

MENTAL HEALTH OF WOMEN BREAST CANCER SURVIVOR AT DIFFERENT STAGES OF THE DISEASE

Md. Shahinuzzaman^{1*}, Tasnia Akter Shiva¹, Md. Saidur Rashid Sumon² and Kazi Saifuddin¹

Abstract

The present study intends to examine the relationship between mental health of women breast cancer survivors and stages of cancer. Quantitative research approach and cross-sectional research design were followed for this study. The data were collected from fifty women those who are sufferings with breast cancer in different disease stage. Significant statistical analyses were performed in this study. Results reveal that the overall mental health of breast cancer survivors is degraded. However, the fourth stage is the strongest predictor among all stages of the cancer. The study could bring more insights into the patients, physicians, caregivers, psychologists, sociologists, government agency and other professionals in order to prevent cancer and improve the mental health of breast cancer survivors in a society. Implications of future research for theory, practice and interventions are discussed.

Keywords: *Mental health, Cancer of stages and Breast Cancer Survivor*

Introduction

Cancer seems to reflect a severe mental health problem in women with breast cancer survivors. As per cycling affects of the psycho-physiological illness, breast cancer is life-threatening diseases which affect the mental health of the patients. In the developed countries, females who were suffering from breast cancer in the past are the substantial group of cancer survivors (Ervik *et al.*, 2018). In the U.S.A. estimated that about three million women in 2012 were diagnosed with the breast cancer (de Moor *et al.*, 2013). This number could be predicted to approach 4 million by 2022 (de Moor *et al.*, 2013). By the same token, the prospective patients are expected to surpass one and half million by 2040 in the UK (Maddams, 2012). Approximately 1.5 million cancer patients were

¹Department of Psychology, Jagannath University, Dhaka-1100, Bangladesh

²Department of Sociology, Jagannath University, Dhaka-1100, Bangladesh

* Corresponding author: Md. Shahinuzzaman, Email-zzamandu.508@gmail.com

estimated and about 0.2 million patients were latest diagnosed with cancer each year in Bangladesh (Hussain, 2013). Recent trends indicate that breast cancers have caused vulnerability potentially among general population. Hence, breast cancer may have a profound socio-psychological impact, and cause long-term physical sequel, potentially affecting women's mental health as well as social life and thus they frequently experience a range of combination of fear of death, anger, anxiety, suicidal thought, helplessness, and social isolation or exclusion (Schubart, 2014 & Al-Azri, 2009). During the treatment period, common relevant symptoms are anxiety and depression, and during the survivorship anxiety, depression has also been observed as a high prevalence symptom (Howard-Anderson, 2012 & Maass *et al.*, 2015).

The incidence of various cancers may be influenced by some factors like demographic, health, gender, psychiatric diagnosis and stages of the disease. Here, in this research cancers of breast refer to 1 to 4 stages which means that stage I illustrate invasive breast cancer: the tumor can grow up to 2 centimeters in size and it does not spread beyond breast; stage II the tumor continue to grow and spread out or both; stage III breast tumor is more sizeable - it may take on the shape of big lime and a walnut- it's considered as a advanced level; in final stage exhibits invasive breast cancer, which spread outside the breast and other organs of the body in particular lungs, bones, liver, skin, brain and even nearby lymph nodes. A series of diagnosis for psychological distress across the cancer route is critical to the proper supervision of agony. The mental health status of cancer survivors differs extensively across individuals and over time. Figure 1 illustrates numerous progressive paths of mental health that are manifested.

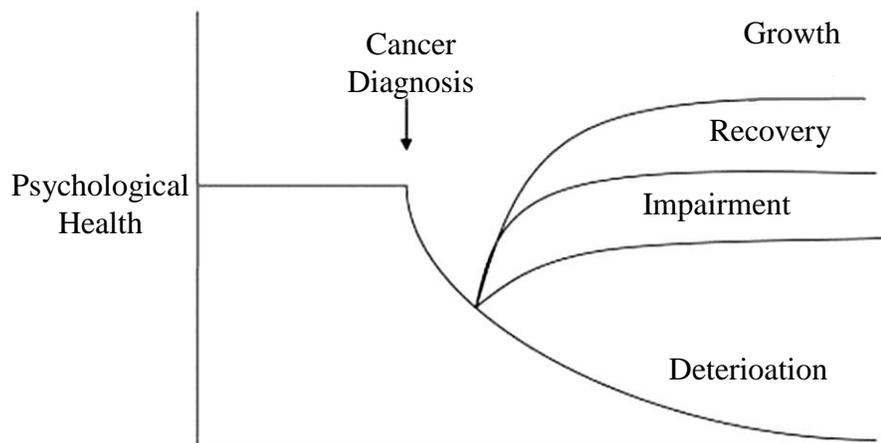


Figure 1. Progressive Paths of Mental Health in Cancer Survivors

In similar fashion, Maass (2015) reported a prevalence of anxiety 33% and depression 66% for breast cancer patients. Likewise, depression is a psychological disorder affecting thoughts and ideas, professional performance, somatoform syndrome and finally the quality of life thus following the social status of breast cancer patients (Gorisek, Krajnc & Krajnc, 2009; Goudarzian, 2017; Hosseinzadeh-Khezri, 2014 and Motamed, 2015). However, medical diagnostic and therapeutic advances have given much attention to increasing the quality of life and cognitive function of affected individuals (Montazeri *et al.*, 2001 & Shakeri *et al.*, 2015). Diagnosis and long-term treatment of cancer not only affect the quality of life of individuals but also affect their survival rate and increase their ability to cope with diseases (Didehdar *et al.*, 2013 & Zainal, 2013). A myriad of studies showed that the extent of depression among female patients depends on diversified communities (Lueboonthavatchai, 2007; Derakhshanfar, 2013 and Bener *et al.*, 2017). Other findings revealed that 42.3% breast cancer patients suffer from moderate to acute depression (Shakeri *et al.*, 2009). By 2012, thirty-two studies of systematic review reflected that patients are at risk of depression (Zainal *et al.*, 2013). Another systematic review also reported that depression is frequent among patients with breast cancer and thus create increasing functional impairment (Fann *et al.*, 2008). A significant number of women demonstrate typical reactions including hopelessness, anger, anxiety and suicidal ideation when they are diagnosis through traumatic experience (Schubart, Sommer, Fusar-Poli, Witte, Kahn, and Boks 2014 & Al-Azri, 2009). The breast cancer could hamper the family life, more specifically have detrimental effect on intimate relationship with partners (Kim, 2008), their offspring (Raveis and Pretter 2005), colleagues (Stergiou-Kita *et al.*, 2014). It also expedites the fear of death (Koch-Gallenkamp *et al.*, 2016). Cancer is the co-morbidity factor in mental disease, and cancer mortality is increased gradually (Bushe *et al.*, 2009).

While reviewing related literature, no studies were found that address the relationship between stages of cancer disease and mental health of women breast cancer across the globe as well as in Bangladesh. Apart from, in spite of concerning issues, researchers, clinicians and research psychologists and sociologists paid a little attention to the mental health and their social status of breast cancer survivors, and the present study may be the first effort in the existing scholarship in order to understand the mental health of breast cancer survivors regarding cancer stages in Bangladesh. Furthermore, this research can help to provide a significant contribution for psychologists, clinical psychologists, sociologists, and psychotherapists for treatment of breast cancer survivors. Thus, this attempt has been taken place in due course in Bangladesh context. This study intends to

assess the relationship between mental health of women breast cancer survivors and stages of cancer.

Material and Methods

Participants

The participants included 50 women breast cancer survivors. They were selected by a purposive sampling technique. They were classified into different age groups (between 20 and 60 above in years). Each respondent was chosen in terms of cancer stages ranging from 1 to 4 based on the diagnosis report. Data were collected from the National Institute of Cancer Research and Hospital, Mohakhali, Dhaka, Bangladesh. Respondents took part in the study voluntarily.

Research Design

While a quantitative research approach was followed, a cross-sectional research design was applied in this study.

Measures

Demographic and Personal Information Form

This questionnaire was used to collect personal and demographic information of the participants such as age, number of children, marital status, capability to continue medical expenses and cancer stages.

General Health Questionnaire (GHQ)

The GHQ-28 was initially developed by (Goldberg & Hillier, 1979). GHQ is a 28-item used for measuring mental health of breast cancer survivor in hospital settings. GHQ-28 is consisted of four subscales. Somatic symptoms (items 1-7); anxiety/insomnia (items 8-14); social dysfunction (items 15-21); and severe depression (items 22-28) (Goldberg & Hillier, 1979) possible responses format of each item was (not at all 0, no more than usual-1, preferably more than usual-2 and much more than usual-3. Range of total possible score was on 0 to 84.

For collecting proper information from participants, at first, permission was taken from the concerned authority for data collection. Before collecting information, every member was given the general direction and guaranteed that their answer will be kept confidential and will be utilized for research purpose. Instruction was given for each scale when it was necessary or not easily understandable to the participants, and all the subjects were

treated individually for each of the specific conditions. After completing the questionnaire, the respondents were expressed gratitude toward for their kind cooperation.

Results and Discussion

The present study intends to investigate the association between stages of cancer and mental health of women breast cancer survivors. For this purpose, point bi-serial correlation of phases of disease (Stage I, Stage II, Stage III, and Stage IV) with mental health was calculated. For better understanding, some findings are presented by the scatter-diagram. T-test was also calculated for understanding the significant value of correlation. Forced entry methods of multiple regression were also performed for creating the best prediction into the equation from all independent variables entering the simultaneously. The mean and standard deviation of mental health with stage one (M=16.91, SD = 3.47), stage two (M=24.33 SD = 4.76) stage three (M=58.22, SD = 8.82) and step four (M=65.38, SD = 3.15) scores indicate that the mental health of breast cancer survivors is comparatively worse in stages three and four of the disease as compared to the stages one and two. The table shows the higher score in stage four than other stages.

Table 1. *Relationships between mental health and disease of stages of breast cancer Survivors (N=50)*

Variable	Mean	SD	1	2	3	4	5
Mental health	43.07	22.56	-				
Disease stage I	16.91	3.47	-.744**	-			
Disease stage II	24.33	4.76	-.400**	-.292*	-		
Disease stage III	58.22	8.82	.383**	-.350*	-.263	-	
Disease stage IV	65.38	3.15	.708**	-.408**	-.307*	-.368**	-

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

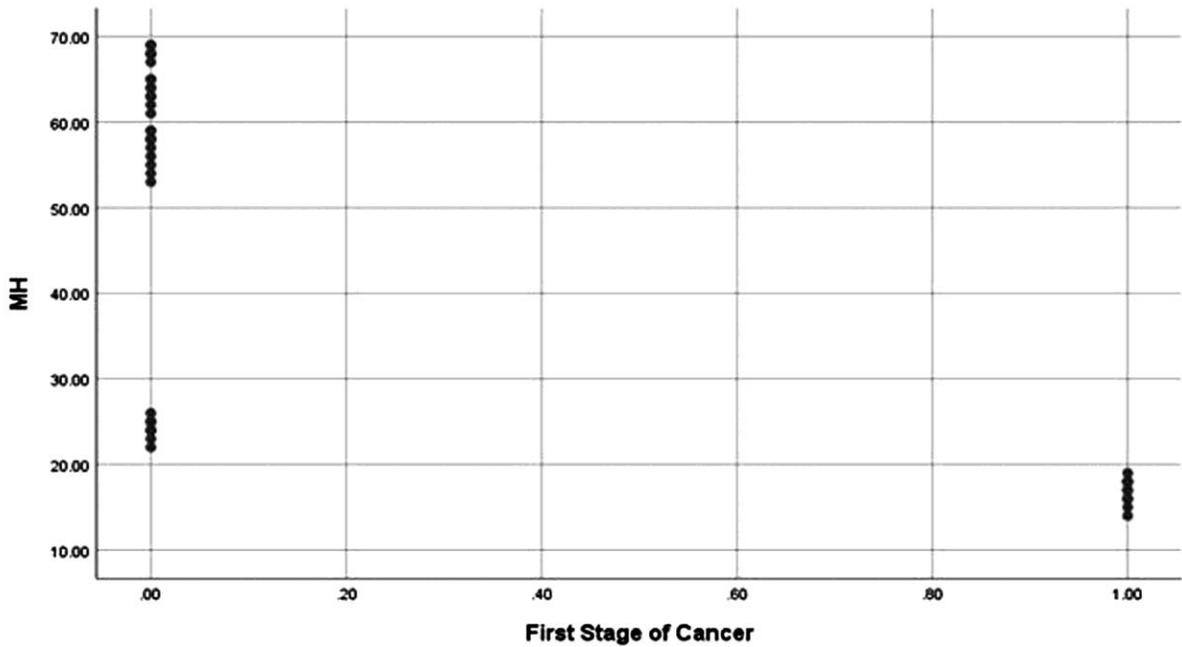


Figure 2. First Stage of Cancer

Point bi-serial correlation analysis indicates that the first stages of cancer are negatively related to mental health ($r_{pb} = -.744, p < .01$), for second stage of the disease is also negatively correlated with mental health ($r_{pb} = -.400, p < .01$). But stages three and four is positively associated with mental health ($r_{pb} = .383, p < .01$ and $r_{pb} = .708, p < .01$). It means that women survivor with breast cancer have adverse mental health compared to stage 1 and 2. It is concluded that moving from the 0 to 1 category is associated with an increase in y, and higher y values tend to co-occur with the group 1 as the following scatter diagram shows.

The graph shown above illustrated that score of mental health is low or decreasing; the no stage of cancer is increasing from the 0 categories to the 1 type (first stage of the group). It indicates that an early stage of breast cancer is negatively correlated with mental health.

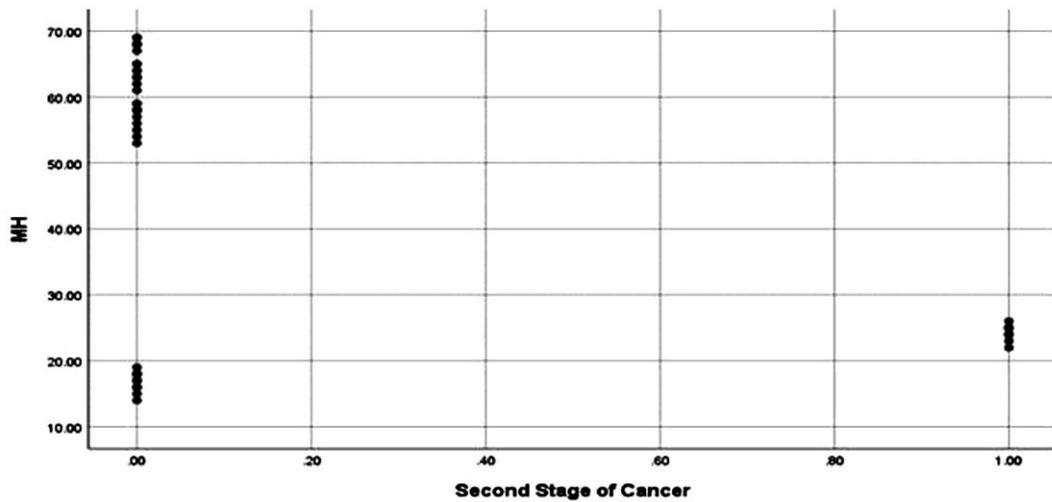


Figure 3. Second Stage of Cancer

Above graph also shows that the score of mental health is low or decreasing; the no stage of cancer is increasing from the 0 categories to the 1 category (second stage of the group). That means the second stage of breast cancer is negatively correlated with mental health.

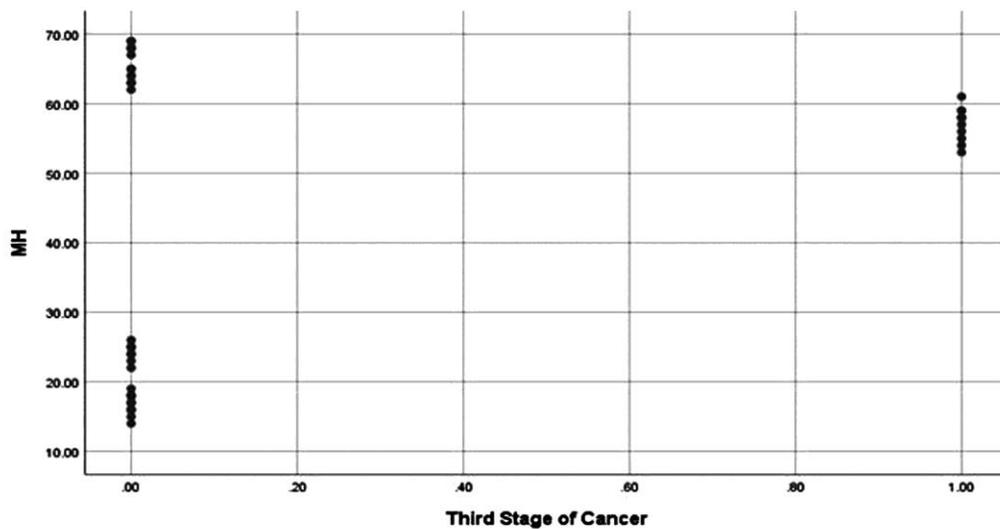


Figure 4. Third Stage of Cancer

Again, the above graph shows that mental health score is increasing, the no stage of cancer is also rising from the 0 categories to the 1 (third stage of division). That means that the third stage of breast cancer is positively related to mental health. When a cancer survivor reaches the third stages of the disease, they will have worse mental health.

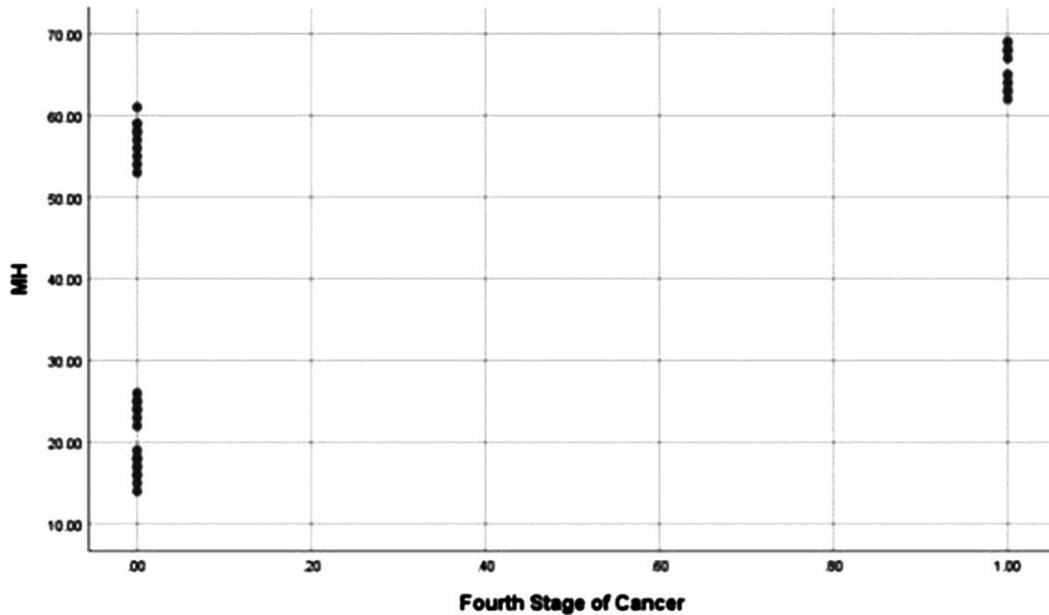


Figure 5. Fourth Stage of Cancer

Similarly, the graphs depicted above explain that mental health score is increasing, the no stage of cancer is also rising from the 0 categories to the 1 (third stage of a group). That means that the third stage of breast cancer is positively associated with mental health. When a cancer survivor reaches the fourth stages of the disease, they have had adverse mental health.

Table 2. Regression Model of Mental Health on Disease stage of Cancer survivors

Predictors	B	SE	β	t	Sig
Second Stage of Cancer	7.29	.84	.131	8.60	.01
Third Stage of Cancer	40.23	.78	.801	51.55	.01
Fourth Stage of Cancer	48.80	.73	1.042	66.19	.01

The Table 2 indicates the unstandardized regression coefficient ($B=7.29$) of mental health-related with the second stage of cancer noted that mental health increased 7.29 unit with each one-unit increase in second stage of the disease. Likewise, the unstandardized regression coefficient ($B=40.23$) of mental health-related with third stage of cancer indicated that mental health increased 40.23 unit with each one-unit increase in third stage of disease. In a linear view, unstandardized regression coefficient ($B=48.80$) of mental health-related with fourth stage of cancer indicates that mental health increases 48.80 unit with each one-unit increase in fourth stage of the disease. On the contrary, the

standardized regression coefficient ($\beta = .131$) of mental health-related with second stage of cancer states that mental health increases .131 unit with each one-unit increase in second stage of disease holding others variable are constant. By the same token, standardized regression coefficient ($\beta = .801$) of mental health-related with third stage of cancer illustrates that mental health increased .801 unit with each one-unit increase in the third stage of disease holding other variables are removed. In similar fashion, standardized regression coefficient ($\beta = 1.042$) of mental health associated with fourth stage of cancer indicated that mental health increased 1.042 unit with each one-unit increase in the fourth stage of the disease, when step one, two and three are constant. These three variables are the most robust predictors of mental health. Among these three variables, fourth stage of cancer was the strongest predictor.

Furthermore, the present study intends to analyze the mental health of the breast cancer survivors depending upon stages of cancer. It is argued (Table 1) that the overall mental health of the breast cancers survivors is adverse. Hence, women breast cancer survivors have mental health problem. Moreover, findings also reveal that mental health problem is more significant in advanced stages. It is also contended (Table 2) that there is a considerable effect of cancer stages upon mental health of the breast cancers survivors. This research confirms that disease stage II ($\beta = .131$, $p < .0005$), third stages of cancer ($\beta = .801$, $p < .0005$) and fourth stage of cancer ($\beta = 1.042$ $p < .0005$) are significant predictors of mental health. Findings reflect that disease stage of one does not influence the mental health like other stages of cancer. In addition, breast cancer survivors perceive, and oncologists assure that they will recover if they can take proper medicine in timely. But findings reflect that mental health of the cancer patients deteriorates as the stages of the cancer increases. This is due to partly because of as the scenes of the cancer increases, the physical health of the patients also start to decrease. Physical health conditions play a vital role in a patients' mental health. Survivors are facing serious health problem as an effect of radiotherapy, chemotherapy and drugs as the overall treatment process going on. Besides, most patients believe that they will survive no more as they diagnosed with advanced stages. Henceforth, it can be argued that stages of cancer have substantial effects on the survivors' mental health. This result is consistent with the findings of Melissa and Santorelli (2010). In Bangladesh, a life-threatening disease like cancer poses an extra burden on patients' family members. Similar research findings suggest that there are significant effects of treatment expenses on patients' mental health. Maria (2017) stated that many cancer patients could not continue work while they are receiving treatment, so for them, financial toxicity could include lost income and thus interrupt their mental health.

Conclusion

The present study had some limitations, which should be addressed by the future researchers of this field. The sample for the study was not randomly selected, and the size of the sample is minimal. On the other hand, the major drawback of this study is that the sample was selected only from only a selected cancer hospital. Furthermore, some respondents did not give their exact feedback because they were afraid of negative consequences, thus skewing the results. Most of the participants were uneducated, which makes it challenging to get an appropriate answer. Despite of the above criticism, it can be concluded that the mental health of breast cancer survivors depends upon stages of cancers play contributing effects. Bangladesh government should implement Breast Cancer Early Detection Program. The government should also ensure early detection of cancer and also identify reliable measures to improve services at different health care facilities in Bangladesh.

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