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# **Psychological intervention and emotional regulation expression in adaptation to breast cancer patients :(Field study at Radiation and Isotope Centre in Khartoum State)**

**DR: Muna Abdeen Abdelrahman Mohammed**

Assistant professor. Abdulrahman Al-Sumait University

البريد الالكتروني:munamohammed8787@gmail.com

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## **Abstract**

Breast cancer is a common cancer among Sudanese women which require to raising awareness of the psychological intervention that may follow breast cancer treatment will help both patients and their health care providers to ensure that appropriate assessments are completed and available interventions employed, Psychological intervention has also been shown to facilitate psychological adaptation to breast cancer. This makes it imperative to examine and explain in depth understanding of psychological intervention that relate to emotional regulation expression in predicting emotional well being of women with breast cancer. Descriptive research method was used in this study; the researchers selected a purposive sample. The sample consisted of (30) patients who completed measures within 20 weeks following medical treatment. Women who were at study entry, coped through expressing emotions within Radiation and Isotope center Khartoum. The results revealed that Psycho education, counseling support, group psychotherapy are the most effective coping techniques that can be used with breast cancer patients at Radiation and Isotope Centre in Khartoum. Emotional regulations expression technique was very useful for (80%) of the patients whom diagnosed with breast cancer at Radiation and Isotope Centre in Khartoum. Anxiety, sadness, anger, guilt and fear of death are the psychological symptoms which affected (90%) of the women's who diagnosed with breast cancer.

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**Keywords:** Psychological intervention, emotional regulations expression, breast cancer.

## **Introduction**

The diagnosis and treatment of breast cancer are stressful experiences that can evoke a variety of negative emotions and broader affective experiences

such as anxiety, sadness, anger, guilt and fear of death and suffering (Addler and Page,2008). According to James J.Gross (2014) he assumed that " In the past century, psychological investigations of emotion regulation have focused on psychological defenses (Freud,1926/1959), stress and coping (Lazarus,1966), attachment (Bowlby, 1969), and self-regulation (Mischel, 1996). However, until the early 1990s, there were relatively few papers each year containing the term emotion regulation. Now there are thousands of new publications each year, making emotion regulation one of the fastest growing areas within the field of psychology (Koole, 2009; Tamir, 2011). Women with breast cancer feel diverse physical concerns as well as emotional problems such as distress, anxiety, or depression . Spiegel (1997) in his study for cognitive functions of breast cancer patients revealed that "Seventy-five percent of breast cancer patients report decline of cognitive function during their treatment and 35% report continuing impairment after treatment ends (34–36). The presence of treatable and contributing factors of cognitive impairment such as depression, insomnia, substance abuse, medication effects, and causes of fatigue should be evaluated (3,4). However, often no distinct cause can be identified and the patient is assumed to have cognitive impairment related to treatment" (Katherine H. R. ,B. Kesmodel, 2017). Positive Psychological intervention is an empirically validated approach to psychotherapy that attends specifically to building client strengths and positive emotions, and increasing meaning in the lives of clients in order to alleviate psychopathology and foster happiness (Rashid, 2008).

Distress is the “multifactorial unpleasant emotional experience of a psychological (ie, cognitive, behavioral, emotional), social, and or spiritual nature that may interfere with the ability to cope effectively with cancer and/or its physical symptoms, and its treatment.” Breast cancer patients may be uniquely susceptible to depression, anxiety, and distress due to decreased estrogen levels secondary to hormone therapy and chemotherapy. Estrogen has been shown to have antidepressive effects, and treatment for breast cancer can lead to an estrogen-deprived state. (James.J Growth,2014). It is important to routinely assess breast cancer survivors for distress and mental health disorders and offer appropriate counseling, treatments, and referrals as necessary. (Katherine H. R. ,B. Kesmodel, 2017). Positive psychotherapists elicit and attend to positive emotions and memories in their discussions with

clients while also engaging in discourse related to client problems with the goal of integrating the positive and negative together (Rashid, 2008).

Researchers have determined that positive psychological intervention used by women with breast cancer are a vital component for adjustment to their disease. Exploration of psychological intervention and emotional regulation expression might relate to coping strategies among women with breast cancer. As a way to reduce these problems and increase their quality of life, women with breast cancer have been found to rely on a diverse range of psychological intervention, which are common to reduce distress (Henderson and Fogel, 2014)

This intervention focuses on women undergoing treatment for early stage breast cancer and their partners. The researcher is not target a psychological or psychiatric disorder but rather normative psychosocial reactions to a very difficult life stressor. However, it is possible that either patient or partner interested in this program will evidence either a prior psychiatric history or recent onset of significant anxiety or depressive symptoms in response to the diagnosis of breast cancer. (Sharon L and Jamie S, 2008).

Several studies concerned with the influence of positive psychological intervention and emotional expression in the field of mental health which have yielded positive results such as Andersen BL, Thornton L, (2010), they posit that "Psychological intervention has been shown to facilitate psychological adaptation to breast cancer. The researcher limited the present review to randomized controlled trials reported in the past 6 years that tested the effects of psychological intervention on biological dependent variables among patients with non-metastatic breast cancer. Various studies suggest that psychological intervention can influence neuroendocrine and immune function indicators, especially lymphocyte proliferation and TH1 cytokine production. (Rashid, 2008).

M.cerezo and Margarita (2016) assumed that "a group intervention was applied based on improving psychological strengths and enhancing positive psychology-based styles of coping. Strength-related outcomes, self-esteem, well-being, and happiness were assessed before and after the intervention. The experimental group showed higher scores on all of the study variables after the intervention. Participants reported improved self-esteem, emotional intelligence-related abilities, resilience, and optimism, as well as positive affectivity, well-being, and happiness. The results show a beneficial effect of

this psychological intervention based on positive psychology on female breast cancer patients' psychological health".

There may be cancer-specific concerns, such as fear of recurrence, to more generalized symptoms of worry, fear of the future, fear of death, trouble sleeping, fatigue, and trouble concentrating. (Hewitt, Greenfield, and Ellen Stovall, 2015). Individuals with cancer may also experience a mental disorder as a result of cancer or treatment, or they may experience an exacerbation of a prior psychiatric disorder (e.g., recurrent depression). Major depression and depressive symptoms occur frequently in cancer patients (Butterfield, Park,(2004). According to a recent review of the literature, prevalence rates varied from 10 to 25 percent for major depressive disorders, a rate at least four times higher than in the general population (AHRQ, 2004).

ER features more prominently in conceptual accounts of anxiety disorders, and empirical investigations that focus on the intersection of ER and anxiety have increased dramatically. In collaboration with their primary care physicians, breast cancer survivors should undergo routine assessments for signs and symptoms of insomnia, depression, anxiety, and distress. For those at higher risk, a more thorough assessment may be needed (James.J Growth,2014) . To ensure appropriate and timely management, there should be a low threshold to refer these patients to mental health professionals for evaluation and management. Counseling, mindful meditation, hope therapy, and making meaningful interventions have helped many breast cancer survivors. (Katherine H.R.,B. Kesmodel , 2017)

On the other hand, Several studies concerned with the positive reappraisal and seeking social support are the most commonly used psychological intervention among women with breast cancer.( Sharon L and Jamie S,2008). Further research is needed to explore coping strategies of positive reappraisal and seeking social support. Another line of research has demonstrated positive effects of social support on physical and psychological well-being of people suffering from chronic illness such as cancer (Helgeson & Cohen, 1996), People who have received much social support have shown lower degrees of depression and other negative moods caused by physical illness (e.g. Brown, Wallston, & Nicassio, 1989). This study intends to investigate the psychological interventions and emotional regulation expression in adaptation to breast cancer patients Radiation and Isotope Centre in Khartoum state.

**Statement of the Problem:**

Various studies reveal that of breast cancer patients are in continuous rising in Sudan. Therefore the need for psychological services and support for breast cancer patients is extremely important, when dealing with breast cancer patients, patients are not educated about their chronic illness. Moreover, some breast cancer support groups lack cultural sensitivity and do not provide them with psychological intervention and different psychological techniques they need to cope with breast cancer especially with stigma in Sudan. These experiences of women with traditional health care services may place patients at risk of inadequate adjustment to their breast cancer. When dealing with such a dilemma it is very important to have psychological intervention to help patients deal with the struggles and changes that will be faced with this current chronic illness. It is on this basis, the researcher seeks to study the effectiveness of applying psychological intervention and emotional regulations expression in adaptation to breast cancer patients at Radiation and Isotope Centre in Khartoum State.

**Research Questions**

1. What are the most effective psychological interventions that can be used with breast cancer patient at Radiation and Isotope Centre in Khartoum?
2. To what extent emotional regulation expression technique is useful to use with breast cancer patients at Radiation and Isotope Centre in Khartoum?
3. What are the psychological symptoms mostly affected women's who diagnosed with breast cancer at Radiation and Isotope Centre in Khartoum?

**Hypothesis:**

1. Psycho education, counseling support, group psychotherapy are the most effective coping techniques that can be used with breast cancer patients at Radiation and Isotope Centre in Khartoum.
2. Emotional regulations expression technique was very useful for (80%) of the patients whom diagnosed with breast cancer at Radiation and Isotope Centre in Khartoum .

3. Anxiety, sadness, anger, guilt and fear of death are the psychological symptoms which mostly affected (90%) of the women's who diagnosed with breast cancer

## **Methodology**

### **Research Design**

This study adopted a descriptive research design to investigate the impotence of applying Psychological intervention and emotional regulations expression in adaptation for breast cancer patients at Radiation and Isotope Centre in Khartoum.

This descriptive design was used to gather data from a selected sample of respondents to enable the researcher address the research problem.

### **Study population and sampling procedures**

The study included Breast cancer patients at Radiation and Isotope Centre in Khartoum. The sample was purposively selected from the study population. The researcher selected 30 breast cancer patients to participate in the study. This study include women who were diagnosed with breast cancer at Radiation and Isotope Centre in Khartoum.

### **Eligibility criteria**

- 1) Women who self-reported a confirmed diagnosis of breast cancer

- 2) Able to provide verbal or written consent to participate in the study.

This study analyzed the coping strategies used by women with breast cancer. Thus more insight was provided regarding the coping strategies and emotional regulation expression used among women with breast cancer.

### **Exclusion criteria**

- 1) Include patients who were severely ill and were not in suitable form emotionally to participate in the study.

- 2) A patient who was not aware of her diagnosis will be excluded from the study as respect for her.

### **Research Instrument**

A questionnaire was used to collect relevant information from the participants of the study. The questionnaire included (31) questions with close ended questions. The questionnaire options were (yes, sometimes, never). Data were analyzed using Statistical Packages for Social Sciences (SPSS).

## Results

### Descriptive Statistics

DESCRIPTIVES VARIABLES=AGE, EDUCATION, MARITAL STATUS, DIAGNOSIS, HISTORY /STATISTICS=MEAN STDDEV MIN MAX.

	N	Minimum	Maximum	Mean	Std. Deviation
What is your age?	30	21	70	44.00	10.660
What is your educational level?	30	1	4	2.37	.999
What is your marital status?	30	1	3	1.27	.640
What is your history of diagnosis of breast cancer?	30	1	7	3.90	2.123
Valid N (list wise)	30				

**Table comment:** The Std. Deviation for the age of women's who diagnosed with breast cancer in this study is (10.660) and their mean is (44.00) That mean their average age is 40 years old, which statistically rounds up to 13.3 % of the targeted sample. The Std. Deviation of their educational level is (.999) and their mean is (2.37) that mean 40% of those women studied up to primary school level. The Std. Deviation for their marital status is (.640) and their mean is (1.27) that mean 83.3 % of those women are currently married and were wed at a young age. The Std. Deviation of their history of diagnosis of breast cancer (2.123) and their mean is (3.90) that mean 4 women which make up a percentage of 13.3 % were diagnosed in May 2017.

### Frequency Table

**Table (1):**After receiving the bad news did you feel anxious?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Never	11	36.7	36.7	36.7



Sometimes	1	3.3	3.3	40.0
Yes	18	60.0	60.0	100.0
Total	30	100.0	100.0	

**Table (2):I think a lot about what's going to happen in the upcoming days.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	13	43.3	43.3	43.3
	Sometimes	8	26.7	26.7	70.0
	Yes	9	30.0	30.0	100.0
	Total	30	100.0	100.0	

**Table (3):I meet the psychologist regularly to cope from my sadness.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	5	16.7	16.7	16.7
	Sometimes	1	3.3	3.3	20.0
	Yes	24	80.0	80.0	100.0
	Total	30	100.0	100.0	

**Table (4):I felt comfortable when I expressed my emotions to my psychologist.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	7	23.3	23.3	23.3
	Yes	23	76.7	76.7	100.0
	Total	30	100.0	100.0	

**Table (5):I get very angry when I talk about my illness.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	21	70.0	70.0	70.0
	Sometimes	3	10.0	10.0	80.0
	Yes	6	20.0	20.0	100.0
	Total	30	100.0	100.0	

**Table (6):I cried a lot during my sessions with the psychologist.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	5	16.7	16.7	16.7
	Sometimes	2	6.7	6.7	23.3
	Yes	23	76.7	76.7	100.0
	Total	30	100.0	100.0	

**Table (7):After I diagnosed with breast cancer I have fear of death.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	30	100.0	100.0	100.0

**Table (8):I felt a marked improved after my psychological intervention.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	7	23.3	23.3	23.3
	Yes	23	76.7	76.7	100.0

Total	30	100.0	100.0	
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**Table (9):I tried to adapt with my new health lifestyle.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	3	10.0	10.0	10.0
	Yes	27	90.0	90.0	100.0
	Total	30	100.0	100.0	

**Table (10):I participated in group counseling for breast cancer.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	7	23.3	23.3	23.3
	Yes	23	76.7	76.7	100.0
	Total	30	100.0	100.0	

**Table (11):After my diagnosis people deal with me differently than before.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	14	46.7	46.7	46.7
	Sometimes	2	6.7	6.7	53.3
	Yes	14	46.7	46.7	100.0
	Total	30	100.0	100.0	

**Table (12):I submitted to psychological intervention.**

		Frequency	Percent	Valid Percent	Cumulative Percent
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Valid	Never	9	30.0	30.0	30.0
	Sometimes	4	13.3	13.3	43.3
	Yes	17	56.7	56.7	100.0
	Total	30	100.0	100.0	

**Table (13):I feel more comfortable when I pray.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	1	3.3	3.3	3.3
	Sometimes	1	3.3	3.3	6.7
	Yes	28	93.3	93.3	100.0
	Total	30	100.0	100.0	

**Table (14):I feel very comfortable venting my problems to my friend.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	3	10.0	10.0	10.0
	Sometimes	4	13.3	13.3	23.3
	Yes	23	76.7	76.7	100.0
	Total	30	100.0	100.0	

**Table (15):My family members support me in a humorous way every now and then.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	3	10.0	10.0	10.0
	Sometimes	4	13.3	13.3	23.3

Yes	23	76.7	76.7	100.0
Total	30	100.0	100.0	

**Table (16):I tried to adapt to my new physical appearance.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	1	3.3	3.3	3.3
	Sometimes	1	3.3	3.3	6.7
	Yes	28	93.3	93.3	100.0
	Total	30	100.0	100.0	

**Table (17):I feel comfortable dealing with patients with breast cancer like me.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	3	10.0	10.0	10.0
	Sometimes	4	13.3	13.3	23.3
	Yes	23	76.7	76.7	100.0
	Total	30	100.0	100.0	

**Table (18):I feel comfortable knowing more about my chronic illness.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	2	6.7	6.7	6.7
	Sometimes	1	3.3	3.3	10.0
	Yes	27	90.0	90.0	100.0
	Total	30	100.0	100.0	

**Table (19):After I learned about my diagnosis I got positive intervention from my psychologist.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	2	6.7	6.7	6.7
	Sometimes	1	3.3	3.3	10.0
	Yes	27	90.0	90.0	100.0
	Total	30	100.0	100.0	

**Table (20):I feel discomfort for the smallest reasons.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	10	33.3	33.3	33.3
	Sometimes	11	36.7	36.7	70.0
	Yes	9	30.0	30.0	100.0
	Total	30	100.0	100.0	

**Table (21):After my diagnosis my life had changed extremely.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	8	26.7	26.7	26.7
	Sometimes	3	10.0	10.0	36.7
	Yes	19	63.3	63.3	100.0
	Total	30	100.0	100.0	

**Table (22):When I want to feel more positive, I change what I'm thinking about.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	2	6.7	6.7	6.7
	Sometimes	5	16.7	16.7	23.3
	Yes	23	76.7	76.7	100.0
	Total	30	100.0	100.0	

**Table (23):Most of the week I am feeling distress.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	11	36.7	36.7	36.7
	Sometimes	2	6.7	6.7	43.3
	Yes	17	56.7	56.7	100.0
	Total	30	100.0	100.0	

**Table (24):When I want to feel less negative emotion, I change what I am thinking about.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	3	10.0	10.0	10.0
	Sometimes	4	13.3	13.3	23.3
	Yes	23	76.7	76.7	100.0
	Total	30	100.0	100.0	

**Table (25):When I am feeling positive emotions, I am careful not to express them.**

		Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Never	7	23.3	23.3	23.3
	Sometimes	1	3.3	3.3	26.7
	Yes	22	73.3	73.3	100.0
	Total	30	100.0	100.0	

**Table (26):When I am faced with a stressful situation, I mae myself think about it in a way that helps me stay calm.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	2	6.7	6.7	6.7
	Sometimes	1	3.3	3.3	10.0
	Yes	27	90.0	90.0	100.0
	Total	30	100.0	100.0	

**Table (27):I control my emotions by not expressing them.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	6	20.0	20.0	20.0
	Sometimes	3	10.0	10.0	30.0
	Yes	21	70.0	70.0	100.0
	Total	30	100.0	100.0	

**Table (28):When I want to feel more positive emotion, I change the way I am thinking about the situation.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	5	16.7	16.7	16.7
	Sometimes	2	6.7	6.7	23.3



Yes	23	76.7	76.7	100.0
Total	30	100.0	100.0	

**Table (29):I control my emotions by changing the way I think about the situation I'm in.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	2	6.7	6.7	6.7
	Sometimes	3	10.0	10.0	16.7
	Yes	25	83.3	83.3	100.0
	Total	30	100.0	100.0	

**Table (30):When I am feeling negative emotions, I make sure not to express them.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	9	30.0	30.0	30.0
	Sometimes	4	13.3	13.3	43.3
	Yes	17	56.7	56.7	100.0
	Total	30	100.0	100.0	

**Table (31):When I want to feel less negative emotion, I change the way I'm thinking about the situation.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	2	6.7	6.7	6.7
	Sometimes	4	13.3	13.3	20.0
	Yes	24	80.0	80.0	100.0
	Total	30	100.0	100.0	

**According to the above tables the responses for the statements regarding questions were as follow:**

Finally the results appeared that:

- Psycho education, counselling support, group psychotherapy are the most effective coping techniques that can be used with breast cancer patients at Radiation and Isotope Centre in Khartoum.
- Emotional regulations expression technique was very useful for (80%) of the patients whom diagnosed with breast cancer at Radiation and Isotope Centre in Khartoum .
- Anxiety, sadness, anger, guilt and fear of death are the psychological symptoms which mostly affected (90%) of the women's who diagnosed with breast cancer

### **Discussion of the results**

1. Discussion and assumption of the first hypothesis which stated “Psycho education, counseling support, group psychotherapy are the most effective coping techniques that can be used with breast cancer patients at Radiation and Isotope Centre in Khartoum”.

This hypothesis was achieved according to the results found in the tables no. (3),(8), (9), (10), (11), (12) ,(14), (15), (17), (18), (19), (22) , (24). And that’s what the researchers expected. The results are also supported by Rashid ( 2008) Psychological intervention is an empirically validated approach to psychotherapy that attends specifically to building client strengths and positive emotions, and increasing meaning in the lives of clients in order to alleviate psychopathology and foster happiness. Henderson and Fogel (2014) assumed that exploration of psychological intervention and emotional regulation expression might relate to coping strategies among women with breast cancer .As a way to reduce these problems and increase their quality of life, women with breast cancer have been found to rely on a diverse range of psychological intervention, which is known to reduce distress. The results also support what Skinner, Robin; Cleese, stated (2011) “All psychological interventions are useful, and will adjust better to life”.

Simultaneously this result is similar to Farah ,Shahram, Mohamad, Sanaei research results which is “in line with Christopher et al, 2005; Hinnen, et al, 2008; Namaan, et al. It seems that getting familiar with stress and coping

skills, practicing them and commitment to perform related daily homework plays an important role in tranquility of people”.

2. Discussion and assumption of the second hypothesis which stated “Emotional regulation expression technique was very useful for (80%) of the patients whom diagnosed with breast cancer at Radiation and Isotope Centre in Khartoum”.

This hypothesis was achieved according to the results found in the table no. (13), (20),(26), (27), (28), (29), (30), (31) . And that is what the researcher expected. Several studies concerned with the influence of positive psychological intervention and emotional expression in the field of mental health which have yielded positive results such as Andersen BL, Thornton L, (2010). This result is supported by James. J Growth (2014) when he supposed" the relationship between emotion regulation (ER) and anxiety disorders has received considerable attention since the publication of the first edition of his handbook. ER features more prominently in conceptual accounts of anxiety disorders, and empirical investigations that focus on the intersection of ER and anxiety have increased dramatically". In collaboration with their primary care physicians, breast cancer survivors should undergo routine assessments for signs and symptoms of insomnia, depression, anxiety, and distress. For those at higher risk, a more thorough assessment may be needed. This result also supported what Phelps stated (2006) “Emotion theories emphasize the way emotions facilitate adaptation by reading behavioral response”. The results were not similar to the results of the previous studies.

3. Discussion and assumption of the third hypothesis which stated “Anxiety, sadness, anger, guilt and fear of death are the psychological symptoms which mostly affected (90%) of the women's who diagnosed with breast cancer”.

This hypothesis was achieved according to the results found in tables no. (1), (2), (5),(7), (20), (21), (23) which showed that anxiety, sadness, anger, guilt and fear of death are the psychological symptoms affected women's who diagnosed with breast cancer And that’s what the researchers expected.

The results are also supported by Folkman and Lazarus (1984) at their theory of cognitive appraisal; The assessment of resources required minimizing or eradicating the stressor and helping cope with the stress of a particular situation that is produces.

It is also supported by Hewitt, Greenfield, and Ellen Stovall (2015) when he mentioned "of particular concern for cancer survivors are psychological effects. There may be cancer-specific concerns, such as fear of recurrence, to more generalized symptoms of worry, fear of the future, fear of death, trouble sleeping, fatigue, and trouble concentrating". Individuals with cancer may also experience a mental disorder as a result of cancer or treatment, or they may experience an exacerbation of a prior psychiatric disorder (e.g., recurrent depression). Major depression and depressive symptoms occur frequently in cancer patients (Butterfield, Park, (2004). According to a recent review of the literature, prevalence rates varied from 10 to 25 percent for major depressive disorders, a rate at least four times higher than in the general population (AHRQ, 2004).

### **Conclusion**

Hopefully, in the future, there will be more specific studies about emotional regulation expression in dealing with breast cancer patients in order to get more sources in Sudan. Concerning the results found regarding coping mechanisms and emotional regulations expression in adaptation to breast cancer patients. The researcher found that patients tend to lean towards using psychological intervention more than emotional regulation expression. Researchers believe this is because emotional regulation expression is a new technique used in psychology.

In conclusion, there is still much to learn about the nature of the relationship between emotion regulation and adaptation to breast cancer. However, it is clear that affective regulatory processes merit significant consideration in both research and clinical practice, due to their intervening role between stress and health outcomes. Further research on emotion regulation may help women with breast cancer better manage the emotional challenges associated with diagnosis and treatment.

### **Recommendation**

Based on the findings of the study, the following are recommended:

-All hospitals and centres in Sudan which specialized in breast cancer patient's should start to apply this study when dealing with coping mechanisms and emotional regulation expression for adaptation to breast cancer patients

-The social media in Sudan should spread awareness of the importance of psychological intervention and emotional regulations expression for breast cancer patients.

-Ministry of health should increase the number of counselors and therapist at these specialized breast cancer hospitals and properly qualify them in training courses for coping mechanisms and emotional regulation expression for adaptation.

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