Original Article

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Quick Response Code:

Website:
www.jehp.net

DOI:
10.4103/jehp.jehp_1471_23

Effect of nurse-Led psychosocial intervention on body image distress and treatment compliance among patients undergoing treatment of cancer: A randomized controlled trial

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Abstract:

BACKGROUND: Dissatisfaction with one's physique is the most common issue among cancer patients, and it is correlated with stress, anxiety, and hopelessness. The current study aimed to assess how the Nurse-Led short psychosocial intervention affected cancer patients' body image distress and treatment compliance.

MATERIALS AND METHODS: 67 patients above 18 years of age and undergoing cancer treatment were enrolled in the study through complete enumeration sampling. The individuals were divided into experimental and control groups using simple randomization. A nurse-led brief psychosocial intervention program was implemented for 15 days for the experimental group while the control group was on standard treatment. The intervention's effects were measured on the 15th day using a structured body image distress scale and self-structured treatment compliance scale. The consolidated norms of reporting trials (CONSORT) statement was used to perform the study. Utilizing SPSS, descriptive and inferential statistics were performed to analyze the data.

RESULTS: Post-intervention on the 15th day of the program revealed a reduction in Body image distress (Mean, SD and *P* value; 2.73, 1.72 (experimental), 4.90 ± 2.23 (control) and <0.001). The program also resulted in improved treatment compliance (Mean, SD and *P* value; 3.66, 2.23 and (experimental) and 5.83, 1.62; and <0.001).

CONCLUSION: According to the study's findings, nurses are essential to the care of cancer patients. Nurse-led intervention can be an effective strategy to address these psychological issues and concerns.

Keywords:

Body image, cancer, nurse-led, patient compliance, psychosocial intervention

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Received: 13-09-2023
Accepted: 08-12-2023
Published: 29-07-2024

Introduction

India comes in third place among all countries. According to data from 2022, more than 13 lakh people in India receive cancer diagnoses each year. Cancer incidence is anticipated to rise by 12% in India.[1] Anxiety and depression are frequently present in cancer patients. Approximately 16 to 25% of cancer patients who receive a new diagnosis report feeling depressed or melancholy. Cancer patients receiving chemotherapy are estimated to feel exhausted in 78 percent of instances, have nausea and vomiting in between 70 and 80 percent of cases, and have advanced cancer or radiotherapy and chemotherapy.[1]

Dissatisfaction with one's physique is the most common issue among cancer patients,

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How to cite this article: Ranaut R, Pareek B, Samuel S. Effect of nurse-Led psychosocial intervention on body image distress and treatment compliance among patients undergoing treatment of cancer: A randomized controlled trial. J Edu Health Promot 2024;13:248.

and it is correlated with stress, anxiety, and hopelessness. Body image distress is commonly disregarded in clinical therapy while impacting various cancer patients and being acknowledged as a significant psychosocial problem.[2] Additionally, adherence to therapy is a big issue for cancer patients for several reasons, such as monetary constraints, a lack of family support, and treatment-related anxiety. Data from the cancer registry at the Sangrur Hospital for 2018 show that out of 2,528 patients, 1,362 received cancer therapy and 1,166 did not.[3]

Treatment compliance refers to how closely a patient complies with expert medical advice by attending follow-up appointments and sticking to prescribed medication regimens.[4] The extent to which a patient disobeys a treating physician's clinical advice or, to put it another way, fails to adhere to the recommended treatment plan is known as non-compliance or non-adherence to treatment.[5]

Psychosocial therapies help and guide the individual back into a healthy state. The fundamental advantage of psychosocial intervention is that it can change a person's behavior without using medicines, leading to a more robust social bond.[6] For cancer patients at all stages of the disease, psychosocial treatment is advantageous regarding quality of life and other results linked to psychological health.[7]

Psychosocial intervention may enhance long-term results and living quality while aiding in managing cancer-related illnesses and symptoms. Patients who receive educational treatments learn about cancer, develop coping skills, and have access to resources that can help them, which helps to minimize the frequently experienced feelings of inadequacy, bewilderment, helplessness, and loss of control. Healthcare professionals or patients may lead group interventions.[6]

Although nurse-led consultation has not yet been fully implemented, it may be examined further with the help of more significant populations, a more thorough process evaluation of the implementation, and an assessment of the intervention's long-term effects.[8] Cancer patients appreciated a nurse-led aftercare intervention that helped them recover from treatment. Despite meeting the need for recovery support following treatment, the intervention did not impact patients' HRQoL or ability to manage their affairs.[9]

Radiotherapy nurse specialists contribute to supportive care for head and neck cancer patients. Patients valued their relationship with the nurse specialist and sought longer, more frequent consultations and referrals to the multidisciplinary team more frequently. The nurse specialist handled 83% of consultations without consulting a consultant.[10]

The effectiveness of educational nursing interventions varied in terms of QoL, attitudes, anxiety, and distress but was positive in terms of level of knowledge, severity of symptoms, sleep, and uncertainty. Psychosocial nursing interventions improved spiritual well-being, life meaning, fatigue, and sleep.[11] When compared to standard care, a single session of nurse-led intervention is insufficient to improve the quality of life for cancer survivors.[12]

Nurse-led follow-up for cancer patients is beneficial, especially regarding health-related quality of life. Even among patients who performed worse at the start of the follow-up, nurse-led follow-up results in a similar psychosocial adjustment to conventional follow-up. Nurse-led follow-up may be a viable and affordable option to enhance follow-up care for this patient group.[13]

Materials and Methods

Study setup and design

A randomized controlled experiment with two groups (post-test-only control group design) was conducted among patients undergoing cancer treatment at Indus Hospital, Mohali, India.

Participants in the study and sampling

The present study's target participants comprised patients undergoing cancer treatment at the selected hospital in Mohali, India. (n = 67). Subjects, including males and females willing to participate, were chosen using complete enumeration sampling. Incomplete questionnaire was taken into consideration as an exclusion. The sample size was determined using precision rate (0.8), α (0.05), confidence level, i.e., at 95% (Z =1.96), and standard deviation of 2.8 (roughly estimated based on pilot study). A minimum sample of 56 (26 in each group) was needed. Considering the variables and attrition, the minimum sample size was 67 (34 in the experimental and 33 in the control group).

Data gathering instruments and techniques

Self-reported methods were used to collect the data using three questionnaires.

Tool 1:- Socio-demographic profile sheet

Firstly, there was a socio-demographic section profile sheet to collect the study participants' personal and disease characteristics. It contains information like age, gender, marital status, level of education attainment, employment status, health status, age when diagnosed with cancer, cancer type, cancer stage, duration after diagnosis, and treatment outcomes so far. Content

validity was established with the help of the eight experts from the field of psychiatric nursing, and all the items in the tool were found to be valid.

Tool 2:- Body image distress scale

The second tool was the body image distress scale to gauge patients' anguish towards their bodies. Total ten items with dichotomous responses where score '1' was given to 'YES' and '0' for NO. There was no reverse item score. The scale's possible scores are '0 to 10'. A higher rating means high body image distress. The scale was reliability (Cronbach alpha; $P = 0.79$) and validity (Content validity Index-S, 0.94).

Tool 3:- Treatment compliance scale

The third tool included a self-structured treatment compliance scale to measure the treatment compliance among the study subjects. Total ten items with dichotomous responses where score '1' was given to 'YES' and '0' for NO. There was no reverse item score. The scale's possible scores are '0 to 10'. A higher rating indicates higher non-compliance. Scale reliability and validity were determined where the scale was found to be reliable (Cronbach alpha; $P = 0.88$) and accurate (Content validity Index-S, 0.83)

Nurse-led brief psychosocial intervention program

A nurse-led Brief psychosocial intervention program was developed and administered to the patients in the experimental group. It was a 15-day self-instructed and supported program in the form of a workbook where participants were instructed to perform various activities independently. If any participant is illiterate and unable to read the workbook, this program can be implemented with the help of a family or caregiver. Participants are expected to follow various components of the module regularly. Multiple module activities can be performed individually or with the caregiver's help. The program includes eight details, i.e., Self-appraisal of physical appearance, Recognizing Body concerns, understanding illness, Positive affirmations matrix, Maintaining gratitude journal, Reading testimony of recovered patients, Assessment and screening of noncompliance, and management of non-compliance. Each participant was provided with the workbook, and user norms were explained during their hospital visits. The researcher maintained their follow-up records. All the participants were encouraged telephonically to carry out all the activities mentioned in the workbook. All the workbooks were collected from the participants after 15 days during their subsequent hospital visit. A post-test was conducted on the 15th day. Eventually, the respondents gave feedback on the workbook activity, and the research concluded. The consolidated norms of reporting trials (CONSORT) statement was used to perform the study [Figure 1].

Data analysis

The statistical analysis software SPSS Version 26 was used to analyze the data. Data were checked for outliers, wild codes, irregularities, and missing values. The final analysis was performed on 60 subjects, as

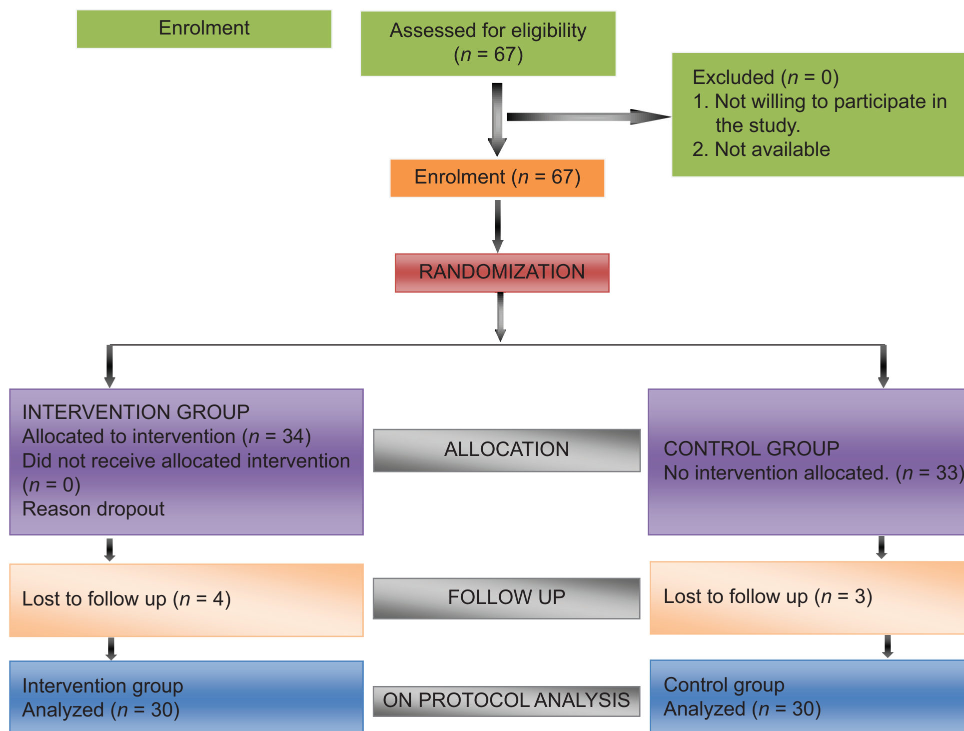

Figure 1: Consort diagram

07 subjects (04 in the experimental group and 03 in the control group) were lost during the follow-up period. (The rate of responses was 89.55). The data was analyzed by descriptive Standard deviation (mean and median), and an inferential statistics *t*-test was used to determine the effectiveness of the nurse-led psychosocial intervention. Two-sided significance tests were used throughout, and the degree of relevance was <0.05.

Ethical consideration

The research received institutional approval from the Ethics Committee (IEC) of the SPHE College of Nursing. They were dated April 2022 with registration No IEC/SPHE/0012/2022). Implied consent was obtained from the subjects, and anonymity and confidentiality of data were ensured.

Results

Sample characteristics

Socio-demographic characteristics of subjects in the test and control groups where both the groups were found to be homogenous about age (*P* = .26, gender (*P* = .60), spouse's identity (*P* = .44), state of employment (*P* = .78), overall health status (*P* = .117), cancer type (*P* = .35), and treatment (*P* = .51), age (*P* = .268), period when diagnosed with cancer (*P* = .176) [Table 1].

Table 1: Sample characteristics of study subjects (*n*=60)

Variable	Experimental group (*n*=30)	Control group (*n*=30)	Chi-square/ Fisher's exact test	Degree of freedom	*P*
Age	Mean: SD; 54.66±9.48	Mean: SD; 52.80±11.36	1.25 (*f*)		0.26^{NS}
Gender					
Male	18	16	0.27	1	0.60^{NS}
Female	12	14			
Marital status					
Married	18	23	0.500	3	0.44^{NS}
Single	03	01	(Fisher's exact		
Divorced	03	01	value)		
Widow	06	05			
Employment status			0.500		
Employed	11	10	(Fisher's exact	1	0.78^{NS}
Unemployed	19	21	value)		
Education					
No education	01	01	0.500	5	0.003^{sig}
Primary	03	12	(Fisher's exact		
Secondary	10	15	value)		
Sn. Secondary	11	02			
Bachelor	03	00			
Above bachelor	02	00			
Overall health status					
Excellent	01	00	0.050	2	0.117^{NS}
Good	03	00			
Fair-poor	26	30			
Cancer type					
Mouth	05	02	7.74	7	0.356^{NS}
Kidney	03	02	(Fisher's exact		
Liver	03	00	value)		
Breast	08	09			
Rectum	01	03			
Cervical	02	04			
Uterine	07	10			
Lung	01	00			
Treatment					
Chemotherapy	23	21	3.24	4	0.518^{NS}
Radiation therapy	02	01	(Fisher's exact		
Chemotherapy and radiation	04	07	value)		
Chemotherapy and hormonal therapy	01	00			
Surgery	00	01			
Age	54.66±9.48	52.80±11.36	1.25 (f value)		0.26^{NS}

Effectiveness of intervention

Post-intervention on the 15th day of the program revealed a reduction in Body image distress (Mean, SD and *P* value; 2.73, 1.72 (experimental), 4.90 ± 2.23 (control) and <0.001). The program also resulted in improved treatment compliance (Mean, SD and *P* value; 3.66, 1.80 (experimental) and 5.83, 1.62; and <0.001) For the control group, which is found to be statistically significant. Hence, we conclude that nurse-led brief psychosocial intervention effectively reduced body image distress and enhanced treatment compliance among subjects in the experimental group [Table 2].

Discussion

The purpose of the current study was to evaluate nurse-led brief psychosocial intervention on body image distress and treatment compliance among patients undergoing cancer treatment.

Cancer nurses are focused on assisting patients in coping with frequent symptoms associated with cancer, whether caused by the disease or its treatment.[14] Patients with cancer expressed significant body image disturbance due to the modifications in their physical appearance. People who had surgery who were female early on experienced more body image anxiety. The options for improving facial appearance to overcome the negative influence of body image include routine follow-ups, recommending aesthetic surgery, and nurse-led psychosocial nursing interventions.[15] After therapy, cancer patients may develop depressed symptoms.[16] In up to 75% of cases, a cancer diagnosis can cause substantial psychological suffering. There is a lack of consensus on the most effective approaches to addressing this psychological suffering.[17]

Cancer can cause severe mental distress, affect how it is treated, and interfere with routine daily activities. The efficacy of the interventions created to address the emotional pain experienced by cancer patients is not fully understood.[7]

The study showed that the Nurse Led brief psychosocial intervention program effectively improved body image concerns and treatment compliance. Short Nurse LED psychosocial intervention effectively improves body image and reduces depression, anxiety, and distress. Such interventions are improving quality of life (Mahendran R, 2015).[18] Nurse-delivered therapies that include information and supportive attention may improve mood in a general sample of newly diagnosed cancer patients.[17]

Nurse Led interventions help enhance cancer patients' mental health (Lingens S P,2023),[19] psychosocial interventions are effective in reducing distress and promoting quality of life (Teo I,2019)[20] (Nitika Rani R,2022).[15] Compared to the control group, the intervention group had fewer depression symptoms.

Psychosocial interventions effectively reduced body image distress and enhanced treatment compliance on the 15th-day post-test. Such interventions are effective even for a long duration (Israel Gabrief, 2020).[21]

The research adds to the growing evidence supporting that cancer survivors face problems like body image distress and treatment compliance. Around 38.7% of the subjects are self-conscious about their appearance, 29.9% feel less attractive, and 52.4% feel distressed to see themselves in the mirror. Body image distress in terms of prevalence ranges from 13-20%, and the need for psychosocial interventions is identified for patients undergoing cancer treatment. (H C Mellisant, 2020).[22]

Diagnosis and treatment of cancer significantly impact a patient's body image, leading to distress and challenges in treatment compliance. Body image and treatment noncompliance are critical psychosocial issues for patients with cancer because of the disease's profound effects (MJ Esplen).[23]

Nurse Led Brief Psychosocial Intervention program was made using effective methods to develop valid and reliable booklets with components like self-appraisal of physical appearance, addressing body concerns, understanding illness, positive affirmations, gratitude journal, testimony of recovered patients, and assessment and screening of noncompliance. Psychosocial intervention Components such as Education (including teaching about the medical system), counseling (including support), and environmental change (advocacy for healthcare professionals and referrals for extra services) are effective

Table 2: Post-test scores of body image distress and treatment compliance in the experimental and control group (*n*=60)

Variables	Groups	Mean plus	Standard error	95% confidence interval		*t* (pdf)	*P*
				Lower	Upper		
Body image distress	Experimental	2.73 plus 73 plus 3±1.72	0.31	3.19	1.13	4.20	<0.001
	Control	4.90 plus 4.90 plus 4.90±2.23	0.40				
Treatment compliance	Experimental	3.66±1.80	0.32				
	Control	5.83±1.62	0.29	3.05	1.27	4.89	<0.001

in dealing with patients undergoing treatment for cancer. (Barbara L. Andersen).[24]

Treatment compliance is another factor studied. Ensuring treatment compliance among cancer patients is crucial for achieving positive outcomes. However, compliance remains a significant challenge in cancer care, leading to compromised patient prognosis. The study showed vital treatment noncompliance. Every year in the US, some 125,000 people with curable illnesses die due to improper medicine.[25] Data from the cancer registry at the Sangrur Hospital for 2018 show that out of 2,528 patients, 1,362 received cancer therapy and 1,166 did not.[3]

Limitations and recommendations

First, a one-time measure of study construct was done in this study. This may affect the accuracy of the results, even though the 15-day duration of post-intervention was ensured to observe accurate measurements in terms of body image distress and treatment compliance. Second, the investigators developed a Self-structured brief psychosocial intervention, which might have impaired rigorousness, even though effective methods were used to create a valid and reliable Nurse-Led brief psychosocial intervention. The third study was conducted in a single setting, which may restrict its generalizability, even though a robust research design was used to ensure high internal and external validity. Fourth, the long-term effect was not measured, even though 15 days duration showed its effectiveness regarding body image distress and treatment compliance. Fifth, only a post-test design was used. Hence, the initial homogeneity of the subjects in the experimental and control groups was not determined, which may have distorted the result, even though randomization was used to ensure group equivalency.

According to the current research findings**,** the following suggestions are presented for future research. Patients with chronic illness should be examined for contributing factors to their deteriorating health, and intervention should be planned accordingly. Furthermore, a Study can be conducted through a long-term time series research design to see the impact of Nurse-Led brief psychosocial intervention on body image distress and treatment compliance among patients undergoing cancer treatment.

Conclusion

Nursing is an integral part of the health care system, focusing on promoting health and preventing illness. Nursing professionals need to realize the importance of Nurse-Led interventions. The nurse-led brief psychosocial intervention was effective regarding body image distress and treatment compliance among cancer patients. Clinical nurses can utilize Nurse-Led psychosocial intervention among patients diagnosed with cancer to reduce body image distress and enhance treatment compliance. Hence, we conclude that such Nurse-Led brief psychosocial intervention needs to be included along with their medical treatment to improve their psychosocial well-being and minimize the distress associated with the chronic illness.

Acknowledgement

Study participants

We acknowledge all the study participants and the management of the hospitals. Without them, this study would not be possible. We also thank all those who helped us directly or indirectly in completing this study.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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