

Relationship between Coping Strategies and Socio demographic Characteristics of Women with Breast Cancer

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Abstract:

Background: Breast cancer is the second most prevalent type of cancer worldwide after lung cancer. In women, it is the most common type of tumor and the leading cause of cancer-related deaths. **Aim of the study:** Investigate the relationship between Socio demographic characteristics and coping strategies among breast cancer patients. **Subjects and methods:** **Research design:** A correlational design was used in the current study. **Setting:** The study was conducted at the Oncology and Nuclear Medicine department" at Zagazig University Hospitals. **Subjects:** A purposive sampling of 228 breast cancer women. **Tools of data collection:** One tool was used for data collection divided into two parts. Part (I): Socio demographic and clinical Characteristics data sheet. Part (II): Jalowiec Coping Scale (JCS). **Results:** The study findings showed that (18.0%) of the studied women had high total level of coping, while majority of them had moderate level of coping strategies (82.0%). There was a statistically positive significant relation between total coping and women age, education level, income and Family history of breast cancer, chemotherapy $p=0.001$ and hormonal therapy. This mean that women aged < 35 years old who had high education, with family history of breast cancer and sufficient income experienced high level of coping strategies. **Conclusion:** The Study results proven that majority of breast cancer women have moderate level of coping and their coping influenced by some Socio demographic as age and income and clinical characteristics as chemotherapy and hormonal therapy. **Recommendations:** psycho-educational interventions to enhance coping strategies among breast cancer women.

Keywords: Socio demographic, Clinical characteristics, coping strategies and Breast Cancer.

Introduction:

Breast cancer is a metastatic cancer and can commonly transfer to distant organs such as bone, liver, lung and brain, which mainly accounts for its incurability. Early diagnosis of the disease can lead to a good prognosis and a high survival rate¹. Worldwide, breast cancer is one of the most common female malignant tumors, which seriously affects people's quality of life and harms their health. It has become a major public health problem in the current society⁽²⁾. Generally breast cancer rate is higher in the developed world than the developing countries, which may be as a result of certain lifestyles and reproductive factors that are more common in the developed world. The

difference may be exaggerated due to relatively low awareness, screening practices, and diagnoses in the developing countries, though the rates are increasing rapidly in many developing countries.³

The main factors influencing the risk of breast cancer are gender and age. Several risk factors for breast cancer are related to hormone exposure (mainly estrogen and progesterone). Furthermore, risk factors are classified into non modifiable and modifiable factors. Non modifiable risk factors for breast cancer include early menarche, late menopause, and family history of breast cancer, race, height, mammographic density and certain

gene alterations. Modifiable risk factors include age at birth, parity, breast feeding, exogenous hormones, postmenopausal body mass index (BMI), physical activity, educational level and alcohol consumption^(4&5).

Coping can be understood as a process that is the key in managing stress. In this process, the individual makes a cognitive and behavioral effort to manage both external and internal sources of stress.⁶

Women diagnosed with breast cancer develop coping strategies to deal with the multifactorial unpleasant experience of a psychological, social, and spiritual nature of their new life situation. Effective coping strategies are indispensable for adaptation and adjustment to breast cancer and improvement in survival⁷ coping resources such as sense of mastery and social support were shown to reduce negative psychological reactions coping resources are relatively stable characteristics of a person's disposition and the environment, it refers to the individual's available resources which can help in coping with stressful events.⁸

There are two type of coping first are positive-adaptive types of coping strategies such as planning-problem solving, positive reframing, and acceptance are associated with better psychological and physical well-being. Second: negative or passive types of coping, including self-blame, denial, behavioral disengagement, cognitive escape-avoidance, and emotional suppression and keeping to self are related to poorer psychosocial adjustment and greater depressive symptoms⁹. The negative effects experienced by women with breast cancer during chemotherapy may be reduced by teaching them how to cope effectively and avoid poor or

negative coping behaviors or strategies.¹⁰

It is important for health care professionals to raise awareness in these women and their families. Nurses help women with breast cancer and their families in terms of disease symptoms, treatment, and adverse effects of drugs, lifestyle changes and coping. Therefore, nurses should have sufficient knowledge about coping strategies that patients use to manage the outcomes of the disease as well as their personal characteristics. Effective coping strategies and social support may increase the self-care abilities of the patients which may lead them to desire more independence and need less hospital care.¹¹

Significance of the study:

Breast cancer is one of the most frequent causes of morbidity and mortality among women in the world. Being diagnosed with breast cancer is an extremely stressful and depressive experience. It has major adverse physical, psychosocial, and economic consequences.^{12, 13} Women diagnosed with breast cancer develop coping strategies to deal with the multifactorial unpleasant experience of a psychological, social, and spiritual nature of their new life situation. Effective coping strategies are important for adaptation, adjustment to and improvement in breast cancer survival⁸.

Aim of the Study

The aim of this study was to identify the relationship between coping strategies and Socio demographic characteristics of women with breast cancer and explore the level and type of coping strategies.

Research questions:

- 1- What are the level and types of coping strategies used by breast cancer women?
- 2- Is there a relationship between coping strategies, Socio demographic and clinical characteristics of women with breast cancer?

Subjects and method:

Research design:

A correlational design was utilized in the current study.

Study setting:

This study was conducted at oncology and nuclear Medicine department, Zagazig University hospitals in Sharkia Governorate, Egypt.

Study subjects:

A Purposive sample of 228 breast cancer women fulfilled the following **inclusion criteria:** Age: 30 to 60 years old; Being diagnosed with breast cancer for at least six months; Having received or currently receiving chemotherapy treatment; All stages of breast cancer. **Exclusion criteria;** patients in coma and having mental disorders.

Tools for data collection:

In order to achieve the objectives of the present study one tool was used to fulfill necessary data collection and is divided into two parts:

Part (1): An interview questionnaire sheet:-

It was developed by the researcher, it divided into two sections:

1: Socio demographic characteristics as: age, marital status, educational level, occupation and monthly income.

II: Patients' medical history to include family history of breast cancer and stage of cancer, type of treatment and disease duration.

Part II: Jalowiec Coping Scale (JCS):

This scale was developed by **Jalowiec** to assess the specific coping behavior by measuring the degree of use and the perceived effectiveness of cognitive and behavioral coping strategy in stressful situations. The scale consists of 60 items divided into cognitive and behavioral coping strategy. The cognitive coping strategy divided into 5 subscales: (**optimistic** 9 items, **self-reliant** 7 items, **emotive** 5 items, **supportive** 5 items and **fatalistic** 4 items). While the behavioral coping strategies are divided into 3 subscales: (**palliative** 7 items, **confrontation** 10 items and **evasive coping strategies** 13 items).

Scoring system: Each item is rated into 4 points likert scale ranging from 0 (never used) to 3 (often used). The total score of the items of each subscale and total scale was summed up by simple summation as follow :

High coping level >66.7% (121-160)
Moderate coping >33.3%-66.7 % (61-120).

Low coping level ≤ 33.3% (0- 60).

Validity & Reliability:

The tools were translated into Arabic and presented to experts for reviewing face and content validity; the panel was composed from five experts from the faculty of the nursing Zagazig University (three experts from medical surgical nursing and two experts from psychiatric and mental health nursing) who revised the tools for applicability, clarity, relevance and ease for implementation. Their recommendation and suggestion were followed. Reliability of the tools was assessed by Cronbach's Alpha & test in SPSS v. 20 for windows (SPSS

Inc., Chicago, Illinois, USA 2011) they show good level of reliability as follow: 0.824 for total coping score, 0.67 for cognitive coping strategies and 0.693 for behavior coping strategies

Field work

Once permission was granted to proceed with the study, the researcher introduces herself to the patient with breast cancer at oncology department who fulfilled the inclusion criteria and explained the purposes of the study. Voluntary participation and confidentiality of the collected data were assured. The researcher started the interview with the patients individually using the data collection tool. The questionnaire was read and explained to them. Instructions were given to them to fill in the questionnaire. The researcher clarified any question to breast cancer women if needed. The filled sheets were revised to check their completeness to avoid any missing data. Data was collected three days per week (Sunday, Monday and Wednesday). The questionnaire sheet was distributed before taking chemotherapy or radiotherapy session or after taking treatment session or follow up. Data collection period continued for about 3 months from the mid of September till the mid of November 2020.

Pilot study:

A pilot study was conducted on 30 women with breast cancer at oncology department, constituting about 10% of total study sample. It was carried out to assess the clarity and applicability of the study tools, and estimated time needed to fill in the data collection sheet. It was found that the average time to complete data sheet ranged from 25-30 minutes. There were no modifications in the study tool after the pilot study served. Therefore those participated

in the pilot study were included in the main study sample.

Ethical considerations and Administrative Design:

The ethical issues were taken into consideration during the study. The study was approved by the pertinent authority of research ethics committee of faculty of nursing Zagazig University. Oral consent was obtained from each woman who agreed to participate in the study. Each woman was informed that participation is voluntary and withdrawal is permissible. Questionnaire did not include any harmful and did not touch any religious and traditional issues among the study sample. Confidentiality was ensured throughout the study process, where personal data were not disclosed, and they were assured that all data are used only for the research purpose. On the basis of letters issued from the dean of the nursing college, Zagazig University, an official permission was obtained from the oncology and nuclear medicine department director, dean of the faculty of medicine Zagazig University after explaining the nature and aim of this study to get the permission for data collection and facilitate the role of researcher.

Statistical analysis:

Data entry and statistical analysis were done using SPSS 20.0 statistical software package. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations and medians and interquartile ranges for quantitative variables. Cronbach alpha coefficient was calculated to assess the reliability of the tools through their internal consistency. Quantitative continuous data were compared using the non-parametric

Mann-Whitney for two categories or Kruskal-Wallis tests for three or more categories. Spearman rank correlation was used for assessment of the inter-relationships among quantitative variables and ranked ones. Regression analysis and analysis of variance for the full regression models was done. Statistical significance was considered at p-value <0,001

Results:

Table (1) demonstrates that 46.1% of studied patients age ranged from 45 to < 55 years old. More than one half of them (53.9%) were illiterate. Slightly less than three quarters of studied patients were married and had insufficient income (72.4% &70.6%) respectively. Regarding vocational status, majority of them were housewives (96.1%) and only (10.1%) of them have family history of breast cancer.

Table (2) shows that, more than one half of the studied women (51.3%) had breast cancer for more than one year, and (80.3%) of them were in the third & fourth stage of cancer. Regarding treatment methods, 83.8% of studied women were currently receiving chemotherapy treatment, (43.4%) of them were treated by surgery, (27.2%) treated by radiotherapy and (22.8%) of them were treated by hormonal therapy.

Table (3): displays that the highest one of behavioral coping strategy was evasive coping, followed by palliative and confrontation coping strategy (70.2%, 41.2%, 37.8% respectively). The same table also reveals that supporting coping strategy was the highest one among cognitive coping strategies followed by self –reliant coping strategy (21.1%, 18.4% respectively).

Figure (1): shows percent of total level of coping strategies among studied patients illustrates that (18.0%) of the studied women had

high level of coping, while (82.0%) of them had moderate level of coping strategies.

Table (4): This table demonstrates that there was a statistically significant relationship between total coping level and women age, education level and income $p=0.0001$ and Family history of breast cancer at $p=0.002$. This mean that women aged < 35 years old who had high education, with family history of breast cancer and sufficient income experienced high level of coping strategies.

Table (5): displays that total coping level had a statistically significant relationship with chemotherapy at $p=0.001$ and hormonal therapy at $p=0.0001$. This means that patients who did not receive chemotherapy and received hormonal therapy had high level of coping strategies.

Discussion:

Breast cancer is one of the most important health problems of women in developed countries, it accounts for almost 30% of all cancer types among women . **WHO** ¹⁴ . Coping is an individual's ability to deal with the physical and psychological problems associated with the breast cancer process. It includes the thoughts and actions that individuals use to deal with stressful events. **Nuraini.,et al** ¹⁵

The present study results revealed that less than half of the studied patients' age ranged from 45 to 55years old. This may be due to late detection and lack of awareness that could have led to delay detection of the disease. On the contrary, a study conducted in Nigeria by **McGuire.,et al** ¹⁶ showed that the majority of the breast cancer women fall between age 36 and 46 years, whereas the minorities were between 69 and 79 years of age and they

explained the incidence of breast cancer increases with age. On the same line, a study conducted by **Moey.,et al**¹⁷. Who clarified that the average age of the women with breast cancer was 44 years old.

As regard to marital status, the present study showed that slightly less than three quarters of the studied patients were married. This could be attributed to the human nature age to marriage for maintaining the continuity of the offspring and the use of hormonal contraceptives may increases married women's risk for cancer. This goes on line with **Balekouzou., et al**¹⁸ who explained that the risk of breast cancer tended to increase among married or divorced/widowed women as compared to never married women.

As regards to the educational level the present study clarify that more than half of studied women were illiterate and little percent had university education. This might be due to the majority of them live in rural areas where there is lack of awareness about the importance of education in their life beside the financial situation of some patients which was the reason for do not completing their education in order to help their family. Moreover, most girls get married at the secondary stage of education.

This is congruent with, **Balekouzou., et al & Goldberg .,et al**^{18&19} who found that a higher education level was inversely associated with breast cancer. On the contrary, **Hosseinzadeh., et al**²⁰ illustrated that illiterates or low educated women were at lower risk of breast cancer.

Moreover, the results of the current study indicated that the majority of studied patients were housewives and less than three quarters of them had insufficient

income. This could be due to high percentage of them were illiterate beside that the costs of treatment were very expensive .

This results are partially disagreeable with **Kırca, Tuzcu, & Gözüm**²¹ study about breast cancer screening behaviors in Malaysia which demonstrated that more than half of their sample were employed, and more than three quarter of them had less income than their expenses.

As regard to clinical characteristic of studied breast cancer patients the current study showed that approximately half of them had breast cancer for more than one year .This might be due to the disease take long time for recovery and treatment. In addition, at this time there was the President's initiative to detect breast tumors, and most of them discovered the disease by chance.

This result agreeable, with **You.,et al**²² who studied socioeconomic status and quality of life among Chinese American breast cancer survivors, they reported that majority of participants had breast cancer at stages 0 to II and time since diagnosis ranged from 2 to 47 months.

According to the stages of disease, the present study found that the majority of studied patients were in the third and fourth stage of cancer. This might be due to the disease wasn't detected early, they didn't do regular checkups and they went to the doctor only when the pain was severe, and those patients mostly discovered cancer by chance. The greatest barrier to screen detection of breast cancer in women is the masking of cancer. In the same line **Rutanen**²³ who assessed work ability and quality of life in middle-aged women, showed that three quarter of breast cancer women were at the third stage and fourth stage of the

disease. Also, this finding is partially agreeable with **Bambara, et al**²⁴ who showed that majority of breast cancer patients were in the grade (2nd and third stage).

As regard to the treatment, the majority of patients were taking chemotherapy treatment. This can be attributed to the patient's condition and doctor order as chemotherapy being more effective in treating malignant cancer and useful in cases of metastasis and can increase survival rates **Celia, et al**²⁵. Similarly **Ghanem, et al**²⁶ who studied coping strategies and depressive symptoms in cancer patients, reported that nearly two thirds of patients treated with chemotherapy.

According to the present study only little percent of the studied patients have family history of breast cancer. This might be due to that the patients with family history of breast cancer were more careful to perform periodic checkups. This finding goes in line with previous study, **Mann, et al**²⁷ about which explained contrast-enhanced MRI for breast cancer screening, and revealed that women with a family history of breast cancer and such a mutation were in general at higher risk than women in whom the mutation was found accidentally. In the absence of a genetic mutation, the risk for women with a family history of breast cancer is somewhat lower.

As regard the coping strategies used by the breast cancer women, the current study showed that the highest one of behavioral coping strategy was evasive coping, followed by palliative and confrontation coping strategy. This could be due to evasive coping can decrease stress, negative mood and psychological pressure

This is consistent with, **Sharour, et al**²⁸ who studied coping strategies among colorectal cancer

patients, found that evasive coping strategies were the most effective style of coping followed by confrontive coping strategies

On the other hand **Abelson, et al**²⁹ discussed coping strategies among cancer patients undergoing surgery, explored that the coping strategies used by Jordanian cancer patients were evasive. They claimed that evasive coping is the most commonly used and effective strategies for the participants mainly to cope with their diagnosis during their treatment. Furthermore, patients who were diagnosed with cancer used positive reframing and self-distraction coping styles

Regarding to the cognitive coping strategies used by the breast cancer women, the current study showed that the highest one of cognitive coping strategies was supporting coping strategy, followed by self-reliant coping this is might be due to these coping strategy alleviate stress and mental disturbance as results of disease consequence and complication.

This is congruence with **Henderson, et al**³⁰ a study about African American women with cancer found that the most commonly used coping strategies were prayer, seeking social support, having a positive outlook on life, having a will to survive, and avoiding pessimistic people. Moreover, **Tsaras, et al**³¹ found that seeking social support and emotionally focused efforts were the main coping strategies that women with breast cancer diagnosis used in the early phase of a breast cancer

As regarding level of the coping strategies among women with breast cancer, the present study findings showed that majority of them had moderate level of coping strategies. This may be due the disease is very dangerous, fatal, complicated and patients haven't enough concerns and

knowledge about coping with disease. In the same line study conducted by **Lee & Kim**³² who discussed symptom distress and coping in young Korean breast cancer survivors, showed that they had medium coping strategies scores. On congruence with **Al-Shannaq**³³ who examined depression, coping skills, and quality of life among Jordanian adults with breast cancer, stated that half of those patients had moderate ability to cope effectively with their situation.

As regard to relation between coping strategies and demographic characteristic. The current study showed that there was a statistically significant relation between total coping strategy and women's age, education level and income. Where women aged less than 35 year's old experienced high level of coping strategy. Highly educated individuals are more adaptive to the disease process and more responsive to health education messages, more understandable of their condition, management, and to find many ways of coping mechanisms

This goes in line with **Faraci & Bottaro**³⁴ who discussed relationship between socio-demographics and coping styles in a group of cancer patients, showed that the use of effective ways of coping with stressful events was found higher in patients who had higher educational level and older age. It was observed that as the educational level increased, the use of effective coping ways increased. Also, it was observed that as the age of the participants increased, their levels of effective coping with stress decreased. Also, **Liamputtong & Suwankhong**³⁵ discussed that family income is another variable that significantly influences coping. A substantial family income is required to ease the financial burden for both breast cancer patients and caregivers.

As regard the relation between coping strategies and clinical characteristic of the studied patients. The current study showed that there was a statistically significant relationship with coping and chemotherapy and hormonal therapy. This means that patients received chemotherapy had moderate level of coping while those receiving hormonal therapy had higher levels of coping. This can be contributed to the adverse effects of chemotherapy.

This results are agreeable with **EI Fakir.,et al,Tuinmann.,et al& Langford.,et al**^{36,37& 38} who found that patients with cancer have to cope with many stressors and cancer treatments (surgery, radiotherapy, chemotherapy, and hormone therapy), physical and mental problems which can as well negatively affect coping, professional functionality, relationships, and social life.

A Study conducted by **Sharma .,et al**³⁹ who studied coping strategies in breast cancer survivors before receiving first cycle of chemotherapy in India, revealed that the use of positive coping activities was predominant lesser among breast cancer to overcome the stress and fear related to diagnosis and chemotherapy.

In contrast, a study by **Ozdemir & Tas Arslan**⁴⁰ who studied social support and coping with stress in women with breast cancer, clarified that patients who underwent a surgery had a higher use of effective ways of coping with stress.

Conclusion:

Majority of breast cancer women had moderate level of coping influenced by some Socio demographic and clinical characteristics. Coping had positive significant relationship with Scio

demographic and clinical characteristics of the studied patient.

Recommendations:

1- psycho-educational interventions to enhance coping strategies among breast cancer women.

2- Implementation of cognitive behavioral therapy to improve positive

coping strategies and psychological wellbeing among breast cancer women.

3- Increase awareness level about disease in rural areas and low educated patients.

4- Increase psychological support to women who are treated by chemotherapy.

Table (1): Demographic characteristics of breast cancer patients (n=228):

Variables	NO	%
Age per years		
• < 35 years old	13	5.7
• 35 - < 45	56	24.6
• 45 -< 55	105	46.1
• > 55	54	23.7
Marital status		
• Married	165	72.4
• Divorced	9	3.9
• Widowed	54	23.7
Educational level		
• Illiterate	123	53.9
• Basic education	53	23.2
• Intermediate education	31	13.6
• High education	21	9.2
Occupation		
• Housewife	219	96.1
• Employed	9	3.9
Family history of breast cancer		
• Yes	23	10.1
• No	205	89.9
Income		
• sufficient	67	29.4
• Insufficient	161	70.6

Table (2): Medical Characteristics of breast cancer patients (n=228):

Variables	NO	%
Disease duration		.
• ≤1years	111	48.7
• > 1years	117	51.3
Cancer stage		.
• The first/second stages	45	19.7
• The third/ fourth stages	183	80.3
Treatment methods		
chemotherapy		.
• Currently receiving	191	83.8
• have received	37	16.2
Radiotherapy		.
• yes	62	27.2
• no	166	72.8
Hormonal therapy		.
• yes	52	22.8
• no	176	77.2
Surgical Treatment		.
• -yes	99	43.4
• -no	129	56.6

Table (3): Distribution of behavioral and Cognitive coping strategies among studied patients (n=228):

Coping strategies	High level		Moderate level		Low level	
	No	%	No	%	No	%
1- Behavioral coping subscales strategies						
Confrontation coping	86	37.8	141	61.8	1	0.4
Evasive coping.	160	70.2	68	29.8	0	0.0
Palliative coping.	94	41.2	134	58.8	0	0.0
2- Cognitive coping subscales strategies						
Optimistic coping	8	3.5	218	95.6	2	0.9
Fatalistic coping.	26	11.4	181	79.4	21	9.2
Emotive coping.	23	10.0	201	88.2	4	1.8
Supporting coping	48	21.1	161	70.6	19	8.3
Self-.reliant coping.	42	18.4	179	78.5	7	3.1

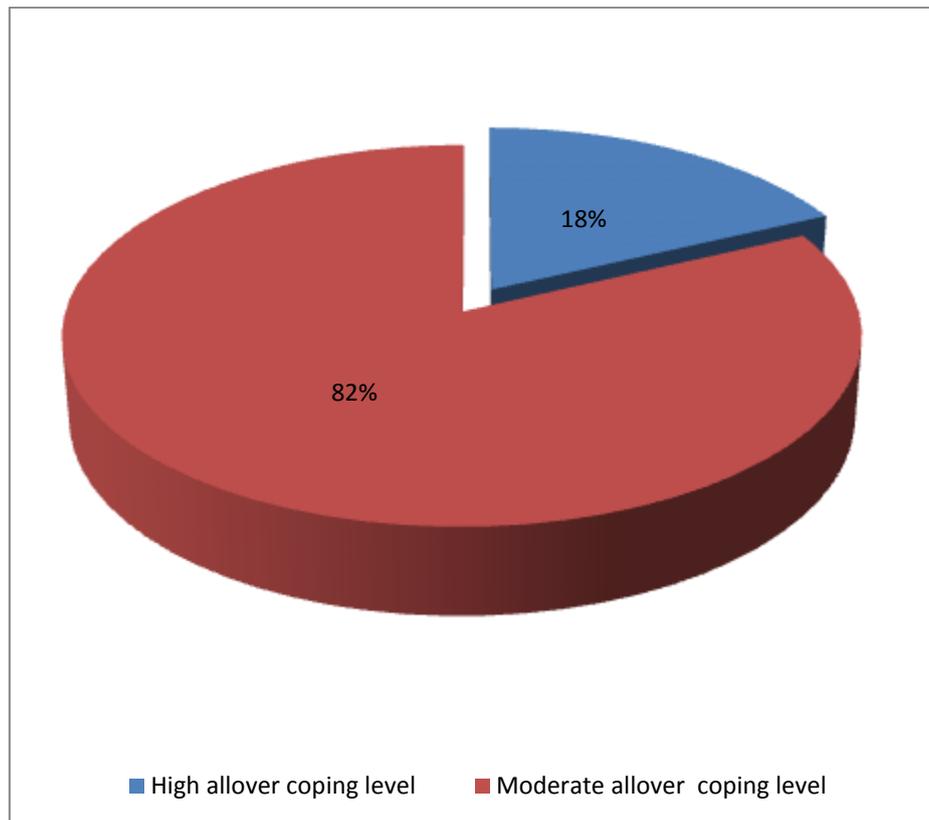


Figure (1): percent of total level of coping strategies among studied patients (**n=228**)

Table (4): Relation between total coping strategies level and sociodemographic characteristics of studied patients (n.228).

Variables	total coping level				No.	χ^2	p
	High level		Moderate level				
	No.	%	No.	%			
Age per years							
< 35	8	61.5	5	38.5	13		
35 to < 45	9	16.1	47	83.9	56	18.01	0.0001**
45 to < 55	17	16.2	88	83.8	105		
> 55	7	13.0	47	87.0	54		
Marital status							
Married	29	17.6	136	82.4	165	2.6	0.26
Divorced	0	.0	9	100.0	9		
Widowed	12	22.2	42	77.8	54		
Educational level							
Illiterate	17	13.8	106	86.2	123		
basic education	6	11.3	47	88.7	53	24.9	0.0001**
Intermediate education	6	19.4	25	80.6	31		
High education	12	57.1	9	42.9	21		
Occupation							
housewife	41	18.7	178	81.3	219	f	0.37
Employer	0	.0	9	100.0	9		
Family history of breast cancer							
Yes	10	43.5	13	56.5	23	f	0.002*
No	31	15.1	174	84.9	205		
Income							
sufficient	30	44.8	37	55.2	67	46.18	0.0001**
insufficient	11	6.8	150	93.2	161		

χ^2 =Chi square test f= Fisher exact test *Significant p<0.05 **highly Significant p<0.001 non- significant p>0.05

Table (5): Relation between total coping strategies levels and clinical characteristics of studied patients (n.228).

Variables	total coping level				No.	χ^2	p
	High level		Moderate level				
	No.	%	No.	%			
Disease duration							
≤one year	25	22.5	86	77.5	111	3.02	0.082
> one year	16	13.7	101	86.3	117		
Cancer stage							
The first/second stages	8	17.8	37	82.2	45	0.002	0.97
The third/ fourth stages	33	18.0	150	82.0	183		
Chemotherapy							
no	14	37.8	23	62.2	37	11.8	0.001*
yes	27	14.1	164	85.9	191		
Radiotherapy							
no	34	20.5	132	79.5	166	2.5	0.11
yes	7	11.3	55	88.7	62		
Hormonal therapy							
no	22	12.5	154	87.5	176	15.7	0.0001**
yes	19	36.5	33	63.5	52		
Surgical treatment							
no	22	17.1	107	82.9	129	0.17	0.68
yes	19	19.2	80	80.8	99		

χ^2 =Chi square test f= Fisher exact test *Significant p<0.05 **highly Significant p<0.001 non- significant p>0.05

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