

Case Report

## Role of Emotional Intelligence Training on Quality of Life and Functional Independence in women with Breast Cancer: A Case Report

Dr. Ammu E Alexander<sup>1</sup>, Dr. Sruthi Sivaraman<sup>2\*</sup>

### ABSTRACT

**Introduction:** The prevalence of Breast Cancer has risen in the recent times. The role it has on the Quality of Life and Functional Independence is astonishing. Several studies have emphasized the important role of emotions on these variables. The present study was a case study aimed at exploring if emotional Intelligence Training will have an influence on the Functional Independence and Quality of Life in women with Breast Cancer. **Primary Diagnosis:** The participant was 60 years old, diagnosed in the fourth stage with triple negative breast cancer. She underwent Ayurvedic intervention, chemotherapy and nursing care, but the results were poor. **Intervention:** Emotional Intelligence Scale, Functional Independence Measure and EORTC QOL BR23 were used for assessing the variables through the intervention. The self-developed Emotional Intelligence training tool was used for the intervention after its validation. Fifty-two sessions were given in three months as part of the intervention. **Outcomes:** The results show that there is a definite improvement in Emotional Intelligence, Functional Independence and Quality of Life in the participant. **Conclusion:** The results suggests that Emotional Intelligence Training can have an important and deciding role on Functional Independence and Quality of Life in women with Breast Cancer.

**Keywords:** *Functional Independence, Quality of Life, Emotional Intelligence*

World Health Organization (WHO) estimates an increased prevalence of cancer (21.6 million) by the year 2030 and bereavements due to cancer mounting from 8.8 million globally in 2015 to 12 million or more in 2030 (WHO, 2020). As earlier diagnoses and enhancement in cancer therapies increased the number of cancer survivors around the world. These figures describe the psychosocial effect of the disease, comprising emotional significances, supportive interventions, and quality of life of cancer patients and their family members. Cancer diseases needs complex and multidisciplinary treatment with psychosocial interventions connecting physical, emotional, spiritual and interpersonal traits associated with all aspects of life including time (past, present and

<sup>1</sup>Assistant Professor, Department of Psychology, Kristu Jayanti College, India

<sup>2</sup>Assistant Professor, Department of Psychology, Kristu Jayanti College, India

\*Corresponding Author

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future), space and existence, which are shattered by the diagnosis and treatment, recovery and long-survivorship, recurrence or transition to end of life care. Management of emotional distress and related psychosocial disorders is also inevitable among cancer patients.

Rehabilitation services are widely underused for cancer survivors (Huang, M. E., & Sliwa, J. A., 2011). Emotional intelligence is important for managing emotions. EI is a form of intelligence involving cognitive processing of emotional information and is defined as a set of cognitive abilities in emotional functioning. Ability models conceptualize intelligence that involves emotion (Goldenberg, I., Matheson, K., Mantler, J., 2006). Quality of life (QoL) is a meaningful achievement in day-to-day life (Anjum, A. & Swathi. P., 2017). Functional independence and quality of life does not correlate in all instances (Huang, M. E., Wartella, J. E., & Kreutzer, J. S., 2001). Primary improvement in quality of life and well-being will be the primary focus of any psychological intervention (Church, 2004).

The aim of the present study was to understand how a training program on improving emotional intelligence influences the Quality of Life and Functional Independence of a patient with breast cancer. It is a single case study of a sixty years old female who was diagnosed with fourth stage triple negative cancer. As emotions and emotional intelligence are found to be very important determinants in the success of treatment and its prognosis, the present study is an attempt to understand if emotional intelligence training could be useful addition to existing psycho oncological treatments delivered to patients with breast cancer.

### ***Patient Information***

One case diagnosed with triple negative Stage 4 Breast Cancer was chosen for the study. The participant was a 60 years old female who worked as an advocate in Kerala, India. Primary concerns of the patient included feeling weak and unproductive. Treatments like Chemotherapy, Ayurveda, Yoga, Pranic healing were not effective for the case and cancer kept worsening. Associated changes in the body such as hair-loss, skin abrasions and insensitivity to taste were especially concerning.

Medical history indicates that the patient underwent treatment for having kidney stones twice in the past. The details of which were not clearly recalled. Family history does not indicate the presence of a similar diagnosis in the family. She was the first-born daughter in a family of three daughters. Psycho-social history indicates that, though she lived alone, she had a very active social life. She functioned independently and was a successful advocate. She was the president of the resident's association that she was part of. She was also a loved and respected wife and mother of her family. She has one son who is employed and well situated.

### ***Clinical Findings***

Holistic assessment was done by a group of oncologists in Bengaluru. The Physical Examination revealed the manifestation of an ulceration on the underarm of the right hand, which limited her movement with the arm. The ulcer was progressive and significantly distressful. Care was requisite in Medical, Psychological, Dietary, Physiological and Nursing domains. Medical management was given through chemotherapy. Dietary regulations were continued to improve Haemoglobin and other blood components. Nursing Care was given by caregivers on the doctor's guidance. Psychological assessment showed a very weak emotional intelligence. Hence, she was found suitable to be a participant in this study to attend Emotional Intelligence Training.

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***Timeline***

<b>Date</b>	<b>Progress of Diagnosis</b>	<b>Centre/Hospital</b>
25/09/2020	Diagnosed with Metastatic Carcinoma right breast ER/PR/Her-2/Neu-Negative	Department of histopathology, PRS Hospital, Thiruvananthapuram, Kerala
30/09/2020	Confirmed with Carcinoma right breast	Regional Cancer Center, Thiruvananthapuram, Kerala
30/09/2020 to 31/03/2021	Attended Ayurvedic- medical treatment combined with pranic healing and online Yoga sessions	Ayurvedic- medical treatment- Cherian Ashram, Kerala Pranic healing- Unspecific source Online Yoga sessions- Private center
<b>01/04/2021</b>	Intervention was shifted to Bangalore. Intervention was delivered across the following domains: Medical - Chemotherapy;	Cytecare Hospital
	Dietary - Diet to improve several components of blood, especially hemoglobin;	
	Physiological - Exposure to UV light for pain reduction;	
	Nursing domains - Management of the wound and daily care as guided by the doctor	
	<b>Psychological - Emotional Intelligence training</b>	
<b>01/05/2021</b>	<b>Psychological - Emotional Intelligence training</b>	<b>As part of research. After second month of Intervention, mid assessment was done.</b>
<b>01/06/2021</b>	<b>Psychological - Emotional Intelligence training</b>	<b>As part of research. After last month of Intervention, post assessment was done.</b>
<b>30/06/2021</b>	<b>Termination of Emotional Intelligence Training.</b> Other therapies continued as scheduled.	

***Diagnostic Assessment***

The patient was diagnosed with Metastatic Carcinoma right breast ER/PR/Her-2/Neu-Negative, on 25/09/2020 by the Department of histopathology, PRS Hospital, Thiruvananthapuram, Kerala. The diagnosis was done through IHC carried out on FFPE sections. The diagnosis was further confirmed in the Regional Cancer Center, Thiruvananthapuram, Kerala on 30/09/2020 through PET-CT-FDG scan. The confirmation of the initial diagnosis was necessary as the patient was unable to accept the initial

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diagnosis. She refused chemotherapy and all allopathic treatment after diagnosis and persistently denied her diagnosis. The prognosis was predicted to be poor in such circumstances.

The present study focused on the psychological domain of the participant. An ABABA single case Research Design was used for the study. Firstly, positive consent was sought from the participant and her caregivers. They were informed that it is part of the present research and explained the assurance of the ethical guidelines that will be followed. After receiving positive consent, the Emotional Intelligence Scale was administered. It was developed by Hyde, Pethe and Dhar (2005). The split half reliability of this tool is 0.88. The tool also has a high face and content validity. It has 34 items and eight sub domains. Assessment revealed a very low score on the Emotional Intelligence Scale. After which the Functional Independence Scale and Quality of Life scale were administered.

Functional Independence Measure (FIM) was developed by the American Congress of Rehabilitation Medicine and the American Academy of Physical Medicine and Rehabilitation headed by Carl Granger and Byron Hamilton (1983). It has a total of 18 items within six domains. The Inter-Rater Reliability ranges from 0.86 to 0.88. The concurrent and construct validity are also found to be high.

EORTC-QOL-BR23 was developed by EORTC Quality of Life group (1994). It has 53 items within eight domains. It assesses Quality of Life of individuals with Breast Cancer. The tool was used with written permission from EORTC.

### ***Therapeutic Intervention***

The Intervention lasted for three months. A total of 52 sessions were given. For First two months a session was taken every-day, excluding sundays. Forty-Eight sessions were completed in this manner. In the third month intervention was given once in a week. Four sessions were completed in this manner. Each session was two hours in duration. Activities in the Intervention were either administered directly by the therapist or by the caregiver who acted as co-therapist under the guidance of the therapist. The case was assessed using EIS, EORTC-QOL-BR23 and FIM before intervention, during the intervention, after the intervention. The details of the intervention is given in Table 1.

***Table 1 The Emotional Intelligence Training tool utilized for the present study***

Domains	Sub-domains	Goal	Activities	Administered by
Self-Awareness	Body Image	To develop and accept a realistic picture of one's body image	View self in front of mirror wearing new dresses that suit better	Caregiver acting as co-therapist on guidance
			Self-evaluation with different outfits	Therapist/Researcher
			Comparison with others in similar conditions	Therapist/Researcher
			Psycho-education	Therapist/Researcher
	Pain	To accept the level pain experienced	Rate pain on a scale from 1 to 10	Therapist/Researcher
Compare with previous days ratings			Caregiver acting as co-therapist on guidance	

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<b>and Integrity</b>			Differences in rating in different times of the day.	Therapist/Researcher
	Fatigue	To accept the level fatigue experienced	Rate fatigue on a scale from 1 to 10	Caregiver acting as co-therapist on guidance
			Compare with previous day's ratings.	Therapist/Researcher
			Differences in rating in different times of the day.	Caregiver acting as co-therapist on guidance
	Realistic picture of skills possessed	To be aware about the presence and level of skills. The skills would include fine motor, gross motor, language, cognitive and bowel control	Fine motor- Beading, Sorting, clay play, sand play, beads through hollow rods	Therapist/Researcher
			Gross motor-Throwing ball, Walking	Caregiver acting as co-therapist on guidance
Language- Volume- speaking in higher volume with guidance Regulation- music lung capacity- blowing candles from distance			Therapist/Researcher	
Cognitive- Memory-immediate recall of said numbers Recall of breakfast in the morning or lunch Recall of food eaten previous days. Attention- Sorting based on colour Beading based on number on command			Therapist/Researcher	
Bowel control- simple kegel exercises			Therapist/Researcher	
<b>Self Motivation and Commitment</b>	Intrinsic	To emphasize factors that would provide intrinsically motivate for improving self.	Factors found through interview are delivered in a systematic and practical manner Play with grandson Cook food	Therapist/Researcher
	Extrinsic	To identify factors that act as extrinsic motivation and extrinsically motivate for improving self	Factors found through interview are delivered in a systematic and practical manner Sweet foods Rare delicacies	Therapist/Researcher
<b>Managing relations</b>	Greeting	To remind and improvise greeting	Facilitate imitation of greeting gesture demonstrated	Therapist/Researcher

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		others		
	Facial expression	To help in developing a pleasant facial expression when meeting others	Use mirror to show present facial expression and discuss how it can be improved	Caregiver acting as co-therapist on guidance
	Reciprocal conversation	To develop interest in initiating and responding to a conversation	Provide differential reinforcement for appropriate reciprocal conversations	Therapist/Researcher
<b>Altruistic Behaviour</b>	Contributing help within limits of skills	To facilitate the realization of how they can help others and facilitate helping of others	Give simple chores that can be helpful to others Cutting banana Making tea Making omelette Folding a few clothes	Caregiver acting as co-therapist on guidance
	Meet others	To develop interest in meeting others	Find close friends/relatives nearby Meet them in reality or by videos on a weekly basis	Therapist/Researcher
<b>Empathy and Value Orientation</b>	Cognitive	To facilitate gauging into what another person is feeling	After meeting with friend/relative talk about what they were feeling. Match with what might have caused that feeling in the person.	
	Emotional	To facilitate feeling what another person is feeling	After meeting with friend/relative talk about what the case felt in response to the feelings of the friend/ relative.	Therapist/Researcher
<b>Emotional Stability</b>	Fear	To manage fear of progression of disease and death	Daily Diary writing about the fears in mind Using belief system to activate thoughts imparting courage Psycho-education Writing motivational quotes on facing fears on black board in the room of the case by the case.	
	sadness	To manage sadness of bereavement from loved ones	Allow disclosure of sadness causing factors Realistic picture on the lives of loved ones in case of her demise Methods for distraction and engagement in other activities that are within the skillset of the case Watch funny videos Listen to songs	Therapist/Researcher

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			Discussing about politics	
	anger	To manage anger due to frustrations caused due to the disease	Daily Diary writing about the anger in mind Teach slow breathing Reminding the usable skills present and its functionality	
	disgust	To manage disgust caused by the secretions and discharges from body	A distraction in the environment that helps in shifting attention Realistic evaluation of progress in treatments and expected outcomes	Therapist/Researcher
	guilt	To manage guilt in relation to incidents in life before disease.	Daily Diary writing about the guilt in mind Evaluating available opportunities to make amends and deciding on its necessity.	

***Data Analysis***

Percentage analysis was done to understand the differences in emotional intelligence, functional independence, quality of life, through the intervention. Domain-wise analysis was also done to understand the influence of the intervention on each domain of Emotional Intelligence, Functional Independence and Quality of Life.

***Follow up and Outcomes***

The present study indicates that Emotional Intelligence training has a very important role in improving the Functional Independence and Quality of Life in women with Breast Cancer.

***Improvement in Emotional Intelligence***

Figure 1 shows the progressive improvement in Emotional Intelligence through the intervention. The figure demonstrates that the Emotional Intelligence was noticeably improved post intervention.

The Figure 2 shows the improvements in each domain of Emotional Intelligence through the intervention. It is clearly evident that every domain of Emotional Intelligence has been improved.

***Improvement in Functional Independence***

The following figure shows that Functional independence has improved systematically with the progression of the intervention. Figure 3 shows the progressive improvements in functional independence through the intervention.

The improvements across different domains of functional independence were also explored in this study. Figure 4 illustrates the domain-wise analyses of functional independence across the intervention. Systematic improvements are evident for self-care, sphincter control and mobility. Communication and Psychosocial domains did not show an improvement after mid-assessment. The cognition domain was strong from the pre-assessment, which has remained the same, through the intervention.

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### *Improvement in Quality of Life*

Improvements were also observed in the Quality of Life of the participant. The factors affecting the Quality of Life reduced progressively through the intervention. Figure 5 demonstrates the progressive improvements in Quality of Life through the intervention.

The domain-wise analysis was also done to identify relative differences in improvements in each domain of QOL. Figure 6 shows domain-wise analyses of the factors affecting Quality of Life of the participant. The analyses shows that the domains, systemic therapy side effects, distress due to hair loss, body image and future perspectives have shown a systematic pattern of decrease through the intervention. Sexual functioning was poor at pre assessment, which showed a slight improvement. Sexual enjoyment was not reported through the intervention. Arm symptoms and Breast symptoms remained the same throughout the intervention. These were reported to be areas of much distress through the intervention.

## **DISCUSSION**

Emotional intelligence is a capacity which affects an individual's abilities in prompting them to be self-motivated to control or adjust their associations with others (Goleman, 1998). Emotional intelligence helps people to discern negative and positive emotions of others to guide their own thoughts and activities to explain their individual problems (Sobhaninejad, M. and Yoozbashi, A. , 2008). Gender, marital status and age did not show any effect on QoL (Esmaeili, R., Navaei, R. A., Godarzian, A.H., & Yousefi, M., 2015).

The present study indicates that after emotional intelligence training there is a definite improvement in Quality of Life. Previous studies have proved this relation (Hashim, S. H & Khalil, M. S., 2018; Augusto Landa JM, López-Zafra E, Martínez de Antoñana R, & Pulido M., 2006). An improvement is seen across all the domains of Quality of Life. This is a useful finding as this gives us a direction towards improving Quality of Life of women with breast cancer.

The results also show that the Functional Independence has improved. Self-care, sphincter control, mobility and communication domains are sufficiently improved in its functioning. Previous studies show that often functional limitations exist in patients with cancer due to emotional distress (Carolyn J Presley, 2020). Therefore, an improvement in all domains of emotional intelligence must and has influenced an improvement in functional independence. This is also in line with previous studies (Glenn V Ostir, 2000).

This highlights how important it is to include emotional intelligence as an essential part in treatment for women with breast cancer. Alongwith physical improvement due to medication and existent treatment methodologies, huge strides of improvement in psychological functioning may be facilitated through Emotional Intelligence Training for these individuals with breast cancer.

### *Patient Perspective*

The patient perceived the treatment to be effective. She was thankful that it facilitated a noticeable amount of care from the immediate family members/caregivers. She reports that it gave a sense of productivity and efficacy to her.



## CONCLUSION

The present study aimed at exploring the role of Emotional Intelligence Training on Functional Independence and Quality of Life in women with Breast Cancer. One participant, who was 60 years old, diagnosed with fourth stage triple negative breast cancer was selected to be part of the study after the positive consent from her and her caregivers. The researcher developed Emotional Intelligence Training tool was used for the intervention. The intervention was found to be instrumental in inducing noticeable differences in Functional Independence and Quality of Life in the participant. The study probes towards the intriguing and potential role of emotional intelligence in individuals with Breast Cancer.

### *Implications of the study*

The study implies that Psycho-oncological interventions must consider Emotional Intelligence training for women with breast cancer. Intensive sessions must be continued for maximum beneficence of the patients.

### *Limitations of the study*

The study was a single case study. Therapy effectiveness on the progression of cancer was not explored. The study lacked a control group. The sample size limited the analyses to percentage analyses.

### *Directions for Future Research*

The research may be replicated with a wider sample and the effectiveness of the intervention can be compared across different age ranges, gender, socio-economic status and ethnicity. The effect of emotional intelligence training may be researched on patients with other types of cancer.

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### ***Conflict of Interest***

The author declared no conflict of interest.

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