Original Article

QUALITY OF LIFE OF BREAST CANCER PATIENTS

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ABSTRACT

Background: Breast cancer control in a low-income country such a Bangladesh is a challenging endeavor influenced by a myriad of forces. Quality of life is now considered an important endpoint in cancer clinical trials. The study was conducted to determine the quality of life of breast cancer patients.

Methods**:** This cross-sectional study was conducted among 142 breast cancer patients. Data were collected by face-to-face interview using European Organization for Research and Treatment of Cancer questionnaire from respondents once only ensuring the privacy, confidentiality and maintaining ethical issues. The study was conducted during the period from January 2012 to June 2012 in National Institute of Cancer Research and Hospital (NICRH), Mohakhali, Dhaka-1212, Bangladesh.

Results: The study revealed that majority of the participants were housewife (76.1%) and the maximum were in the 41-50 age groups. Mean age of the respondents was 42.80(±8.95) years. Maximum respondents (30%) had passed SSC and primary educated were 27%. The average monthly income was Tk. 11,570.70. Better income group (Tk. 15,000.00 monthly) enjoy better quality of life than other group. Quality of life was better in women living in joint family rather than nuclear family. Among 142 respondents who heard the name of breast cancer, majority of the respondents heard it from Neighbors/ Relatives. Adequate monthly income (p=0.006) and small size family (p=0.02) improved the quality of life while treatment specific attributes and duration of disease sufferings worsen the quality of life of breast cancer patients

Conclusion: The overall QOL score was considerably poor in this study. Early diagnosis with regular follow-up treatment could be a way of improving quality of life among breast cancer patients.

JOPSOM 2020; 39(2): 20-33
https://doi.org/10.3329/jopsom.v39i2.53162

Keywords: QOL, Breast Cancer Patient, Clinical Attributes.

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INTRODUCTION

Cancer refers to a group of illnesses that result from cells in the body growing abnormally. These cells divide and produce new cells in an uncontrolled way that can spread throughout the body and cause damage to essential organs. [1]

A complex event usually involves many causal factors, which in turn are causally linked to other factors. In talking about cause and effect, we customarily designate as its cause one or a few salient factors most directly connected to its salient effects, noting a few other factors as indirect causes, relegating many factors as background conditions, and ignoring factors too vague to determine. For example, when arson investigators decide that a fire was caused by sparks from an exposed electric wire, they treat as background conditions the presence of oxygen and flammable materials nearby. What made the wire exposed they regard as indirect causes, which may interest criminal investigators. Saliency and relevancy are context dependent. [2]

In cancer research, two scientific approaches operate in two general kinds of context. Epidemiology focuses on causal factors on the levels of people and population, with results that are more useful for disease prevention. Molecular cell biology focuses on causal mechanisms on the levels of genes and cells, with results that are more useful to treatment and cure.[3]

Every year in Bangladesh approximately 35,000 women develop breast cancer, many of whom never seek treatment. Although the majority of breast lumps ("chakas") are not cancerous and require minimal treatment, some breast lumps require immediate attention. According to Dr. Love, prompt diagnosis and treatment of breast cancer provides the best chance of long-term survival. The diagnosis of breast cancer and its treatments have various adverse effects on quality of life (QOL), physical functioning and psychosocial well-being and therefore women need support not just during the treatment process but for years beyond. Numerous studies, reviews and meta-analyses indicate that breast cancer patients benefit from both group and individual therapeutic interventions when the content and timing of those interventions is appropriate. The theoretical framework for this study is based on Ferran's (1990) definition and conceptual model of QOL, and on Kahn's (1979) theory of social support.

Dr. Richard Love, breast oncologist and professor at The Ohio State University, U.S.A., recently visited Bangladesh to discuss a pioneering clinical trial and to offer Bangladeshi breast cancer sufferers hormonal treatment for the disease. Dr. Love spoke with doctors at several hospitals in Dhaka, saying "hormone therapy should be the first line of treatment for women whose tumors show sensitivity to hormonal change.".[4, 5]

Researchers often assess "health related quality of life" in case of context of medical treatments, in an attempt to focus on the components of quality of life that are affected most by one's health. Although researchers may debate about the exact definition of "QOL" there is a wide agreement that 'HRQOL' should be conceptualized as a complex and multidimensional construct.[6]

A descriptive study of the published papers (230 articles) on non-biomedical outcomes (QOL, preferences, satisfaction and economics) in breast cancer patients, covering the literature from 1990 to 2000, found that the most frequently reported outcomes were quality of life (54%), followed by economic analyses (38%), and patient satisfaction (14%). Only 9% measured patient preferences.

There are several useful review papers on quality of life in breast cancer patients. However, most published papers have either been overviews or systematic literature searches with very focused objectives. The aim of this review is to collect and examine all literature published since the topic first appeared in English language biomedical journals. It is hoped that this extensive review may contribute to existing knowledge, help both researchers and clinicians to have a better profile on the topic, and consequently aid in improving quality of life in breast cancer patients.[7]

Research into the HRQOL of breast cancer patients is a little developed field. Fewer papers were published from the medical side, all of which had been published in international journals. In the global context post-menopausal breast cancer cases are more than pre-menopausal but, in our country, the practical situation is reverse for that social burden is invariably more cause of young people (<49yrs) are affected & adoption of "Western" lifestyles like higher fat diets, reduced activity, reduced parity, delayed child bearing, and decreased breast feeding.[8]

Other factors that contribute to risk include race, early age at menarche, pregnancy history (nulli parity or older age at first birth), and number of breast biopsies. The risk for developing breast cancer within the next 5 years can be estimated using risk factor information by completing the National Cancer Institute Breast Cancer Risk Tool (the "Gail model," available at http://cancer.gov/bcrisktool/or 800-4-CANCER). Clinicians can use this information to help individual patients considering tamoxifen therapy estimate the potential benefit. However, the validity, feasibility, and impact of using the Gail model to identify appropriate candidates for chemoprevention has not been tested in a primary care setting. The Gail model does not incorporate estradiol levels or estrogen use, factors that some studies suggest may influence the effectiveness of tamoxifen.

Women are at lower risk for adverse effects from chemoprevention if they are younger; have no predisposition to thromboembolic events such as stroke, pulmonary embolism, or deep venous thrombosis; or do not have a uterus. Women younger than 40 years of age have a lower risk for breast cancer, and thus will not experience as large an absolute benefit from breast cancer chemoprevention as older women. Women 60 years of age and older, who have the highest risk for breast cancer also have the highest risk for complications from chemoprevention with a less favorable balance of benefits and harms. The USPSTF found more evidence for the benefits of tamoxifen than for the benefits of raloxifene. If currently, only tamoxifen is approved by the U.S. Food and Drug Administration (FDA) for the specific indication of breast cancer chemoprevention.[9, 10]

METHODS

This descriptive cross-sectional study design was aimed to assess the quality of life among women affected with breast cancer. The total study period was six months from January 2012 to June 2012. The study was started with proper schedule on the basis of designing, selection of study place and completed with final report writing and submission.

The study place of the research work was National Institute of Cancer Research and Hospital (NICRH), Mohakhali**,** Dhaka-1212, Bangladesh. All the patients diagnosed with breast cancer and attending at the outpatient department, radiology unit and receiving care & services from National Institute of Cancer Research and Hospital (NICRH) were the study population. A total of 142 females were interviewed.

Sampling technique was purposive for selection of study sample. Data were collected by face-to-face interview using European Organization for Research & Treatment of Cancer questionnaire.

A semi-structured questionnaire in English and a checklist was used for data collection. At first variables were identified according to the specific objectives. Then indicators and appropriate scale of measurement for each variable were identified. Then Bangla questionnaire was developed using some well accepted research tools and identified variables. The tools used for developing the questionnaire were European Organization for Research and Treatment of Cancer QLQ-C-30 (BR23) for find out the quality of life of breast cancer patients. The English questionnaire was translated into Bangla with appropriate correction and checking by two independent translators. Then this Bangla questionnaire was checked by research supervisor and colleagues of the researcher and made necessary changes. This questionnaire was pre-tested on 10 breast cancer patients. After made necessary modification of the pre-tested questionnaire, the questionnaire was finalized.

After giving researchers brief introduction, informing the study purpose and objectives and taking verbal consent from the participants data were collected by face-to-face interview ensuring the privacy and confidentiality. After data collection, data were sorted and quality control check was performed. Then data were entered into the computer using SPSS 16 version. After frequency run data were cleaned. Frequency distributions were checked for normal distribution. After cleaning and editing taking study objectives into consideration an analysis plan was structured. Religion, marital status, occupation, family size, duration of disease, duration of taking treatment were recoded. Descriptive statistics including means, medians, standard deviations, ranges for continuous data and frequencies & proportion for categorical data was calculated. For inferential statistics, mainly, one way ANOVA, t test and person's correlation were used. Statistical significance for all the tests was considered at $p<0.05$.

RESULTS

Age of 142 patients ranged from 25 to 63 years with a mean (SD) of 42.80 (8.95) years. Among them 37.3% were 41-50 years and up to 30 years were 9.2%. More than 50% patients belonged to joint families and others were from nuclear family. Among all patients 42.3% were from small size families (Up to 4 persons) and others were from bigger families. Among patients 88% were feeding their children breast milk and rest of them were not (Table-1).

Table:1 Socio-demographic characteristics of the patients (n=142)

Attributes	**Characteristics**	**Frequency**	**Percentage**
Age (years)	Up to 30	13	9.2
	31-40	52	36.6
	41-50	53	37.3
	>50	24	16.9
	Mean ± SD		42.80 (8.95)
Religion	Islam	127	89.4
	Others	15	10.6
Marital status	Married	127	83.8

	Others	15	16.2
Educational status	Illiterate	37	26.1
	Can sign only	35	24.6
	Primary	27	19.0
	SSC	30	12.1
	HSC & above	13	9.2
Type of family	Nuclear	67	47.2
	Joint	75	52.8
Family size	Up to 4	60	42.3
	5-6	55	38.7
	≥ 7	27	19.0
Age at marriage (in years)	<18	77	58.8
	≥18	54	41.2
Breast feeding	No	5	3.8
	Yes	125	96.2

Quality of life of recruited carcinoma breast patients were assessed using a scale EORTC QLQ C-30 & BR-23. Overall QOL and eight different domains are presented in table-2. It was observed that the mean score was lowest in financial well-being 22.30(87.03) domain then conjugal well-being 46.12 (16.54) domain, functional well-being 49.45(18.22), emotional (C-30)56.27(14.19) in relation to the possible variation of the scale.

Table:2 Descriptive Statistics of Different domains of Quality of Life (Based on EORTC QLQ C-30)

Domain	Possible Maximum Score	Mean (SD)	Median	Range
Overall QOL	126	62.92(9.44)	62.22	46-92
Functional Well-being	28	49.45(18.22)	46.67	7-19
Emotional Well-being	35	56.27(14.19)	61.11	9-20
Physical Well-being	55	66.55(9.63)	64.58	23-42

Social Well-being	4	76.74(30.47)	100.00	1-4
Financial Well-being	4	22.30(87.03)	33.33	1-4
Conjugal Well-being	12	46.12(16.54)	55.56	2-8

Overall, the mean of QLQ C-30 62.92(9.44) & QLQ BR-23 73.61(9.86) (Table-3).

Table:3 Descriptive Statistics of Different domains of Quality of Life (Based on EORTC BR-23)

Domain	Possible Maximum Score	Mean (SD)	Median	Range
Physical Well-being	56	71.02(10.94)	69.44	19-39
Emotional Well-being	24	345.35(137.32)	345.83	5-18
Conjugal Well-being	12	46.12(16.54)	55.56	2-8
Overall QOL	92	73.61(9.86)	75.36	28-71

All of the patients >50 years obtained lower quality score in functional (mean=39.72) physical (mean=61.02) overall QOL (C-30) (mean=57.64) and emotional (BR-23) (mean=269.97) domain which were significant (P<0.05) by F-test. After done Post Hoc (Tukey) test observed that decreasing QOL getting older (>50 years). In conjugal and overall QOL BR-23 domain showed that (31-40) years age group gained lower quality score (mean=39.32 and mean=69.43); those were significant(p<0.05). Post-Hoc (Tukey) test presented that poor quality of life among comparatively young age group. House wife group of functional well-being domain gained lower scoring (mean = 47.28) which was significant. In addition, emotional and physical well-being domain presented that lower scoring respectively (mean =55.04 and mean 65.35) those were significant also. From overall QoL domain house wife group obtained poor quality of life (mean = 61.73) than alternate group. Whole breast group of functional well-being domain obtained lower scoring (mean =45.56) than partly or half breast group. In physical well-being domain whole breast affected group gain (mean = 64.68 which was poor score than alternate group. In addition, overall QoL (C-30) presented lower scoring (mean 61.06) poor scoring of whole breast group than alternate; it was significant. Whole breast affected group of physical domain (BR-23) gained lower scoring (mean =68.57) which was significant. In addition, conjugal well-being domain party or half breast affected group obtained lower (mean =42.34), it was also significant. Here overall QoL (BR-23) whole breast affected group presented (mean =71.81) poor QoL than alternate group which was significant (Table-4)

Table:4 Quality of Life using EORTC QLQ C-30

Variables	Domains	Age (years)	N	Mean	Std. Deviation	Test Statistic	P Value
Age (Years)	Functional well-being	Up to 30	13	53.33	18.05	3.08	0.03
		31-40	52	51.92	18.45		
		41-50	53	51.20	18.39		

		>50	24	39.72	14.77		
	Physical well-being	Up to 30	13	70.03	8.05	3.78	0.01
		31-40	52	67.55	10.24		
		41-50	53	67.49	9.48		
		>50	24	61.02	7.26		
	Overall QoL	Up to 30	13	64.62	9.16	3.19	0.03
		31-40	52	64.10	9.39		
		41-50	53	63.73	10.24		
		>50	24	57.64	5.88		
Education	Emotional well-being	Illiterate	37	52.85	14.91	2.27	0.07
		Can sign only	35	61.75	11.73		
		Primary	27	54.12	14.42		
		SSC	30	55.93	14.22		
		H.S.C & above	13	59.83	14.90		
Income	Functional well-being	<5000	34	41.96	19.11	3.35	0.02
		5001-10000	43	49.61	16.22		
		10001-15000	45	53.48	18.50		
		>15000	20	54.67	16.98		
	Social well-being	<5000	34	68.63	30.64	3.30	0.03
		5001-10000	43	79.85	29.22		
		10001-15000	45	78.52	32.69		
		>15000	20	80.00	27.36		
Family size	Physical well-being	≤4	60	67.47	9.47	4.38	0.01
		5-6	55	68.11	9.67		
		≥ 7	27	61.88	8.51		
	Overall QoL	≤4	60	63.42	9.91	4.32	0.02
		5-6	55	64.60	9.10		
		≥ 7	27	58.35	7.71		
No of Child	Financial well-being	0-1	14	38.10	267.90	2.70	0.05
		2	64	29.17	18.31		
		3	36	32.41	20.29		
		≥4	28	26.19	27.75		
Breast Feeding Duration (month)	Physical well-being	<12	22	69.60	10.48	3.23	0.03
		12-18	15	65.56	8.76		
		18-24	49	67.98	9.89		
		>24	39	62.77	8.66		

Disease Sufferings Period (month)	Functional well-being	≤12	49	53.61	18.61	2.67	0.05
		13-24	46	47.97	18.47		
		25-36	29	51.72	18.57		
		>36	18	40.37	12.41		
	Physical well-being	≤12	49	69.73	9.68	5.66	0.00
		13-24	46	65.85	8.68		
		25-36	29	67.17	9.64		
		>36	18	59.49	8.00		
	Overall QoL	≤12	49	65.60	9.08	4.62	0.00
		13-24	46	61.67	9.78		
		25-36	29	64.18	9.08		
		>36	18	56.79	7.05		
Occupation	Functional well-being	Housewife	108	47.28	18.15	-2.91*	0.00
		Working women	34	57.45	16.41		
	Emotional well-being	Housewife	108	55.04	15.18	-2.33*	0.02
		Working women	34	61.44	8.96		
	Physical well-being	Housewife	108	65.35	9.72	-2.95*	0.00
		Working women	34	70.77	8.02		
	Overall QoL	Housewife	108	61.73	9.04	-2.74*	0.01
		Working women	34	66.70	9.81		
Marital status	Social well-being	Married	119	79.55	28.82	2.53*	0.01
		Others	23	62.32	35.25		
Family type	Functional well-being	Nuclear	67	53.23	18.00	2.20*	0.03
		Joint	75	46.58	17.96		
	Physical well-being	Nuclear	67	68.78	9.84	2.55*	0.01
		Joint	75	64.75	9.03		
Affected Breast extent	Functional well-being	Partly or half breast	58	55.75	17.65	3.40*	0.00
		Whole breast	84	45.56	17.53		
	Physical well-being	Partly or half breast	58	69.50	9.74	3.03*	0.00
		Whole breast	84	64.68	9.05		
	Overall QoL	Partly or half breast	58	65.61	9.92	2.90*	0.00
		Whole breast	84	61.06	8.67		

Overall quality of life score (r = 0.230, p<0.05) showed moderate positive correlation with income. In addition, weak positive correlation was noticed between functional well-being score (r = 0.29, P<0.05) and Family income of those patient's < 5000 in functional well-being score (Mean = 41.96) were lower, this was significant (P< 0.05), done Post-Hoc (Tukey) test and revealed that this group QoL were poor than other. From physical (BR-23) (Table-5) domain found that <5000 income group obtained mean =65.32 which was lower QoL and significant, after Post Hoc (Tukey) test and showed that this group poor living standard than other. From conjugal well-being domain found that married women got lower score (mean = 44.82) and this was significant (p=0.05). In financial well-being domain others group gained lower score (Mean = 17.39) which was also not significant (P=0.28), others group obtained lower score (Mean = 62.32) in social well-being domain and this was significant (p=0.01). From functional well-being domain found that >24months breast feeding group obtained (mean = 44.27) poor QoL. In emotional (BR-23) domain found that >24months group obtained lower QoL scoring (mean = 320.94) than others. Family type and quality of life of functional and physical well-being domain obtained that nuclear family like poor QoL (mean =53.23 and mean =54.73) respectively. In financial well-being domain nuclear family presented poor mean scoring (mean =18.41) than alternate group. From physical (BR-23) domain joint family gained lower scoring (mean =68.39) which was significant (p=0.001). From physical well-being domain patient with ≥7 size family obtained mean =61.88 of poor scoring than other which was significant, done Post-Hoc (Tukey) test and revealed that significantly poor living situation than other group. In case of financial well-being which patients had 4 and above child were good QoL than other group and was significant (P=0.05) for this was done Post-Hoc (Tukey) test then showed that 0-1 child group were significant than other group. Here overall quality of life association with number of children were not significant (P=0.60). In conjugal well-being domain found that family of 2 child lived lower QoL (mean=41.32) and p=0.01 (significant) and Post Hoc (Tukey) test showed that quality of life is poor with this group in comparison to other groups (Table-5). During first child birth those patients were above 20 years mean score =47.06 which was lower indicated than alternate group. In conjugal well-being more than 20 years' group presented (mean = 40.52) poor QoL which was significant. From functional and emotional well-being domain those patients fed their child breast milk presented similar mean scoring. In social domain 'yes' group (Mean score = 77.60) obtained poor QoL than alternate group. From overall QoL yes group presented (mean 62.86) poor QoL than no group. From physical well-being domain (BR-23) pre-treatment group obtained (poor =63.33) than other group which was significant, after Post-Hoc (Tukey) test and revealed that significantly poor living status of pre-treatment group. In case of emotional domain (BR -23) post-treatment group obtained poor scoring (mean=282.60) than other was significant and done Post Hoc (Tukey) test which was indicated that post-treatment group suffered poor QoL. In overall (BR-23) QoL during treatment group carried lower scoring (mean =73.89) which was significant and done Post Hoc (Tukey) test and found that significantly poor living status (Table-5).

Table:5 Quality of life using EORTC QLQ BR-23

Variables	Domains	Age (years)	N	Mean	Std. Deviation	Test Statistic	P Value
Age (Years)	Emotional well-being	Up to 30	13	388.46	112.24	7.04	0.00
		31-40	52	398.40	169.84		
		41-50	53	316.27	98.89		
		>50	24	269.97	85.36		
	Conjugal well-being	Up to 30	13	48.72	14.01	6.34	0.00
		31-40	52	39.32	19.49		
		41-50	53	47.59	15.62		
		>50	24	55.56	0.00		
	Overall	Up to 30	13	73.02	7.68	6.47	0.00

	QoL	31-40	52	69.43	10.67		
		41-50	53	75.69	8.02		
		>50	24	78.38	9.68		
Income	Physical well-being	<5000	33	65.32	12.42	4.60	0.00
		5001-10000	43	71.32	9.05		
		10001-15000	45	73.21	10.23		
		>15000	19	74.56	10.81		
No of Child	Conjugal well-being	0-1	14	55.56	0.00	4.31	0.01
		2	64	41.32	18.62		
		3	36	46.91	16.18		
		≥4	28	50.79	13.33		
Stage of treatment	Physical well-being	Pretreatment	15	63.33	11.51	4.37	0.02
		During	109	71.71	10.35		
		Post treatment	16	72.92	12.11		
	Emotional well-being	Pretreatment	15	474.17	260.46	9.65	0.00
		During	110	337.20	108.66		
		Post treatment	17	282.60	75.10		
	Overall QoL	Pretreatment	15	65.70	13.36	7.90	0.00
		During	110	73.89	9.07		
		Post treatment	17	78.77	7.30		
Marital status	Conjugal well-being	Married	119	44.82	17.29	-1.96*	0.05
		Others	23	52.17	11.33		
Family type	Physical well-being	Nuclear	66	73.82	10.43	3.02*	0.00
		Joint	74	68.39	10.80		
Patient's age During 1st child	Conjugal well-being	≤ 20	81	48.29	15.83	2.60*	0.01
		>20	51	40.52	18.03		
Affected Breast extent	Physical well-being	Partly or half breast	57	74.42	9.34	3.21*	0.00
		Whole breast	83	68.57	11.35		
	Conjugal well-being	Partly or half breast	58	42.34	18.20	-2.21*	0.03
		Whole breast	84	48.54	15.11		
	Overall QoL	Partly or half breast	58	76.21	7.53	2.67*	0.01
		Whole breast	84	71.81	10.87		

Poor negative correlation (r= -0.167, p=0.047) between age of last child and social well-being. In addition, moderate negative correlation (r = -0.233, p = 0.005) between financial well-being and age of last child. Weak negative correlation (r = -0.198, p<0.05) between breast feeding duration and financial well-being. Overall QoL score (r = 0.203, p < 0.05) showed that weak positive correlation with disease suffering time. In addition, physical well-being score (r = -0.24, p<0.05) weak negative correlation with disease suffering time. Moderate negative correlation (r = -0.218, p<0.05) between overall QoL and disease suffering time. Patient's disease suffering period and quality score of social and financial well-being (p>0.05) were not significant but also found that physical and functional well-being was significant (p<0.05). Here overall quality of life was significant association with disease suffering period (Table-6)

Table-6 Correlation using EORTC QLQ C-30

Variables	**Domains**	**Co-efficient (r)**	**P Value**
Income	Overall QoL	0.230	0.006
	Functional well-being	0.29	0.000
	Emotional well-being	0.04	0.64
	Physical well-being	0.134	0.112
	Social well-being	0.196	0.019
	Financial well-being	0.096	0.25
Age of last child	Overall QoL	-0.042	0.620
	Functional well-being	0.058	0.490
	Emotional well-being	0.017	0.844
	Physical well-being	0.043	0.615
	Social well-being	-0.167	0.047
	Financial well-being	-0.233	0.005
Breast feeding duration	Overall QoL	-0.041	0.63
	Functional well-being	-0.01	0.90
	Emotional well-being	0.017	0.84
	Physical well-being	0.06	0.51
	Social well-being	-0.12	0.16
	Financial well-being	-0.198	0.02
Disease sufferings period	Overall QoL	-0.218	0.009
	Functional well-being	-0.179	0.033
	Emotional well-being	-0.03	0.75
	Physical well-being	-0.24	0.004
	Social well-being	-0.07	0.43
	Financial well-being	-0.052	0.54

In addition, moderate positive correlation (r = 0.251, p=0.003) between qol and age of last child. income of the patients. Moderate positive correlation (r=0.32, P < 0.05) between QoL and income (Table-7).

Table-7: Correlation using EORTC QLQ BR-23

Variables	Domains	Co-efficient (r)	P Value
Income	Overall QoL	0.16	0.06
	Physical well-being	0.32	0.00
	Emotional well-being	-0.015	0.86
	Conjugal well-being	-0.19	0.023
Age of last child	Overall QoL	0.143	0.088
	Physical well-being	0.07	0.413
	Emotional well-being	0.047	0.58
	Conjugal well-being	0.251	0.003
Breast feeding duration	Overall QoL	0.16	0.06
	Physical well-being	0.092	0.28
	Emotional well-being	-0.011	0.81
	Conjugal well-being	0.133	0.12
Disease sufferings period	Overall QoL	0.050	0.59
	Physical well-being	-0.159	0.06
	Emotional well-being	-0.10	0.24
	Conjugal well-being	0.152	0.07

DISCUSSION

Study sample was consisted of 142 diagnosed breast cancer patients with mean (SD) of 42.80 (8.950) years. 89.4% patients were Muslim; which reflects the religion of majority population. About 50.7% of patients were illiterate; only 19% of patients completed their preliminary level of education. This reflects the poor condition of female education in our country. Among patients of this study 76.1% were house wives and 23.9% were working woman. About 47.2% patients belonged to the extended nuclear family. Average monthly family incomes of the patients were Tk. 11,570.70 which indicates poor socio-economic condition of patients.

In this study patients evaluated their physical well-being mean (SD) of 32.01 (4.61), functional well-being mean (SD) of 12.54 (2.73), emotional well-being mean (SD) of 13.82(2.56), social well-being mean (SD) of 1.70 (0.915) and financial well-being mean (SD) of 3.32 (2.59) positively with possible variation. Their physical condition improves after getting some kind of treatment. This is consistent with another study in California.[24]

In my study it has been observed that a close relationship between age and quality of life among 142 respondents, more than 50 years obtained lower quality score in functional (mean=39.72), physical (mean=61.02), overall QOL (C-30) (mean=57.64) and emotional (BR-23) (mean=269.97) domain which were significant (P<0.05). So, observed that decreasing QOL getting older (more than 50 years). In conjugal and overall QOL BR-23 domain showed that (31-40) years age group gained lower quality score (mean=39.32 and mean=69.43); those were also significant (p<0.05) which presented that poor quality of life among comparatively young age group in terms of conjugal life. This is consistent with another study in Kuwait.[26] Relationship also found with quality of life and monthly family income in social (P=0.03), functional (P=0.02) and physical –BR23 (P=0.001) well-being domains.

A major difference observed in functional (Mean = 49.02) and physical (Mean = 66.28) well-being domain where married women obtained lower score which were not significant (P>0.05). In financial well-being domain others group gained lower score (Mean = 17.39) which was also not significant (P=0.28), others group obtained lower score (Mean = 62.32) in social well-being domain and this was significant (p=0.01).From conjugal well-being domain found that married women got lower score (mean = 44.82) and this was significant (p=0.05).In social well-being domain married group obtained well score (mean=79.55) than others and it was significant (p=0.01), so truly said that social status was comparatively well in case of married women than others. This is consistent with another study in Iran.[14]

Significant difference in mean scores found between quality of life and type of family in physical (C-30 & BR-23) and emotional well-being (P<0.05) domain. Quality of life was better in women living in joint family rather than nuclear family may be due to support is more in joint family. Also found beneficial effect in case of joint family group from financial well-being domain (mean=26.67) which showed that joint family had given financial support. Relationship was also found with number of children with financial (P=0.05) and conjugal well-being (p=0.05) domains. Increase number of children may have impact on functional well-being because energy may be exploited more. Majority of women in this study belonged to low socio-economic condition and they may not replenish their health. Patients having increase number of children had higher level of quality of life in social well-being (mean=88.10). How this could be explained is that increase number of children play important role regarding social support of breast cancer women. This is consistent with another study in Europe.[27]

The poor relation appears in this study between above 20 years child and quality of life. From functional well-being domain above 20 years child belongs to patients obtained (mean = 44.00) lower quality score than other. In emotional and physical well-being domain found that near about similar mean scoring. From financial well-being domain found that equal or below 5 years of last child (mean score 23.81) obtained lower score than other and p=0.87 (not significant). Overall QoL (BR-23) presented that similar mean scoring which was not significant (p=0.10). Poor negative correlation (r= -0.167, p=0.05) between age of last child. In addition, moderate negative correlation (r=-0.233, p=0.005) between QoL and age of last child. It is mentionable that close connection exists between family size and quality of life. Observation found when family size increases then quality of life decreases simultaneously. Patient with equal or above 7 members of family obtained lower quality of life scoring in functional well-being (mean = 42.96) and emotional well-being (mean =51.44) domain which were poor QoL than other; were not significant. From social well-being domain patient with equal or above 7 members group represented (mean=74.07) lower scoring. From physical well-being domain patient with equal or above 7 size family obtained (mean =61.88) of poor scoring than other which was significant, revealed that significantly poor living standard than other group. From functional and emotional well-being domain those patients fed their child breast milk presented similar mean scoring. In social domain ‘yes’ group (Mean score = 77.60) obtained poor QoL than alternate group. From overall QoL yes group presented (mean 62.86) poor QoL than no group. No group of emotional domain presented lower scoring (mean= 298.33) which was carried poor QoL than yes group. In case of overall QoL (BR-23) yes group (mean =73.08) gained lower QoL than no group which was not significant (p=0.21). This is consistent with another study in China.[26]

Approximately 7.35% of individuals with cancer have sexually non-active after diagnosis and treatment. This is because the cancer and various oncological treatments affect the sexual response; the body, the mind and the relationship between them, causing a strong impact on the sexuality of these people. Stage of treatment had relationship with quality of life in physical BR-23 and emotional BR-23 well-being (P<0.05) domain and overall QoL BR-23 (P<0.001). The explanation may be the post-treatment or follow-up stage condition of patient’s well-being were moderate to well living indicate and may be due to less symptoms they have no worry about dying and their emotional health remain better. So as a whole quality of life may be better in during and follow-up stage of treatment of disease.

Whole breast affected respondents got poor quality of life in terms of partly / half breast affected patients because of whole breast affected group of functional well-being domain obtained lower scoring (mean =45.56) than partly or half breast group. In physical well-being domain whole breast affected group gained lower score (mean = 64.68) which was poor score than alternate group. In addition, overall QoL (C-30) presented lower scoring (mean 61.06) poor scoring of whole breast group than alternate; it was signified (ant (p=0.001). Whole breast affected group of physical domains (BR-23) gained lower scoring (mean =68.57) which was significant. In addition, conjugal well-being domain partly or half breast affected group obtained lower scoring (mean =42.34), it was also significant (p=0.03). In overall QoL (BR-23) domain whole breast affected group presented (mean =71.81) poor QoL than alternate group which was significant (p=0.01). A total of 142 respondents took part of this study, of which 58.5% were got treatment with Mastectomy, 50% were got chemotherapy and the small numbers of 16.2% were got treatment with Lumpectomy.

In this study 36.5% of respondents reported that they took others treatment with Homeopathy, 22.1% Ayurveda, 21.2% both Neoadjuvant & Homeopathy, 16.3% Neoadjuvant and rest of 3.8% were got treatment with both Homeopathy & Ayurvedic out of 142 respondents. In view of this study, when both breasts were affected for long time in advance stage with treatment based complication creating a poor status of life of the respondents.

To summarize, it can be concluded that the QLQ C-30 & QLQ BR-23, is a valuable and reliable instrument/ scale that is able to differentiate between quality of life with breast cancer patients. As such, it is important that the both scales are easy to use and not too lengthy. With the overall findings of the study, it has been found that breast cancer patient’s quality of life is compromised with its treatment, aging and disease suffering period. Early diagnosis of this disease and treatment could be beneficial to improve this quality of life of breast cancer patients. Quality of life is a cross-cutting phenomenon with socio-economic condition. Level of awareness is also important its terms of maintenance of quality of life. Similar studies are limited but there is a need of further study to create adequate evidence base.

CONCLUSION

Reviewing the overall findings, it was concluded that all of the rural and urban women had not adequate and proper knowledge on breast cancer and observed that decreasing quality of life after getting older simultaneously. So educational program should be developed for women for improving the knowledge regarding breast cancer, which will ultimately help in early detection and prevention of breast cancer and decrease the disease load. We also found that adequate monthly income and small size family provides healthy social well-being and longtime disease sufferings creates poor quality of life. Quality of life scales were better in those who got follow-up in course of this disease treatment in comparison to others who were not followed-up.

REFERENCES

1. Dollinger M, Rosenbaum E., and Cable G. Everyone’s Guide to Cancer Therapy. Kansas City: Andrews McMeel Publishing, 1997
2. Grimison P, Stockler MR: Quality of life and adjuvant systemic therapy for early-stage breast cancer. Expert Rev Anticancer Ther 2007.
3. Love, R.R. Defining a global research agenda for breast cancer. Cancer 2008; 13: 2366-71 (suppl) (a)
4. Love RR., Duc NB, Binh NC, Mahler PA, Thomadsen BR, Long NH, Shen T-Z, Havighurst TC. Postmastectomy radiotherapy in premenopausal Vietnamese and Chinese women with breast cancer treated in an adjuvant hormonal therapy study. Int J Radiat Oncol Biol Phys., 2003; 56:697-703.
5. Love, RR., Van Dinh, N., Quy, T.T. Survival after adjuvant oophorectomy and tamoxifen in operable breast cancer in premenopausal women. J Clin Oncol 2008; 26:253-257. (b)
6. Montazeri A: Health-related quality of life in breast cancer patients: a bibliographic review of the literature from 1974 to 2007. J Exp Clin Cancer Res 2008.
7. Mols F, Vingerhoets AJJM, Coebergh JW, Poll-Franse LV: Quality of life among long-term breast cancer survivors: a systematic review. Eur J Cancer 2005.
8. Engle J, Kerr J, Schlesinger-Raab A, Eckel R, Sauer H, Holzel D: Predictors of quality of life of breast cancer patients. Acta Oncol 2003.
9. Harirchi I, Ebrahimi M, Zamani N, Jarvandi S, Montazeri A: Breast cancer in Iran: a review of 903 case records. Public Health 2000.
10. Mousavi SM, Montazeri A, Mohagheghi MA, Mousavi Jarrahi A, Harirch I, Najafi M, Ebrahimi M: Breast cancer in Iran: an epidemiological review. Breast J 2007.
11. Yeole BB, Kurkure AP. An epidemiological assessment of increasing incidence and trends in breast cancer in Mumbai and other sites in India, during the last two decades. *Asian Pac J Cancer Prev* 2003

12. Yun YH, Bae SH, Kang IO, Shin KH, Lee R, Kwon SI, *et al.* Cross-cultural application of the Korean version of the European Organization for Research and Treatment of Cancer (EORTC) Breast-Cancer-Specific Quality of Life Questionnaire (EORTC QLQ-BR23). *Support Care Cancer* 2004
13. 20 Guzelant A, Goksel T, Ozkok S, Tasbakan S, Aysan T, Bottomley A, et al. The European Organization for Research and Treatment of Cancer QLQ-C30: An examination into the cultural validity and reliability of the Turkish version of the EORTC QLQ-C30. *EurJ Cancer Care (Engl)* 2004
14. Hanna E, Sherman AC, Adams DC, Vural E, Fan C-Y, Suen JY, et al. Quality of life for patients following total laryngectomy vs chemoradiation for laryngeal preservation. Arch Otolaryngol Head Neck Surg 2004
15. Bjo¨rdal K, de Graeff A. A 12 country field study of the EORTC QLQ-C30 (version 3.0) and the head and neck cancer specific module (EORTC QLQ-H&N35) in head and neck patients. Eur J Cancer 2000.
16. Schwarz R, Hinz A. Reference data for the quality of life questionnaire EORTC QLQ-C30 in the general German population. Eur J Cancer 2001
17. Engel J, Kerr J, Schlesinger-Raab A, Eckel R, Sauer H, Holzel D (2003), et al. Predictors of quality of life of breast cancer patients. *Acta Oncol* **2003**
18. Greimel E, Kuljanic K, Waldenstrom AC, et al. The EORTC Quality of Life Cervical Cancer Module (EORTC QLQ-CX24). Cancer 2006.
19. Sloan JA, Frost MH, Berzon R, et al. The clinical significance of quality-of-life assessments in oncology: a summary for clinicians. Support Care Cancer 2006
20. Guyatt GH, Ferrans CE, Halyard MY, Revicki DA, Symonds TL, Varricchio CG, et al. Exploration of the value of healthrelated quality-of-life information from clinical research and into clinical practice. Mayo Clin Proc 2007
21. Bowen DJ & Powers D (2010). Effects of a mail and telephone intervention on breast health behaviours. Health Education & Behaviour 2010
22. Bowling A (2003). Current state of the art in quality-of-life measurement. In: Carr AJ, Higginson I & Robinson P (eds.) Quality of life. BMJ Books.
23. Bowling A (2004). Research methods in health. Investigating health and health services. 3nd edition, Open University Press, Berkshire, UK.
24. Box RC, Reul-Hirche, HM, Bullock-Saxton JE & Furnival, CM (2002a). Shoulder movement after breast cancer surgery: results of a randomized controlled study of postoperative physiotherapy. Breast Cancer Research and Treatment 2002.
25. Box RC, Reul-Hirche HM, Bullock-Saxton JE & Furnival CM (2002b). Physiotherapy after breast cancer surgery: results of a randomised controlled study to minimise lymphoedema. Breast Cancer Research and Treatment 2002
26. Broeckel JA, Jacobsen PB, Balducci L, Horton J & Lyman GH (2000). Quality of life after adjuvant chemotherapy for breast cancer. Breast Cancer Research and Treatment 2000
27. Browall M, Ahlberg K, Karlsson P, Danielson E, Persson L-O, Gaston- Johansson F (2008), et al. Health-related quality of life during adjuvant treatment for breast cancer among postmenopausal women. European Journal of Oncology Nursing 2008
28. Capozzo MA, Martinis E, Pellis G & Giraldi T (2010). An early structured psychoeducational intervention in patients with breast cancer. Result from a feasibility study. Cancer Nursing 2010
29. Farren AT (2010). Power, uncertainty, self-transcendence, and quality of life in breast cancer survivors. Nursing Science Quarterly 2010