iran	"The aim of the study was to correlate the supportive care needs of women with breast cancer and the quality of life of their family caregivers."	"From the results of the study it appears that both the quality of life of the family caregivers and the mental and emotional burden had a very high score. In addition, there was a significant correlation between caregivers' mental and emotional burden and patients' physical needs."
7.	Mean age: 40 children of the study group and 40 healthy controls	2019	80 (40 children and adolescents of mothers with BC and 40 healthy controls)	Cross-sectional and case control study	Altun, et al Turkey	"The aim of this study was to determine the emotional and behavioral problems of school-age children of mothers with breast cancer."	"The results of the study show that girls of mothers with breast cancer had higher scores than boys on emotional problems, peer problems and overall difficulties. Several problems were observed in children and adolescents of breast cancer patients, such as changes in new family obligations and some difficulties in life."
8.	Mean age: 38.3 1st degree relatives and 33.3 2st degree relatives	2013	265 first degree female relatives and second degree female relatives of breast cancer	Cross-sectional Survey	Ogce et al Turkey	"The aim of this study was to compare the quality of life of female relatives of women being treated for breast cancer."	"The study results showed that first-degree relatives had a lower quality of life index in all domains except physical well-being than second-degree relatives."
9.	Mean age:49	2019	213 patients and 209 family caregivers	Cross-sectional survey	Faccio et al Italy	"The aim of this study was to validate an instrument to	"Study results showed that comparisons between patient and caregiver populations showed that patients perceived higher levels of family resources

						assess family resilience."	
10.	Mean age: 49 women with breast cancer and 45 family caregivers	2018	108 women with breast cancer and 108 family caregivers	Cross sectional survey	Li et al China	"The aim of the study was to explore the relationships between family resilience, breast cancer survivors' post-traumatic growth, quality of life and their caregivers' burden."	"Study results showed that family resilience had an impact on quality of life and parent burden and was positively related to survivors' post-traumatic growth. Survivors' posttraumatic growth was positively associated with their quality of life, and their quality of life was negatively associated with caregiver burden."
11.	Mean age:50.6 women with breast cancer and 43.9 family caregivers	2019	209 women with breast cancer and family caregivers (dyads)	Longitudinal analyses of dyadic	Segrin et al USA	"The aim of this investigation is to test a model of dyadic interdependence in distress experienced by cancer survivors and their caregivers"	"Findings showed that psychological distress was interrelated between cancer survivors and their caregivers during the 6-month follow-up. In contrast, there was no such evidence of interdependence with indices of physical distress."
12.	Mean age: 52 for two genders	2012	69 couples (women with breast cancer and their spouses)	Comparative study	Baucom et al USA	"The study aimed to explore the extent to which men's well-being is related to women's well-being with breast cancer,	"The main findings of the study were that when women are high in physical symptoms then the typical associations between men's well-being and women's well-being and relationship adjustment no longer hold."
13.	Mean age:39.60	2015	150 caregivers of breast cancer	Descriptive correlation study	Vahidi et al Iran	"This study aimed to identify factors associated with caregiver burden among primary caregivers of women with breast cancer."	"The main findings of the study showed that the determinants of caregiver burden identified were mean score of activities of daily living, level of education, gender and economic status."
14.	Mean age:54.5	2019	96 survivors of breast cancer	Cross-sectional survey	Acquati et al USA	"This study investigated interpersonal and physical health predictors of Post Traumatic Stress Symptoms."	"The results show that 54.2% of the participants reported meeting the criteria for possible of PTSD. PTSS were positively associated with social constraints and negatively associated with social support, closeness, and physical health.
15.	Mean age:45 years	2018	n = 310 YBCS (young breast cancer survivors)and n = 431 first- or second-degree relative	Actor-partner interdependence models	Katapodi et al USA	"The study aimed to describe family support in YBCS and their biological relatives and identified the interdependence of support in YBCS relatives' family units."	"According to the study, across all family units, YBCS' higher self-efficacy was associated with higher YBCS support and relative support; YBCS' prior diagnosis of depression was associated with lower YBCS and elative support. Lack of access to care was associated with lower support among YBCS and relatives."
16.	Mean age: 53.08 survivors of breast cancer and 51.71 caregivers	2014	51 women with breast cancer and 51 their family caregivers (dyads)	Longitudinal analyses of dyadic	Segrin et al USA	"The purpose of this research was to assess the degree of dyadic interdependence in psychological and physical distress of breast cancer-adjusting symptoms."	"According to the study, survivors and partners showed significant interdependence in psychological and physical symptom distress This was evident in the longitudinal effects of partner in models of actor-partner interdependence."

17.	Women 54,11years Partner 51,68 years	2011	95 dyads living with breast cancer and their partners	Structural equation model (SEM) of the actor-partner interdependence model (APIM)	Dorros et al USA	"The aim of this study was to test whether interdependence in dyads living with breast cancer could account for person-partner crossover effects in distress outcomes".	"The study results showed a pattern of influence that the interaction of high levels of depression combined with high levels of stress in women with breast cancer was associated with reduced physical health and well-being in their partners."
18.	Mean age: 44.05 years	2019	258 family caregivers with breast cancer	Cross-sectional survey	Segrin et al USA	"The purpose of this study was to investigate the care of Latinas women with breast cancer"	"According to the study, mothers who provide care to a daughter with breast cancer experience higher levels of psychological distress while reporting lower availability of informational support than most other types of family caregivers.
19.	Mean age:49.5 spouses and 47.3 patients	2014	243 patients with breast cancer and their spouses	Cross-sectional survey	Zhu et al China	"The aim of this study was to describe the characteristics of male spouses caring for patients with breast cancer, to assess their quality of life and to explore influencing factors."	"According to the study, the scores of all SF-36 scales were above 50.0, which were much lower than those of men. Quality of life was significantly worse than physical quality of life. Spousal demographic, care-related variables, characteristics and patient symptoms were associated with spousal quality of life.
20.	Mean age: 49	2018	108 women with breast cancer and 108 caregivers	Cross-sectional study	Liu et al China	"The aim of this study was to examine the relationships between family resilience and posttraumatic growth of breast cancer survivors and caregiver burden among principal caregivers"	"According to the study results, families showed a slightly increased level of family resilience from the cancer experience, and patients showed a moderate degree of posttraumatic growth. Caregivers reported moderate burden."
21.	Mean age: 60.36	2018	85 caregivers of women with breast cancer	Cross-sectional study	Whitney et al USA	"The aim of this study was to examine the degree to which persistent breast pain and experience as a cancer caregiver were related to cancer worry and perceived risk in first-degree relatives of women with breast cancer"	"According to the study results, first-degree relatives of breast cancer survivors who engage in pain catastrophizing may experience greater cancer worry and perceived risk. They may also benefit from interventions aimed at reducing catastrophic pain thoughts."
22.	Mean age: 49 women of breast cancer and 45 their caregivers	2018	108 women with breast cancer and their caregivers (dyads)	Cross-sectional study	Li et al China	"The aim of the study was to determine whether individual resilience of breast cancer survivors mediates the relationship between family	"According to the study results, caregiver burden was significantly negatively associated with both family resilience and individual resilience in breast cancer survivors.."

						resilience and caregiver burden."	
23.	Mean age: 58	2013	2,264 women with breast cancer	Epidiopioloy study	Kroenke et al USA	"The study aimed to assess how levels of social support burden breast cancer mortality"	"According to the study social isolation was not associated with breast cancer-related recurrence or mortality. However, socially isolated women had higher all-cause and other-cause mortality.
24	Mean age:63.7	2012	4,530 women with breast cancer	Epidiopioloy study	Kroenke et al USA	"The study aims to correlate whether large social networks are associated with reduced breast cancer mortality."	"In multivariate analyses of the study, among women with high social support, marriage was associated with lower all-cause mortality. Among women with high social burden, those with a higher number of first-degree relatives, had higher all-cause mortality and breast cancer."
25	Mean age: 51 breast cancer and 59 family caregivers	2019	28 breast cancer & 21 family caregivers	A Mixed Methods Study	Cipollettaet al Italy	"The aim of the study was to evaluate the effectiveness of psychoeducational support groups, both for women with breast cancer and for their informal caregivers."	"According to the statistical analysis of the study, a psychological intervention showed a significant change that proves the effectiveness of such an intervention in the group of patients and caregivers. The group experience offered emotional, relational and informational support and allowed participants to network and feel understood and reassured."
26.	Mean age:38	2013	60 women of breast cancer	Intervention study	Marshall et al USA	"The aim of this study was to explore the effectiveness of the intervention in increasing cancer knowledge and self-efficacy among co-survivors"	"According to the results of the study, the percentage of questions answered correctly about cancer knowledge increases, as do self-efficacy ratings. Decreases in ``Don't Know'' responses for cancer knowledge were observed, with a negative correlation between the number of ``Don't Knows'' about cancer knowledge at pre-test and self-efficacy ratings at pre-test."
27.	Mean age: 53.1 women with breast cancer and 56.2 their spouses	2010	150 couples (women with breast cancer and their spouses)	Cross-sectional study	Hasson-Ohayon et al Israel	"The aim of the study was to explore the factors of perceived support in psychological distress experienced by women with advanced breast cancer and their spouses."	"According to the study results, spouses reported greater psychological distress than patients. Both patients and spouses reported a similar level of spousal support but spouses reported a lower level of support from family and friends. Perceived support contributed significantly to explanations of psychological distress, depression, and anxiety for both patients and their spouses."
28.	Mean age: 52.61 patients and 54.39 partner	2019	70 couples, women of breast cancer and their partner	Longitudinal analyses of dyadic study	Meier et al Switzerland	"This study to examines the effect ofcommon dyadic coping congruence on individual psychological distress in cancer patients and their partners."	"The results of the study showed negative associations between couples' common dyadic coping and psychological distress. Women patients' psychological distress was associated with common dyadic coping showing that psychological distress was greater when couples were congruent with low rather than a high common dyadic coping."
29.	Mean age:50.22	2019	176 husband of women	Cross-sectional Study	Yeung et al China	"This study explores how breast cancer care may be associated	"The results showed that lower caregiving burden, higher marital satisfaction, and lower harm/threat appraisals were

			with breast cancer			with the sexual quality of life of these spouses	associated with better sexual quality of life."
30.	Mean age:50.83 patients of breast cancer and 47.25 caregivers	2020	384 women of breast cancer and 384 caregivers	Cross-sectional study	Sahadevan et al India	"The aim is to study the prevalence and determinants of depression in caregivers of breast cancer."	"According to the results of the study the prevalence of depression in caregivers was 52.5%. 35% had mild depression, 16% had moderate depression, and 2% had severe depression. Spousal caregivers, those who resided with the patient, those who provided financial support, and those with non-domestic responsibilities emerged as vulnerability determinants."
31.	Mean age:48.7	2010	240 women of breast cancer	Cross-sectional study	Ardahan et al Turkey	"The aim of this study was to explore the determinants of perceived family support of women with breast cancer."	"According to the results of the study two thirds of the women with breast cancer were in the 40-59 age groups. The lowest score women with breast cancer for perceived family support scale was 0.00, and the highest was 40.0. The mean was 30.1."
32.	Mean age:Women<45 (13%) 45–54 (38%) 55–64 (35%) >65 (14% Male: <45 (22%) 45–54 (29%) 55–64 (34%) >65 (15%)	2012	100 women of breast cancer and caregivers	Longitudinal study	Bonnaud-Antignac et al France	"This study aimed to highlight the interactions between quality of life and coping strategies in patients treated for breast cancer and their caregivers."	"According to the results of the study, the influence of socio-demographic characteristics, coping strategies and quality of life of the caregivers and the patient's quality of life were different. In adjusting to the illness it is necessary to consider whether the caregiver is able to play a supportive role."
33.	Mean age:53.55 cancer survivor and 55.86 their caregivers	2018	Cancer survivors (N = 55) and their caregivers (N = 44	Cross-sectional study	Kemp et al Australia	"This study aimed to explore the areas of supportive care needs that were most associated with breast cancer caregiver burden."	"According to the study, breast cancer survivors' psychological needs contributed to survivors' self-perceived burden, ~~and~~. In addition, survivors' sexual needs as wall as caregivers' occupational and social needs contributed to caregivers' perceived difficulty in caring. The supportive care needs and burden of survivors and caregivers are interdependent."
34	Mean age: 57 years for women and 59 years for men	2011	139 couples (women of breast cancer and their partners)	Longitudinal study	Kraemer et al USA	"The objectives of this study were to explore women's and their male partners' coping strategies as predictors of change in women's adjustment."	"According to the study results, patient and partner coping strategies interacted to predict adjustment, such that the use of corresponding coping strategies generally predicted better adjustment. The study findings highlight the utility of examining patient and partner coping strategies simultaneously."
35	Mean age 55 years for women and 57.7 years for their partners	2014	330 couples (women of breast cancer and their partners)	Cross-sectional study	Manne et al USA	«This study correlates unsupportive partner behaviors, social and cognitive processing, and adjustment in patients and their spouses."	"The study results showed that reports of unsupportive partner behavior were related to their own abstinence and their partners' disinhibition. Therefore, one's unsupportive behaviors may have negative effects on partners' social and cognitive processing, as well as their adjustment."

4. Discussion

4.1. Family caregivers/ family members

Nowadays, valid and timely detection and diagnosis of breast cancer in combination with appropriate treatment is credited for the gradual increase of women survival expectancy. Women diagnosed with breast cancer need immediate support and care, and in most cases, their families are responsible for of taking care of them (26, 56).

Once breast cancer is diagnosed, the family takes on a difficult role, the role of patient care and support. Family caregivers shoulder a high cost of care which that affects their physical, emotional and mental health and causes a gradual reduction of their functionality (4-5, 13).

From the first moment the cancer is identified, some patient's family are affected by an immense crisis; the dynamics change; the roles, rules, routine and balances, as well the emotions and functionality of the family members are affected. Several studies showed since both the patient and her family members need to adapt to the new condition, they experience a growing amount of stress, conflicts with each other, and redefining their priorities and routine. In particular, the partners of women with breast cancer manifest distress, anxiety, depression, reduced communication, etc. (9, 26-28, 42-43).

Family plays a vital role in supporting women with breast cancer. Usually, family members are emotionally close to the patient and understand their needs, have strong and unbreakable bonds with each other and provide essential care and support to patients. Several studies showed that the family, like the patient herself, is burdened socially, financially, professionally and psychologically. Breast cancer diagnosis and treatment can be experienced as a traumatic event that is passed on to all members of the family. According to systemic theory, a traumatic event not only affects the person involved, but also the entire family system and its members. This means that the transition may not as smooth as it ought to for all family members(26-28, 51, 57-58).

Usually, most of the care of cancer patients is provided by family members (17).Women diagnosed with breast cancer themselves need to be supported by the family environment and the family support they receive is conditional upon the family structure, educational level, family income, etc. (29).

The supportive family environment supports patients emotionally, socially and financially, providing security, encouragement, empathy, care and participation in decision-making related to treatment and appropriate care. Consequently, a supportive family environment positively contributes to women's health (5, 18).

In some studies they showed that family caregivers, most frequently, manifest anxiety, phobias, depression, sleep disorders, lack of motivation, frustration, fatigue, , fear and anxiety about the imminent death of the important person, physical health problems, psychosomatic disturbances, isolation, occupational and social disability. The aforementioned problems depend on socio-economic and cultural factors (30, 59). A study in Malaysia reports that 11.5% of family caregivers of women with breast cancer developed anxiety disorders (60). Related studies report that caregivers of breast cancer patients develop depression, which may have a negative impact on their quality of life and that of the whole family (32, 44).

Additionally, research findings suggest that caregivers' emotional support for patients, but also the availability of social and emotional support for both caregivers and patients, contribute to increasing their quality of life and better coping with the disease. On the contrary, the psychological burden experienced by breast cancer patients is related to the emotional, mental and financial burden experienced by caregivers, and can reduce the quality of life of family caregivers (5, 44, 50).

Dysfunctional and conflicting relationships in the family undermine the well-being and quality of life of breast cancer patients and their families, and it seems to be a significant prognostic factor of psychological distress. Lack of family support has been associated with more depressive symptoms in family caregivers. In addition, the stress experienced by one family member is transferred to all members (27).

Adapting to the disease is a multi-dimensional experience for both patients and caregivers. At the same time, breast cancer affects the quality of life of both patients and caregiversand depends on many factors such as age, stage of disease, education etc. Family support is considered very important for patients (36, 61).

Several studies suggest that the psychological distress in women with breast cancer seems to have an impact on their caregivers. That is, family caregivers may experience emotional reactions similar to that experienced by patients. Psychological reactions such as anxiety, depression and stress can be transmitted from patients to caregivers and vice versa (28, 37, 39, 46- 47, 62).

In addition, a study reports that women who provided care for first-degree relatives diagnosed with breast cancer were worried that they might also develop cancer. In fact, this concern seemed to become more intense when the care was of a high standard (40).

Consequently, it may be appropriate to provide supportive and psychological care not only for cancer patients but also for the family members (26, 37- 39, 46-47, 61- 62).

4.2. Affect of maternal breast cancer to their children and adolescents

Especially for children and adolescents, their mother's breast cancer can be a traumatic event. They are more likely to develop psychological and behavioral problems, such as fear, uncertainty, anxiety, depression, confusion, social withdrawal, distress, aggressive behavior, low school performance, clinging behavior to the mother, etc(9, 63).

Subsequently, change of roles takes place within the family. More specifically, sometimes family members need to deal with additional responsibilities, reduced social activities, sudden loss of childhood, etc. Factors such as dysfunctional family relationships, parent-child relationships, low emotional response, poor family cohesion, excessive parental involvement, and mother's psychopathology seem to play a more important role in children's mental health than mother's illness itself (9, 63).

4.3. Women of breast cancer and their partners

The partners of breast cancer patients seem to report a better psychological state and well-being when their relationship is perceived as more constructive. The latter depends on various factors such as the duration and the quality of the relationship, etc(15).

Family communication is an important factor in the treatment and management of the disease. Effective, mutual and constructive communication among family members contributes to enhancing their quality of life and reducing stress(33).

Breast cancer is a disease that affects the couple as a system rather individuals, in both members of the couple. Breast cancer affects their relationship causing discomfort.When cancer is treated together by the couple(common dyadic coping), there is bigger possibility that the discomfort will decrease (64).

On the other hand, partner unsupportive behaviors have serious negative impact on couples' distress and well-being (33, 45).

Husbands of women with breast cancer may experience emotional distress, anxiety, sleep disturbance, depression, difficulty expressing their emotions, professional and financial difficulties, worry about their wife's illness and her future, and the future of their children. The aforementioned difficulties may result in a reduction in the quality of communication, quality of sex life, and quality of life in general. Thus, programs and supportive groups are suggested for the psychological and psychosocial support of the spouses. Those programs seem to act protectively for both the family, and the patient herself (15, 41-44, 48, 55, 65).

In an addition, the support of patients' spouses seems contribute to a more effective care for breast cancer patients, reducing their psychological distress (46).

4.4. Family resilience

In some cases, breast cancer diagnosis does not necessarily lead to a reduction in the quality of life among family members. A family may have the ability to recover from the discomfort and crisis following a cancer diagnosis, deal with post-traumatic stress symptoms (10, 34-35, 51).

Numerous studies have examined the role of family resilience, in patients' quality of life and caregiver burden. The high level of family resilience is not only beneficial for the patient, but also for the family caregivers. Family resilience seems to enhance individual resilience and also reduces the burden on caregivers (10, 34-35, 51).

4.5. Social support

A study suggests that social isolation is related to health-related quality of life. More specifically, it suggests that social isolation caused by breast cancer can adversely affect the quality of life of both patients and their family caregivers (26).

In addition, social support seems to reduce emotional distress and play an important role in well-being of both breast cancer patients and their partners. However, the social environment may neglect the support needs of the spouses and focuses on the patients, aggravating the spouses' psychological distress. The aforementioned finding may reflect the different perceptions that partners and patients maintain about social support (46).

Finally, the more support spouses receive, the more care they provide to their partners who have been diagnosed with breast cancer. Spouses' support may be a protective factor for women patients by reducing their psychological distress (46).

Moreover, studies report that after being diagnosed with breast cancer, women's higher survival rates depend on higher social networks and greater social support. Social relationships can be both beneficial and unfavorable to breast cancer patients as women with high social network can be consumed in more obligations and conflicting relationships that negatively affect their health. It seems to that the quality, the dynamic and the burden on women's social and family relationships play a significant role in the mortality of breast cancer patients (52-53).

4.6. Psychological support

The family environment is not ready and properly trained to cope with the new situation and carry out all the actions a patient may need ever since being diagnosed (4). Caregivers' training in cultivation of care skills seems to be very useful for both themselves and patients (30). Effective psychosocial interventions may mitigate the adverse psychosocial effects of breast cancer diagnosis among family members (54).

More specifically, psychoeducational and empowerment groups can play an important positive role in stress management, emotional expression and quality of life among family members (5, 49, 55). Supportive care is very important for both patients and family caregivers and should be available to all, aiming to ensure and improve the quality of life of patients and the family environment (65-66).

4.7. Main findings

In this systematic review, an attempt has been made to investigate the psychological effects that take place in a family environment from the moment a woman is diagnosed with breast cancer. A review of the current biographical resources showed that family members take on the role of caring and supporting a breast cancer patient. On the other hand, women themselves feel the need to seek support and care from their families.

The dynamics of the family change, roles are extended, rules and balances are affected leading to a crisis in the family structure that affects all members, including the husband / partner. When judging a member of the family, everyone in the family is inevitably affected (9, 26-28, 42-43).

The largest proportion of cancer caregivers worldwide is members of the family environment. Especially in the Mediterranean countries and Greece, the care and support of patients is almost exclusively provided by the family environment (17). Studies showed that the family members support women with breast cancer emotionally, socially and financially and they participate in treatment decisions (5, 17).

Family members seem to be burdened emotionally, psychologically, socially, financially and professionally. Children's and adolescents' psychosocial wellbeing can be negatively affected, especially when family relationships are dysfunctional. They may display anxiety symptoms, attachment to their mother, decreased school performance, etc (9, 63).

Additionally, the partners of women diagnosed with breast cancer may experience similar psychological distress with the latter. A constructive relationship based on mutual trust and communication seems to facilitate the management of illness (4, 15, 33, 42, 48, 67). However, the burden on family members results in a reduction in the quality of life of both patients and caregivers (5, 50). Conflicting relationships and inadequate psychological support of the family members may further deteriorate their well-being and quality of life (27).

On the contrary, studies suggest high family resilience along with effective communication increase quality of life and reduce discomfort (10, 34-35, 51). Social support is beneficial for both patients and family members (46, 52-53).

Researchers underline the importance of developing psychoeducational and counseling programs to help women diagnosed with breast cancer and their families to cope with the disease and improve their quality of life (5, 7, 12, 30, 49, 55, 65, 68, 69). In the future it would be highly prolific to introduce more studies on specific support and intervention programs for the whole family.

4.8. Strengths and limitations and future direction

It is worth noting that this review has certain limitations. Restrictions mainly concern the different methodology of the studies and the heterogeneity of variables to consider.

In particular, the reviewed studies have not followed the same methodology, scales and variables. Studies also differ with the respect of the sample size. Some studies examined the relationship between the couple, while a number of researchers chose to investigate the relationship between mother and children. Some studies refer to special populations and this has the effect of limiting the generalizability of the results.

On the other hand, the aim of the systematic review was to highlight the variety of studies that focused on women with breast cancer and the family environment.Nevertheless, the results of the studies reach general conclusions while family relationships and the type of effects of family relationships are not analyzed more extensively.

Qualitative studies have been ruled out for the sake of uniformity, although their findings could have been very informative; similarly, the language barrier has not allowed for a comprehensive comparison of a number of studies, thus necessitating an additional constraint. Furthermore, the databases were limited to only four and some studies may not have been included in the review. Finally, the time limitation of the systematic review confined the comparison of earlier studies

On the other hand, we would like to believe that our systematic review extensively presents a number of psychosocial factors which may play a key role in the psychological wellbeing of breast cancer patients and their family. In addition, this review will contribute to the enrichment of scientific research and will give the impetus to design new studies that will clarify in more detail the effects of breast cancer on intrafamilial relationships. Our ultimate goal is to further contribute to the development of effective support programs for patients with breast cancer and their families improving the quality of health services.

4.9. Implications and applications

This review highlights the role of the family in women with breast cancer. The family is significantly affected and burdened by breast cancer, especially minor family members and women's partners. This review provides the impetus so that the emotional distress caused by breast cancer can be addressed in an individualized and targeted manner, with a focus on supporting the patient and the entire family.

Intervention programs aimed at increasing family resilience, supporting partners, minor children and other companions have better results in overall disease management and quality of life. Therefore, improving the quality of life of patients and their families is promoted, as well as the services provided are improved.

4.10. Impact Statement.

4.10.1. What is the public health significance of this article?

This review highlights the impact of breast cancer on both the woman and her family.

Psychosocial interventions have a beneficial effect on both the family and the patient, significantly improving the quality of life of the whole family

5. Conclusion

From the moment a woman is diagnosed with breast cancer, her psychosocial wellbeing is affected. Breast cancer can also have a negative and aggravating effect on their family caregivers, their partners and the extended family. The supportive family and social environment can be very important and may positively affect the patient. Providing

psychosocial support to both patients and family members may significantly improve the quality of life for the whole family.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare that they have no competing interests.

Availability of data and materials

This study was a systematic review and the information and articles that formed the review are in the table 1.

References

[1] Fearon D, Hughes S, Brearley SG. Experiences of breast cancer in Arab countries. A thematic synthesis. Quality of Life Research 2020, 29:313–324

[2] Lagiou A. Epidemiology and prevention of breast cancer. Archives of Hellenic Medicine 2008, 25(6), 742-748.

[3] Sung H. Ferlay J. Siegel RL, Laversanne M, Soerjomataram I, Jemal A, Bray F. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. CA Cancer J Clin 2021, 71(3), 209-249.

[4] Noveiri MJS, Shamsaei F, Khodaveisi M, Vanaki Z, Tapak L. Coping Assessment Tools in the Family Caregivers of Patients with Breast Cancer: A Systematic Review. Breast Cancer: Targets and Therapy 2020:12 11–26

[5] Nimekari MM, Naz MGN, Taziani YA, Nasiri M, Evazi MR, Shafizad A, Ozgoli G. Correlation between Supportive Care Needs of Women with Breast Cancer and Quality of Life of their Family Caregivers. IJCBNM 2019, 7:300-308

[6] Tsounis A, Sarafis P. Breast cancer prevention and theory of planned behaviour. Interscientific Health Care 2014, 6:108-115.

[7] Kauffmann R, Bitz C, Clark K, Loscalzo M, Kruper L, Vito C. Addressing psychosocial needs of partners of breast cancer patients: a pilot program using social workers to improve communication and psychosocial support. Support Care Cancer 2016, 24:61–65

[8] Miedema B, Easley J. Barriers to rehabilitative care for young breast cancer survivors: a qualitative understanding. Support Care Cancer 2012, 20:1193–1201

[9] Altun H, Kurtul N, Arici A, Yazar EM. Evaluation of Emotional and Behavioral Problems in School-Age Children of Patients with Breast Cancer. Turk J Oncol 2019, 34:12–20

[10] Li KWS, Qiao Y, Luan X, Li Y, Wang K. Family resilience and psychological wellbeing among Chinese breast cancer survivors and their caregivers. Eur J Cancer Care 2019, 28:1-8

[11] Runowicz C, Leach CR, Henry L, Henry KS, Mackey HT, Cowens-Alvarado RL, Cannady RS, Pratt-Chapman ML, Edge SB, Jacobs LA, Hurria A, Marks LB, LaMonte SJ, Warner E, Lyman GH, Ganz PA, American Cancer Society/American Society of Clinical Oncology Breast Cancer Survivorship Care Guideline. Ca Cancer J Clin 2016, 66:43–73

[12] Michailides A, Constantinou C. Integration of longitudinal psychoeducation programmes during the phases of diagnosis, management and survivorship of breast cancer patients: A narrative review. J cancer policy 2020, 23, https://doi.org/10.1016/j.jcpo.2019.100214

[13] Cardoso F, Spence D, Mertz S, Corneliussen-James D, Sabelko K, Gralow J, Cardoso MJ, Peccatori F, Paonessa D, Benares A, Sakurai N, Beishon M, Barker SJ, Mayer M. Global analysis of advanced/metastatic breast cancer: Decade report (2005e2015) The Breast 2018, 39:131-138

[14] Stein KD, Syrjala KL, Andrykowski MA. Psychical and psychological long-term and late effects of cancer. Cancer Supplement 2008, 112:2577-2592

[15] Baucom DH, Kirby JS, Pukay-Martin ND, Porter LS, Fredman SJ, Gremore TM, Keefe FJ, Atkins D, Men's psychological functioning in the context of women's breast cancer. Journal of Marital and Family Therapy 2012, 38:317–32

[16] Fasoi-Barka GG, Kelesi-Stauropoulou MN, Koutsopoulou-Sofikiti VE, Theodosopoulou E, Birbas K, Katostaras TT. Study for the change of health¬related quality of life in women with early stage breast cancer, one year after the diagnosis. To Vima tou Asklipiou 2010, 9: 76-99

[17] Andriopoulou M, Charos D, Stergiadi E. The impact of cancer on patients and their caregivers, and the importance of empowerment. Archives of Hellenic Medicine 2018, 35:601–611

[18] Effendy C, Vissers K, Tejawinata S, Vernooij-dassen M, Engels Y. Dealing with symptoms and issues of hospitalized patients with cancer in Indonesia: The role of families, Nurses, and Physicians. Pain Practice 2015,15: 441-446

[19] Hobbs G, Landrum M, Arora N, Ganz P, Ryn M, Weeksm J et al. The role of families in decisions regarding cancer treatments. Cancer 2015, 1:1079-1087

[20] Svetina M, Nastran K. Family relationships and post-traumatic growth in breast cancer patients. Psychiatr Danub 2012, 24:298-306

[21] Moher D, Shamseer L, Clarke M, Ghersi D, Liberati A, Petticrew M, Shekelle P, Stewart LA. Preferred reporting items for systematic review and metaanalysis protocols (PRISMA-P) 2015 statement. Syst Rev. 2015;4(1):1.

[22] http://www.prisma-statement.org/

[23] Stern C, Jordan Z, McArthur A. Developing the Review Question and Inclusion Criteria. The first steps in conducting a systematic review. AJN 2014, 114:4

[24] https://libguides.mit.edu/c.php?g=175963&p=1158594

[25] Risk of Bias Instrument for Cross-Sectional Surveys of Attitudes and Practices [Internet]. CLARITY Group at McMaster University; [cited 14 May 2020]. Available from: https:// www. Evidence partners. com/ wp- conte nt/uploa ds/ 2017/ 09/ Risk of Bias Instrument for Cross- Sectional Surveys of Attitudes and Practices. pdf

[26] Segrin C, Badger T, Sikorskii A. Psychological distress and social support availability in different family caregivers of Latinas with breast cancer. Journal of Transcultural Nursing 2019, https://doi.org/10.1177/1043659619896824

[27] Segrin C, Badger TA, Sikorskii A, Crane TE, Thaddeus WW. A dyadic analysis of stress processes in Latinas with breast cancer and their family caregivers. Psycho-Oncology 2018, 27:838–846

[28] Segrin C, Badger TA, Sikorskii A. A dyadic analysis of loneliness and health-related quality of life in Latinas with breast cancer and their informal caregivers. Journal of psychosocial oncology 2019, 37:213–227

[29] Ardahan M & Yesilbalkan OU. Perceived Family Support of Women with Breast Cancer and Affecting Factors in Turkey. Asian Pacific J Cancer Prev 2010, 11:1425-1429

[30] Vahidi BM, Mahdavi N, Asghari E, Ebrahimi H, Ziaei JE, Hosseinzadeh M, Areshtanab HN, Kermani IA, Other Side of Breast Cancer: Factors Associated with Caregiver. Asian Nursing Research 2016, 10:201-206

[31] Din SHS, Jaafar NRN, Zakaria H, Saini SM, Ahmad SNA, Midin M. Anxiety Disorders in Family Caregivers of Breast Cancer Patients Receiving Oncologic Treatment in Malaysia. Asian Pac J Cancer Prev 2017, 18:465-471

[32] Sahadevan S, Namboodiri V. Depression in caregivers of patients with breast cancer: A cross-sectional study from a cancer research center in South India. Indian Journal of Psychiatry 2019, 61, 277-282

[33] Acquati C, Miyawaki CE, Lu Q. Post-traumatic stress symptoms and social constraints in the communication with family caregivers among Chinese-speaking breast cancer survivors. Supportive Care in Cancer 2020, 28:4115-4122

[34] Li Y, Wang K, Yin Y, Li Y, Li S. Relationships between family resilience, breast cancer survivors' individual resilience, and caregiver burden: A cross-sectional study. International Journal of Nursing Studies 2018, 88:79-84

[35] Liu Y, Li Y, Chen L, Li Y, Qi W, Yu L. Relationships between family resilience and posttraumatic growth in breast cancer survivors and caregiver burden. Psycho-Oncology 2018, 27:1284–1290

[36] Bonnaud-Antignac A, Hardouin JB, Leger J, Dravet F, Sebille V. Quality of life and coping of women treated for breast cancer and their caregiver. What are the interactions? J Clin Psychol Med Settings 2012, 19:320-8

[37] Katapodi MC, Ellis KR, Schmidt F, Nikolaidis C, Northouse LL. Predictors and interdependence of family support in a random sample of long-term young breast cancer survivors and their biological relatives. Cancer Medicine 2018, 7:4980–4992.

[38] Segrin C, Badger TA, Sikorskii A, Pasvogel A, Weihs K, Lopez AM, Chalasani P. Longitudinal dyadic interdependence in psychological distress among Latinas with breast cancer and their caregivers. Supportive Care in Cancer 2020, 28:2735–2743

[39] Kemp E, Prior K, Beatty L, Lambert SD, Brown C, Koczwara B. Relationships between supportive care needs and perceived burden in breast cancer survivor–caregiver dyads. Eur J Cancer Care 2018, 27:12875, https://doi.org/10.1111/ecc.12875

[40] Whitney CA, Dorfman CS, Shelby RA, Keefe FJ, Gandhi V, Somers TJ. Reminders of cancer risk and pain catastrophizing: relationships with cancer worry and perceived risk in women with a first-degree relative with breast cancer. Familial Cancer 2019, 18:9–18

[41] Jaafar NRN, Din SHS, Saini SM, Ahmadc SNA, Midina M, Sidi H, Silimd UA, Baharudin A. Clinical depression while caring for loved ones with breast cancer. Comprehensive Psychiatry 2014, 55:S52-S59

[42] Fletcher KA, Lewis FM, Haberman MR. Cancer-related concerns of spouses of women with breast cancer. Psycho-Oncology 2010, 19:1094–1101

[43] Yeung NCY, Zhang Y, Ji L, Lu G, Luc Q. Correlates of sexual quality of life among husbands of Chinese breast cancer Survivors. European Journal of Oncology Nursing 2019, 40:63–70

[44] Dorros SM, Card NA, Segrin C, Badger TA. Interdependence in Women with Breast Cancer and their Partners: An Inter-Individual Model of Distress. J Consult Clin Psychol 2010, 78: 121–125.

[45] Manne S , Kashy DA, Siegel S, Myers S, Heckman C, Ryan D, Unsupportive Partner Behaviors, Social-Cognitive Processing, and Psychological Outcomes in Couples Coping with Early Stage Breast Cancer. J Fam Psychol. 2014, 28: 214–224. doi:10.1037/a0036053.

[46] Hasson-Ohayon I, Goldzweig G, Braun M, Galinsky D. Women with advanced breast cancer and their spouses: diversity of support and psychological distress. Psycho-Oncology 2010, 19:1195–1204

[47] Segrin C, Badger TA. Psychological and physical distress are interdependent in breast cancer survivors and their partners. Psychology, Health & Medicine 2014, 19:716–723.

[48] Zhu P, Fu JF, Wang B, Lin J, Wang Y, Fang NN, Wang DD. Quality of Life of Male Spouse Caregivers for Breast Cancer Patients in China. Asian Pac J Cancer Prev 2014, 15:4181-4185

[49] Kraemer LM, Stanton LA, Meyerowitz BE, Rowland HJ, Ganz PA. A Longitudinal Examination of Couples' Coping Strategies as Predictors of Adjustment to Breast Cancer. J Fam Psychol. 2011, 25: 963–972. doi:10.1037/a0025551.

[50] Ogce F, Ozkan S, Okcin F, Yaren A, Demiray G. Evaluation of Quality of Life of Breast Cancer Patient Nextof-kin in Turkey. Asian Pacific J Cancer Prev 2013, 14: 2771-2776

[51] Faccio F, Gandini S, Renzi C, Fioretti C, Crico C, Pravettoni G. Development and validation of the Family Resilience (FaRE) Questionnaire: an observational study in Italy. BMJ Open 2019, doi:10.1136/bmjopen-2018-024670

[52] Kroenke CH, Michael Y, Tindle H, Gage E, Chlebowski R, Garcia L, Messina C, Manson JE, Caan BJ. Social networks, social support and burden in relationships, and mortality after breast cancer diagnosis. Breast Cancer Res Treat 2012, 133:375–385

[53] Kroenke CH, Quesenberry C, Kwan ML, Sweeney C, Castillo A, Caan BJ. Social networks, social support, and burden in relationships, and mortality after breast cancer diagnosis in the life after breast cancer epidemiology (LACE) study. Breast Cancer Res Treat 2013, 137:261–271

[54] Marshall CA, Badger TA, Curran MA, Koerner SS, Larkey LK, Weihs KL, Verdugo L, García FAR. Un Abrazo Para La Familia: Providing low-income Hispanics with education and skills in coping with breast cancer and caregiving. Psycho-Oncology 2013, 22:470–474

[55] Cipolletta S, Simonato C, Faccio E. The effectiveness of psychoeducational support groups for women with breast cancer and their caregivers: A mixed methods study. Frontiers in psychology 2019, 10:288, doi: 10.3389/fpsyg.2019.00288 54

[56] McCorkle R, Ercolano E, Lazenby M, Schulman-Green D, Schilling LS, Lorig K ET AL. Self-management: Enabling and empowering patients living with cancer as a chronic illness. CA Cancer J Clin 2011, 61:50-62

[57] Syse A, Tretli S, Kravdal O. The impact of cancer on spouses' labor earnings. Cancer 2009, https://doi.org/10.1002/cncr.24582

[58] Wolf JL, Aufll J, Echavarria D, Heughan JA, Lee KT, Connolly RM, Fetting JH, Jelovac D, Papathakis K, Riley C, Thorner SV, NHoward P, Levy Z, Dy SM, Wolf AC. Sharing in care: engaging care partners in the care and communication of breast cancer patients. Breast Cancer Research and Treatment 2019, 177:127–136

[59] Girgis A, Lambert S, Johnson C, Waller A, Currow D. Physical, psychological, relationship, and economic burden of caring for people with cancer: A review. ASCO 2013, 9: 197-202

[60] Din S.H.S., Jaafar N.R.N., Zakaria H., Saini S.M., Ahmad S.N.A., Midin M. Anxiety Disorders in Family Caregivers of Breast Cancer Patients Receiving Oncologic Treatment in Malaysia. Asian Pac J Cancer Prev 2017, 18, 465-471.

[61] Chow WL, Tan SM , Aung KCY , Chua SYN, Sim HCS. Factors influencing quality of life of Asian breast cancer patients and their caregivers at diagnosis: perceived medical and psychosocial needs. Singapore Med J 2019, 61:532-539

[62] Jabłonski MJ, García-Torres F, Zielinska P, Bułat A, Brandys P. Emotional Burden and Perceived Social Support in Male Partners of Women with Cancer. Int. J. Environ. Res. Public Health 2020, 17, 4188, https://doi.org/10.3390/ijerph17124188

[63] Stefanou K, Zografos E, Zografos GC, Vaslamatzis G, Zografos CG, Kolaitis G. Emotional and behavioral problems in children dealing with maternal breast cancer: a literature review. British Journal of Guidance & Counselling 2020, 48:394-405

[64] Meier F, Notari SC, Bodenmann G, Revenson TA, Favez N. We are in this together — Aren't we? Congruence of common dyadic coping and psychological distress of couples facing breast cancer. Oncology 2019, 28:2374–2381.

[65] Loibl S & Lederer B. The importance of supportive care in breast cancer patients. Breast Care (Basel) 2014, 9:230-1, doi: 10.1159/000366526

[66] Choi J, Donahoe MP, Zullo TG, Hoffman CI. Caregivers of the chronically critically ill after discharge from the intensive care unit: six months' experience. Am J Crit Care 2011, 20:12-22

[67] Levy R. Core themes in a support group for spouses of breast cancer patients. Social work with groups 2011, 34:141–157

[68] Stang I & Mittelmarkb M. Intervention to enhance empowerment in breast cancer self-help groups. Nursing inquiry 2010, 17:46–56

[69] Northouse LL, Katapodi MC, Song L, Zhang L, Mood DW. Interventions with family caregivers of cancer patients: meta-analysis of randomized trials. Cancer J Clin 2010, 60:317-339.