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Original Research Paper

Surgery

ASSESSMENT OF LEVEL OF ANXIETY & DEPRESSION AMONG WOMEN WITH CARCINOMA BREAST ATTENDING DR. B.R.A.M. HOSPITAL, RAIPUR, C.G.: A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

Background: Diagnosis & Treatment Of Breast Cancer Can Be A Very Stressful Issue For A Women. This Study Was Undertaken To Assess The Psychological Problems & To Know Its Association With Various Factors. **Methods:** Prospective Observational Study Conducted Between April 2018 To March 2019 In Department Of Surgery, Dr. B.r.a.m. Hospital, Raipur, C.g. Study Population Were 100 Newly Diagnosed Previously Untreated Breast Cancer Women; Interviewed Using Questionnaire Of Hospital Anxiety & Depression Scale At The Certain Time Points. Their Personnel & Disease Related Information Collected To Know Association With Anxiety & Depression. **Results:** Prevalence Of Anxiety & Depression Were 51% & 52% Respecttively At The Time Of Diagnosis & 39% & 24% Respectively After 6 Months. Significant Factor Associated With Anxiety Were Education Level (p=0.024), Stage Of Cancer (p=0.002, 0.01), Type Of Therapy (p=0.048, 0.001, 0.04) & Depression Were Age Group (p=0.042), Residence (p=0.046), Education Level (p=0.007,0.02), Family Support (p=0.04), Marital Status (p=0.02), Number Of Children (p=0.028), Employment Status (p=0.01,0.04), Stage Of Cancer (p=0.004, 0.001, 0.02) & Type Of Therapy (p=0.00001, 0.0001, 0.04, 0.007). Both Anxiety & Depression Were More Among Low Educated Women, Having Advanced Stage Of Cancer & Who Planned For Neoadjuvant Chemotherapy First. However, Only Depression Was More Among Elderly, Rural, Single, Unemployed Women, Having More Children & Not Getting Family Support. **Conclusion:** Psychological Distress Affect The Treatment Outcome & Constriant The Patient From Follow-up Therapy. Comprehensive Approach Should Include Treating The Disease As Well As Recognizing & Managing The Distress Level Throughout The Course Of Disease.

KEYWORDS : Breast Cancer, Prospective Observational Study, Hospital Anxiety & Depression Scale

INTRODUCTION

Breast Cancer Is The Most Common Cancer Among Women Worldwide. It Was Estimated That One In Eight Women In The Western World Will Develop The Disease During Their Lifetime [1].

The Burden Of Breast Cancer Is Increasing In Both Developed & Developing Countries. It Is Now The Most Frequent Occuring Malignant Disease In Women & Comprises 24.2% Of All Female Cancer. Worldwide Breast Cancer Is Second Most Common Cancer (after Lung) & Fifth Most Common Cause Of Cancer Death (after Lung, Stomach, Liver & Colon Cancer) [2].

In World, Breast Cancer Stands Rank 1 In Age Standardized Incidence Rate (24.7%) & Age Standardized Mortality Rate (13.4%). In India, Breast Cancer Receives Rank 1 In Incidence (14%) & Mortality (11.1%) & Prevalence. It Constitutes 27.7% Of All New Cancer Cases In Indian Women In 2018 [3].

The Methods Of Breast Cancer Treatment Have A Well Established Therapeutic Value But Surgical Treatment, Chemotherapy, Radiotherapy & Hormonal Therapy Are Associated With Occurrence Of Adverse Effects. Patients Diagnosed With Breast Cancer Encounter Many Specific Problems At All Stages Of Diagnosis, Therapy, Rehabilation, Remission Or Progression [4]. Studies Have Shown That Prevelence Of Psychological Distress Among Breast Cancer Patients Is High & They Are At High Risk Of Developing Severe Anxiety, Depression & Potential Mood Disorders [5-7].

Depression & Anxiety Are The Two Most Common Psychiatric Comorbidities Encountered In Breast Cancer Patients [8,9]. They May Experience Depression &/or Anxiety At Any Stage Of Illness From Prediagnosis To The Terminal Phase. If Left Untreated, These Disoredrs Can Lead To Poor Treatment Compliance, Prolonged Hospital Stay & Reduced Quality Of Life [10]. So It Is Important To Assess As Well As Treat Psychiatric Comorbidites Of Cancer Patients & To Motivate Them For Follow-up Treatment To Decrease Attrition Rate & Thus Improve The Prognosis Of Disease & Quality Of Life [11]. This Study Is Aimed To Assess The Level Of Psychological Distress (depression &/or Anxiety) In Women With Carcinoma Breast At The Time Of Diagnosis & During Course Of Treatment & To Investigate Association Of Various Factors With Psychological Distress.

OBJECTIVES

To Assess The Level Of Anxiety & Depression In Women At The Time Of Diagnosis Breast Cancer & While Undergoing Treatment For Same In Dr. B R A M Hospital, Raipur, C.g.

MATERIAL & METHODS

A Prospective Observational Study Conducted Between (april 2018 To March 2019) In Department Of Surgery, Dr. B R A M Hospital, Raipur. Sample Size For The Study Was 100 Calculated By Sample Size Formula For Before & After Study (paired T-test). A Total Of 100 Female Patients Newly Diagnosed Previously Untreated Attending Dr. B.r.a.m.

Hospital, Raipur Were Interviewed Using Questionnaire Of Hospital Anxiety & Depression Scale At Certain Time Points; At The Time Of Diagnosis, After First Intervention (surgery/ Chemo-therapy), During Course Of Treatment & After 6 Months. Hads Is A Screening Tool For Psychological Comorbidities Was Developed By Zigmond & Snaith (1983) & Has Been Validated In Cancer Patients. Hads Is A 14 Item Questionnaire Of Self Assessment Scale Consisting Of Two Subscales: Anxiety & Depression.

Each Item Is Rated On A Four-point Scale Giving Maximum Scores Of 21 For Each Anxiety & Depression. Hads Score 0-7 Considered As Normal Whereas Score >7 Considered As A Case Of Anxiety Or Depression.

Predictors Of Psychosocial Comorbidity Studied Were Age Group, Civil Status(residence), Education Level, Monthly Income, Family Type (joint/nuclear), Family Support (financial & Psychosocial), Employment Status (employed/ Housewife), Number Of Children, Stages Of Breast Cancer & Type Of Therapy Planned. For Association Of Anxiety & Depression With Different Factors Chi-square Test Was Applied & P-value Was Obtained.

OBSERVATION & RESULTS

Table 1: Sociodemographic & Disease Characteristics Of Study Subjects Table

AGE GROUP	NO. OF CASES	PERCENTAGE
20- 40	21	21%
41 – 60	65	65%
>60	14	14%
Total	100	100%
CIVIL STATUS		
Rural	55	55%
Urban	45	45%
Total	100	100%
EDUCATION LEVEL		
ILLITERATE	39	39%
MIDDLE	41	41%
UPTO COLLEGE	20	20%
TOTAL	100	100%
MARITAL STATUS		
MARRIED	78	78%
SINGLE	22	22%
TOTAL	100	100%
MONTHLY INCOME		
≤ 5000	49	49%
>5000	51	51%
TOTAL	100	100%
FAMILY TYPE		
JOINT	46	46%
NUCLEAR	54	54%
Total	100	100%
FAMILY SUPPORT		
NO	30	30%
YES	70	70%
Total	100	100%
EMPLOYMENT STATUS		
NO	90	90%
YES	10	10%
Total	100	100%
NO. OF CHILDREN		
≤2	46	46%
>2	54	54%
TOTAL	100	100%
STAGES OF BREAST CANCER		
2	50	50%
3	48	48%
4	2	2%
TOTAL	100	100%
TYPE OF TREATMENT/THERAPY		
CT+RT	1	1%
CT+Sx+RT	38	38%
Sx+CT	60	60%
Sx+RT	1	1%
Total	100	100%

In Our Study; No One Was Reported In Stage 1 Of Breast Cancer May Be Due To Lack Of Awareness About Disease In Our Areas So Patient Usually Reported In Advance/later Stage Of Breast Cancer

Table 2: Prevalence Of Anxiety & Depression At Different Time Phase

DIFFERENT TIME PHASE	PREVALENCE OF ANXIETY	PREVALENCE OF DEPRESSION
AT THE TIME OF DIAGNOSIS	51%	52%
AFTER FIRST INTERVENTION	43%	43%
DURING COURSE OF TREATMENT	57%	50%
AFTER 6MONTHS OF DIAGNOSIS	39%	24%

Table 3: Significant Factors Associated With Anxiety & Depression

DIFFERENT TIME POINTS	ANXIETY		DEPRESSION	
	FACTORS	p-value	FACTORS	p-value
AT THE TIME OF DIAGNOSIS	EDUCATION LEVEL	0.024	CIVIL STATUS	0.046
	TYPE OF THERAPY	0.048	EDUCATION LEVEL	0.007
			FAMILY SUPPORT	0.04
			NUMBER OF CHILDREN	0.028
			STAGE OF BREAST CANCER	0.004
			TYPE OF THERAPY	0.00001
AFTER FIRST INTERVENTION	STAGE OF BREAST CANCER	0.002	AGE GROUP	0.042
	TYPE OF THERAPY	0.001	STAGE OF BREAST CANCER	0.001
			TYPE OF THERAPY	0.0001
DURING COURSE OF TREATMENT	NO SIGNIFICANT ASSOCIATION OF ANY FACTOR	MARITAL STATUS	0.02	
		EMPLOYMENT STATUS	0.01	
		TYPE OF THERAPY	0.04	
AFTER 6MONTHS	STAGE OF BREAST CANCER	0.01	EDUCATION LEVEL	0.02
			EMPLOYMENT STATUS	0.04
	TYPE OF THERAPY	0.04	STAGE OF BREAST CANCER	0.02
			TYPE OF THERAPY	0.007

DISCUSSION

Studies Have Shown That Prevalence Of Psychological Distress Among Breast Cancer Patients Is High [5-7]. In Our Study, At The Time Of Diagnosis; Prevalence Of Anxiety & Depression Were 51% & 52% Respectively. However, After 6 Months; Prevalence Of Anxiety & Depression Were Falling To 39% & 24% Respectively. In A Study By Caroline Burgess, Cornelius Et Al In 2005 Found Prevalence Of Depression & Anxiety In 170 Breast Cancer Women Was 33% At The Time Of Diagnosis & Falling To 15% After 1 Year [7]. Another Study By

Mohd. Rohaizat Hassan Et Al 2015 Found Among 205 Breast Cancer Patients In Urban Setting In Malaysia Prevalence Of Anxiety Was 31.75% & Depression Was 22% [12]. Similar Study By Dr Vivek Shrivastava, Mumtaz Ahmed Ansari Et Al In 2016 Concluded Among 200 Breast Cancer Patients From North India; Prevalence Of Anxiety & Depression At The Diagnosis Time Was 37% & 28% Respectively & After 12 Months Follow-up Was 25% & 21.20% Respectively. There Was Significant Improvement (p=0.001) Found In Both Anxiety & Depression Level At 12 Months Follow-up [13]. Another Study By Tsaras K Et Al In 2018 Found Among 152 Breast Cancer Women; 38.2% Were Depressed & 32.2% Were Anxious [14]. In Our Study, At The Time Of Diagnosis; High Prevalence Of Anxiety & Depression Found Might Be Due To More Worried Thoughts Related To Disease Course, Therapeutic Side Effects & Poor Outcome. While, After 6 Months; Low Prevalence Of Anxiety & Depression Noticed In Same Group Might Be Due To Well Under-standing Of Disease Course, Its Treatment & Outcome When Patient Were Addressed Well About Disease.

In Our Study, Majority Of Patients Were In Age-group 41-60 Years (65%) Followed By 20-40years (21%). After First Intervention; Depression Was Maximum In >60 Years Age Group & Minimum In 20-40 Years Age Group (*p-value=0.042*), While At Other Certain Time Points Result Were Statistically Not Significant. Mohd. Rohaizat Hassan Et Al In 2015 Concluded Among 205 Patients; Younger Age Group (50% (11/22) Of 20-39years & 34.4% (44/128) 0f 40-59 Years) Was Predictor For Anxiety [12]. Dr Vivek Shrivastava Et Al In 2015 Concluded Among 200 Patients; Younger Age Group (20-60years) Were More Likely To Have Anxiety & Depression [13]. This Adverse Result Might Be Due To Preoccupied Thoughts Related To Other Systemic Illness & Poor Outcome Of Therapy In Old Age.

In Our Study, Majority (55%) Of Patients Belonged Rural Areas While 45% Patients From Urban Areas. At The Time Of Diagnosis; Depression (*p-value=0.046)* Was More In Women From Rural Areas Than From Urban Areas, While At Other Certain Time Points Result Were Statistically Not Significant. Study Conducted By Tsaras K Et Al (2017) Among 152 Patients Shown Being Rural Resident Can Be A Predictor For Both Anxiety & Depression In Breast Cancer Patient [14]. This Result Somehow Might Be Explained By Fear Of Poor Availability Of Health Resources In Rural Areas, More Time Consumption During Transport, High Travel & Other Expenses When Rural Women Come To City For Treatment.

In Our Study, Majority Of Women Were Low Educated (41%) Or Illiterate (39%). At The Time Of Diagnosis; Both Anxiety *(p-value= 0.024)* & Depression (*p-value=0.007*) Was Maximum In Women Educated Up To Middle School & Minimum In Women Educated Up To College. Also After 6 Months; Depression (*p-value=0.02*) Was Maximum In Women Educated Up To Middle School & Minimum In Women Educated Up To College. While At Other Certain Time Points Result Were Statistically Not Significant. This Result Supported By Mehenert A Et Al (2008) Among 1083 Women Shown Lower Education Level Was Predictor Of Psychological Comorbidity [5]. In A Other Study By Dr Vivek Shrivastava Et Al (2016) Among 200 Patients Shown Illiterate Or Low Educated Women Were More Likely To Have Anxiety (70.27%) & Depression (71.50%) That Was Statistically Significant (p=0.034) [13]. Another Study By Anish Khalil Et Al (2016) Among 300 Patients Shown Uneducated (59.4%) Were More Depressed [15]. Above Result Somehow Might Be Explained By The Facts That Patients With Higher Education Levels Have A Greater Opportunity To Be Awared About Their Disease & Related Aspects.

In Our Study, Majority (78%) Of Patients Were Married & 22% Were Single (widow/divorced/unmarried). During Course Of Treatment, Single Women Were More Depressed *(p-value=0.02)* As Compared To Married Women, While At Other Certain Time Points Results Were *Statistically Not Significant*. This Supported By Mohd Rohaizaat Hassan Et Al (2016) Among 205 Patients Concluded Being Single Were More Likely To Have Depression (47.4%; P=0.012) [12]. Another Study By Dr Vivek Srivastava Et Al (2016) Among 200 Patients Concluded Being Single Were More Likely To Have Anxiety & Depression (p=0.014) [13]. Study By Calys-tagoe Bnl Et Al (2017) Among 120 Patients Concluded Depression & Anxiety Were More Among Single Women (92.3% & 94.2%) Than Those Living With Their Partners (77.9% & 91.2% Respectively) [16]. This Result Might Be Due To Feel Of Low Self Esteem & Afraid Of Need Of Partner Or Friends To Take Care During Illness In Case Of Single Women.

In Our Study, Majority (90%) Of Women Were Unemployed & 10% Were Employed. Depression Was More In Unemployed Women During Course Of Treatment *(p-value=0.01)* & After 6 Months *(p-value=0.04),* While At Other Certain Time Points Result Were Statistically Not Significant. Study By Dr Vivek Shrivastava Et Al In 2015 Concluded Among 200 Patients; Those Earned Less Income (<2000 Per Month) & Having Less Financial Support (unemployed) Were More Likely To Have Anxiety & Depression (p=0.017) [13]. Above Results Somehow Might Be Explained By Low Income & Higher Treatment & Travel Expenses To The Hospital.

In Our Study, Majority (70%) Of Patients Were Getting Family Support (psycosocial/ Financial) & 30% Were Not Getting Family Support. At The Time Of Diagnosis; Depression *(p-value=0.04*) Was More Among Women Not Getting Family Support, While At Other Certain Time Points Results Were Statistically Not Significant. Result Supported By Study Caroline Burgess Et Al In 2005 Concluded Among 170 Patients; Poor Family Relationship & Lack Of Family Support Was Predictor For Depression & Anxiety [7]. Another Study By Lueboonthavatchai P In 2007 Concluded Among 300 Patients; Poor Family Relationship Was Strong Predictor Of Anxiety & Depression (p<0.01) [17]. Study By Mehnert A Et Al In 2008 Concluded Less Social Support Was A Predictor Of Psychological Morbidity (p<0.004) [5]. This Results Might Be Due To Worried Thoughts Related To Who Take Care Of Themselves & Thier Children During Illness & Hospital Stay.

In Our Study, 54% Of Women Were Having >2 Children While 46% Having <2 Children. At The Time Of Diagnosis; Depression *(p-value=0.028)* Was More In Women Having >2 Children, While At Other Certain Time Points Result Were Statistically Not Significant. A Study By Deshields T Et Al In 2006 Concluded Among 200 Patients; Women Having More Children Were More Likely To Be Depressed [5]. Result Somehow Might Be Explained By More Worried Thoughts Related To Take Care & Fortune Of Their Children During Illness.

In Our Study, 50% Women Were In Stage 2, 48% In Stage 3 & 2% In Stage 4 Of Breast Cancer. Women With Advance Stage Of Breast Cancer Were More Anxious *(p-value=0.002 & 0.01 Respectively After First Intervention & After 6 Months*) & Depressed *(p-value=0.004, 0.001 & 0.02 Respectively At The Time Of Diagnosis, After First Intervention & After 6 Months)* As Compared To Early Stage Diseased Patients. Study By Reich M Et Al In 2008 Concluded Breast Cancer Stage Is Statistically Not Significant For Psychological Distress [18]. Result Might Be Due To Fear Of Therapeutic Adverse Effects Of Long Duration & Poor Prognosis Of Advance Stage Cancer.

Studies Have Shown That Nact Had A Major Role In Development Of Psychological Distress In Some Of Patients. In Our Study, Women Who Planned/received Neoadjuvant Chemotherapy First Were More Anxious (*p-value =0.048 At*

The Time Of Diagnosis, P=0.001 After First Intervention & P= 0.04 After 6 Months Of Follow-up) & More Depressed (*p-value=0.00001 At The Time Of Diagnosis, P-value =0.0001 After First Intervention, P-value=0.04 During Course Of Treatment & P-value=0.007 After 6months Of Follow-up*) As Compared To Women Who Undwewent Surgery First. Study By Saniah Ar, Zainal Nz Et Al In 2010 Concluded Among 141 Patients; Breast Cancer Patients Undergoing Chemotherapy Experienced High Level Of Depressive & Anxiety Symptoms [19]. Another Study By Dr Chintamani Et Al In 2010 Concluded Among 84 Patients; Depression Was Higher In Non-responders (70.5%) Than Responders (22%) To Neoadjuvant Chemotherapy (p=0.05) & Those Who Received > 3 Cycles (51.5%) Than Who Received <3 Cycles (35.3%) Of Neoadjuvant Chemotherapy [20]. Most Patients Were Troubled By The Side Effects Of Nausea, Vomiting, Loose Motion, Alopecia, Skin Manifestatiions, Anemia, Weakness Etc. After The Chemo-therapy Cycles. Might Be Due To This We Noticed More Anxiety & Depression Among Patient Receiving Chemotherapy First.

CONCLUSION

In This Study, We Found Significant Level Of Anxiety & Depression Among Women With Breast Cancer. Both Anxiety & Depression Were More Among Low Educated Women, Having Advanced Stage Of Cancer & Who Planned For Neoadjuvant Chemotherapy First. However, Only Depression Was More Among Elderly, Rural Residents, Single, Unemployed Women, Who Having More Children & Who Not Getting Family Support. Cancer Is Known To Be A Fatal Disease Since Ages & It Has Both Physical & Psychologigal Impact. This Affects Treatment Outcome & Constraints The Patient From Follow-up Therapy. Better Level Of Education, Family Support & Psychological Counselling Of Patient By Health Counseller After Diagnosis & During Treatment Can Lower The Prevalence Of Anxiety & Depression. So We Recommend A Comprehensive Approach Towards Patient Of Breast Cancer Which Should Include Treating The Disease As Well As Recognizing & Managing The Psychological Component Throuhout The Course Of Disease To Decrease Attrition Rate & To Improve The Prognosis As Well. Lastly, This Study Shows That Prevalence Of Anxiety & Depression Among Breast Cancer Women Attending Our Hospital Is High & An Association Between Socioeconomic Status, Education Level, Cancer Stage & Type Of Therapy With Anxiety & Depression Seems Likely. However, A Questionnaire For Indian Set-up & Further Longitudinal Studies On Large Population Are Needed To Validate Significance Of These Preliminary Results.

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