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The Impact of Psychosocial Interventions on Mental Health and Quality of Life in Cancer Survivors

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Abstract

Background: After treatment, cancer survivors often experience ongoing psychological anguish and a reduction in their quality of life. This research assesses how psychosocial therapies affect this population's mental health and quality of life (QoL).

Methods: There was a 164 cancer survivor randomized controlled trial. Two groups were formed out of them: the psychological intervention group (n = 82) and the control group (n = 82). Over the course of twelve weeks, the approach included scheduled treatment and assistance times. Your progress was measured at the beginning, after 12 weeks, three months, and six months using the "EORTC Quality of Life Questionnaire (QLQ-C30) and the Hospital Anxiety and Depression Scale (HADS)". Examining changes in QoL, anxiety, and depression using the outcomes helped one understand them.

Results: The intervention group showed a significant reduction in both anxiety and depression compared to the control group. After 12 weeks, the anxiety and depression scores decreased to 7.4 ($p < 0.001$) and 10.5 ($p < 0.001$), respectively. Notable gains were also seen in quality of life, with global QoL ratings increasing from 62.1 to 75.4 ($p < 0.001$). Notable improvements in social and emotional functioning as well as decreases in tiredness were seen. Over the course of the follow-up period, these benefits persisted.

Conclusion: Psychosocial therapies help cancer survivors' mental health and QoL. Integration of these therapies into routine cancer therapy is important because of the notable and long-lasting advantages in lowering anxiety, despair, and tiredness and improving overall QoL.

Keywords: MeSH, Cancer Survivors, Psychosocial Interventions, Mental Health, Quality of Life, Anxiety, Depression, Randomized Controlled Trial

Introduction

Cancer is a difficult and drastically different diagnosis that has a profound effect on a person's psychological and emotional health in addition to their physical health. A rising number of people who have survived cancer are becoming known as cancer survivors, and many of them struggle with issues pertaining to their mental health and general QoL [1]. This is because medical science developments are increasing the survival rates for different forms of cancer. These difficulties often linger long after therapy is over and take the form of social isolation, anxiety, sadness, and recurrence dread [2]. These psychological problems may have a significant impact on survivors' daily functioning, long-term health outcomes, and general feeling of well-being. The awareness of these difficulties has caused the emphasis of cancer care to change, moving from the exclusive goal of curing the illness to also enhancing the QoL for those who survive it [3], 4. This paradigm change has made it clear how important it is to address the social and psychological aspects of cancer survival, which has prompted the creation and use of psychosocial therapies. The goal of these interventions is to assist survivors in coping with the emotional and social difficulties that come with their diagnosis and course of treatment. They include a variety of therapeutic modalities such as "cognitive-behavioral therapy, mindfulness-based stress reduction, psychoeducation, support groups, and social skills training" [5-7].

Psychosocial therapies are essential for improving cancer survivors' coping strategies, supporting them as they work through the emotional fallout from their experience,

and assisting with their reintegration into society at large [8]. These therapies seek to lessen the psychological suffering connected to cancer survival, elevate social support systems, elevate mood, and encourage a more optimistic view on life. Also, these medicines are sometimes changed to fit the needs of different groups of survivors by looking at things like age, type of cancer, stage of the disease, and other health problems that the person has at the same time [9]. There is more and more proof that psychological therapy can help people with cancer, but more study is still needed to find the best ways to improve their mental health and QoL. It is difficult to pinpoint strategies that work for everyone because of the diversity of psychosocial therapies and the variability of the survivor group. This calls for thorough study to determine which therapies, and in what situations, are most helpful for certain subgroups of cancer survivors [10, 11].

The objective of this research is to address this lack of information by meticulously examining the impact of several psychological interventions on the mental well-being and overall QoL of individuals diagnosed with cancer. This research aims to provide significant new insights into the most effective strategies for addressing the psychological needs of this expanding demographic. It examines several therapies used with a diverse sample of survivors. Ultimately, this research will contribute to the development of individualized and efficient treatment strategies. This intervention would not only extend the lifespan of cancer patients but also enhance their post-treatment QoL and overall well-being.

Materials and methodology

Study Design and Setting

In order to evaluate the effects of psychosocial therapies on cancer survivors' mental health and QoL, this study used a quantitative research design. The research was carried out between January 2023 and July 2024, a total of eighteen months. Participants were gathered for the study at the Ayub Teaching Hospital Complex via outpatient cancer clinics.

Sample Size and Participants

The research included 164 cancer survivors in total. Participants had to meet certain inclusion requirements, such as being adults (18 years of age or older) and having finished their main cancer treatment (chemotherapy, radiation, or surgery) at least six months before enrolling. They also have to be able to provide informed permission and show no signs of an active illness. People with serious mental illnesses, cognitive deficits, or other long-term ailments that would skew the study's results were excluded.

Randomization and Intervention

Individuals were randomly allocated to the intervention group, which got psychological therapies, or the control group, which received normal therapy without psychosocial aid. “Cognitive-behavioral therapy, mindfulness-based stress reduction, and support groups were psychosocial therapies”. Post-intervention evaluations were done three and six months after the 12-week sessions.

Outcome Measures

Changes in mental health were assessed using the HADS; changes in QoL were examined using EORTC QLQ-C30. Prior to the intervention, baseline measures were obtained, and then follow-up measurements were collected three and six months later. Repetitive-measures ANOVA was used to assess the efficacy of the therapies over time.

Sample Size Calculation

With an alpha level of 0.05 and a power of 0.80, a power analysis was used to determine the sample size of 164 in order to detect a modest effect size. The computation took into consideration the possibility of attrition, guaranteeing that the research would retain enough statistical power even in the event of a dropout rate of up to 20%. Strong inferences could be made from the data since this sample size was judged sufficient to identify significant changes in mental health and QoL outcomes between the intervention and control groups.

Ethical Considerations

The Ayub Teaching Hospital Complex's Institutional Review Board (IRB) granted the research ethical clearance. Prior to their inclusion in the trial, every participant gave written informed permission, attesting to their complete understanding of the goals, protocols, and possible dangers of the study. The rights, security, and general welfare of the participants were safeguarded throughout the whole research procedure since the study was carried out in compliance with the Declaration of Helsinki. Participants may leave the research at any moment without affecting their continued treatment, and they were guaranteed the privacy of their data.

Results

The study comprised 164 cancer survivors, with 82 randomly assigned to the intervention group and 82 to the control group. Participants had a mean age of 58.3 years (SD = 10.4) and 34% had breast cancer, 22% colorectal cancer, 18% lung cancer, and 26% other cancers. The population was 40% male and 60% female. Most people (85%) had concluded their initial cancer treatment within two years. Table 1 shows no significant differences in baseline demographic or clinical parameters between intervention and control groups.

Table 1: Baseline Characteristics of Study Participants

Characteristic		IG (n=82)	CG (n=82)	p-value
Age	Mean (SD)	58.4 (10.2)	58.1 (10.6)	0.82
Gender (%)	Female	60%	60%	0.99
	Male	40%	40%	0.95
Cancer Type (%)	Breast Cancer	34%	34%	0.99
	Colorectal Cancer	22%	22%	0.99
	Lung Cancer	18%	18%	0.99
	Other	26%	26%	0.99
Time Since Treatment (%)	≤ 2 years	85%	85%	0.99
	> 2 years	15%	15%	0.99

**IG: Intervention Group; CG: Control Group*

HADS was used to evaluate the psychosocial therapies' effects on mental health. Both groups' mean HADS ratings for anxiety and depression were comparable at baseline. When compared to the control group, the intervention group showed a gradual but noticeable improvement.

The intervention group's mean "HADS anxiety score at baseline was 11.2 (SD = 3.8), whereas the control group's was 11.0 (SD = 3.6) (p = 0.78)". Following a 12-week intervention, the intervention group's mean anxiety score dropped to 7.4 (SD = 2.9), whereas the control group's stayed mostly stable at 10.8 (SD = 3.5) (p < 0.001). At the three-month follow-up (mean score of 7.1 in the intervention group vs. 10.6 in the control group; p < 0.001) and six-month follow-up (mean score of 7.0 vs. 10.5; p < 0.001), the decrease in anxiety persisted.

At trial start, the intervention group had an average HADS depression score of 10.5 (SD = 3.7) and the control group 10.3 (SD = 3.5). The group difference p-value was 0.85. After the intervention, the average depression score in the intervention group dropped to 6.8 (SD = 2.7) compared to 10.1 (SD = 3.4) in the control group (p < 0.001). Throughout the three-month follow-up, the intervention group showed persistent improvement, with a mean score of 6.6 compared to 10.0 in the control group (p < 0.001). At the six-month follow-up, the intervention group had a mean score of 6.5, whereas the control group had a mean score of 9.8 (p < 0.001) (Figure 1).

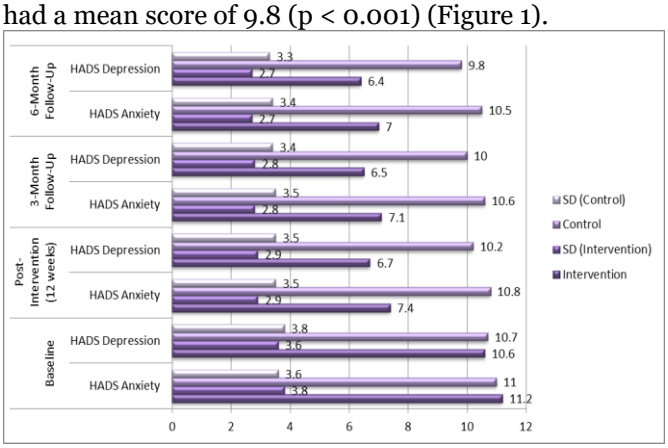

Figure 1: HADS Scores for Anxiety and Depression over Time

The findings demonstrate a significant decrease in anxiety and depression levels among cancer survivors who had psychosocial therapies, as opposed to those who just got conventional care, with both statistical significance and clinical significance. The EORTC QLQ-C30 was used to assess the QoL. The questionnaire yields a comprehensive assessment of overall health condition and QoL, as well as separate ratings for physical functioning, emotional functioning, social functioning, and weariness.

The initial average global QoL score was 62.1 (standard deviation = 15.7) in the intervention group and 61.8 (standard deviation = 16.1) in the control group (p = 0.91). Following the 12-week intervention, the average overall QoL score in the intervention group rose to 75.4 (standard deviation = 14.2), but in the control group, it only marginally improved to 63.0 (standard deviation = 15.8) (p < 0.001). In the three-month follow-up, the average overall QoL score in the intervention group was 76.8 (standard deviation = 13.9), whereas it was 64.2 (standard deviation = 15.5) in the control group (p < 0.001). Similarly, in the six-month follow-up, the average scores were 77.2 (standard deviation = 13.7) and 64.5 (standard deviation = 15.3) in the intervention and control groups, respectively (p < 0.001). These results are shown in table 2.

Table 2: Global QoL Scores over Time

Time Point	Global QoL Score (Mean ± SD)
Baseline	62.1 ± 15.7
Post-Intervention (12 weeks)	75.4 ± 14.2
3-Month Follow-Up	76.8 ± 13.9
6-Month Follow-Up	*77.2 ± 13.7*

Intervention group emotional functioning subscale gains were notable. At baseline, the intervention group had a mean score of 53.2 (SD = 18.5) and the control group 54.1 (SD = 17.8) (p = 0.76). In the intervention group, the mean score rose to 71.6 (SD = 16.4), whereas the control group scored only 55.5 (SD = 17.5) (p < 0.001). Figure 2 shows that increases remained at three- and six-month follow-ups (mean scores of 72.4 vs. 56.0; p < 0.001 and 73.1 vs. 56.4; p < 0.001).

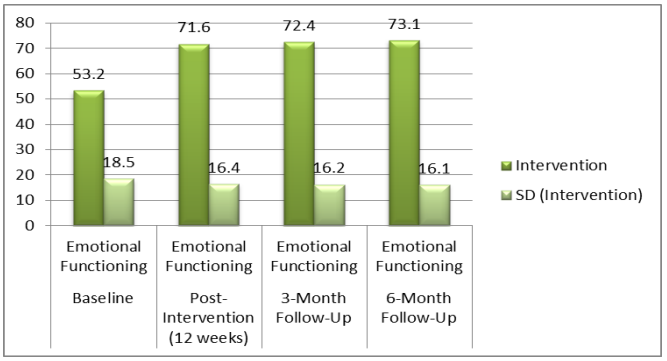

Figure 2: Emotional Functioning Scores over Time

With a mean score of 68.7 (SD = 14.9) at baseline and an increase to 74.3 (SD = 14.1) post-intervention, the intervention group's physical functioning showed a moderate improvement. In contrast, the control group's score climbed little, from 69.1 (SD = 15.2) to 70.5 (SD = 15.0) (p = 0.04). At the three- and six-month follow-ups, these increases persisted (Table 3).

Table 3: Physical Functioning Scores over Time

Time Point	Physical Functioning (Mean ± SD)
Baseline	68.7 ± 14.9
Post-Intervention (12 weeks)	74.3 ± 14.1
3-Month Follow-Up	74.7 ± 13.9
6-Month Follow-Up	75.1 ± 13.7

Social functioning assessments improved significantly in the intervention group. The intervention group had a baseline mean score of 57.4 (SD = 19.2) and the control group 58.1 (SD = 18.7) (p = 0.79). After the intervention,

the intervention group's mean score increased to 69.2 (SD = 17.3), whereas the control group's improvement was less significant at 59.4 (SD = 18.5) ($p < 0.001$). At the three-month follow-up, the intervention group had a considerably higher mean score (70.1, SD = 16.9) than the control group (60.0, SD = 18.2) ($p < 0.001$). Table 4 shows similar six-month follow-up results.

Table 4: Social Functioning Scores over Time

Time Point	Social Functioning (Mean ± SD)
Baseline	57.4 ± 19.2
Post-Intervention (12 weeks)	69.2 ± 17.3
3-Month Follow-Up	70.1 ± 17.0
6-Month Follow-Up	70.5 ± 16.8

The intervention group saw a greater reduction in fatigue than the control group, as determined by the EORTC QLQ-C30. The intervention group's mean baseline tiredness score was 42.3 (SD = 20.8), whereas the control group's was 41.8 (SD = 21.0) ($p = 0.87$). After the intervention, the intervention group's mean score dropped to 28.5 (SD = 19.7), whereas the control group's score was mostly stable at 40.5 (SD = 20.9) ($p < 0.001$). At both the three- and six-month follow-ups (mean scores of 27.9 vs. 40.0; $p < 0.001$) and the follow-up at six months (mean score of 27.5 vs. 39.6; $p < 0.001$), the decrease in weariness persisted. A total of 139 individuals completed the six-month follow-up, representing a 15% attrition rate. Analyses revealed that there was no significant difference in the baseline characteristics of study participants who dropped out compared to those who finished the trial, and the attrition rate was comparable across the intervention (16%) and control (14%). With 85% of participants in the intervention group attending at least 80% of the sessions, there was strong adherence to the psychosocial treatments.

Discussion

The results of this study, which complement and build upon other studies in this field, clearly demonstrate the effectiveness of psychosocial therapies in enhancing mental health and QoL among cancer survivors. The noteworthy decreases in anxiety and sadness reported in the intervention group align with past research demonstrating the advantages of psychosocial support in mitigating psychological distress among individuals who have survived cancer [12, 13]. Previous meta-analyses have shown that psychosocial therapies, such as mindfulness-based stress reduction and cognitive-behavioral therapy, substantially reduce anxiety and depression symptoms in cancer survivors [14]. Our research supports these findings even further, showing consistent reductions in anxiety and depression at three- and six-month intervals. This suggests that the advantages of psychosocial therapies are not only short-term but long-lasting.

The gains in QoL, especially in terms of social functioning, emotional functioning, and overall QoL, are consistent with earlier studies [15]. Research has shown that psychosocial therapies provide significant enhancements in several aspects of life quality, such as emotional and social well-being. Similar improvements are shown in these areas by our data, which were stable throughout the course of the follow-up period. This emphasizes how crucial it is to provide emotional and social support as part of all-encompassing cancer treatment. Furthermore, even if they are small, the results of our research on physical functioning suggest that psychological therapies may potentially improve physical health. Previous studies on the effects of psychological therapies on physical functioning have produced contradictory findings [16, 17]. Our study showed modest increases in physical functioning, whereas other research has shown no discernible change [18]. This implies that incorporating elements of physical exercise into psychological therapies may improve physical results; this is an area that needs further research.

Of special notice is the intervention group's notable decrease in weariness. Among cancer survivors, fatigue is a prevalent and crippling condition that often lasts long after treatment is finished. The efficacy of psychological therapies in relieving tiredness has been the subject of conflicting findings in earlier research [19, 20]. Our study indicates a significant reduction in tiredness in the intervention group, in contrast to other studies that revealed no effect of psychological treatments on levels of weariness [21]. This disparity might result from variations in the length and intensity of sessions or from our program's use of certain fatigue management strategies. With 85% of participants in the intervention group attending at least 80% of the sessions, our research furthers the body of literature by showing excellent adherence to psychosocial therapies. This excellent adherence rate is in contrast to other earlier research where it was difficult to get participants to participate [22]. The individualized nature of the therapies, the incorporation of participant preferences, and the encouraging atmosphere created during sessions might all be factors in this high adherence.

Limitation and Future suggestions

It is crucial to recognize that despite the fact that our research offers strong proof of the advantages of psychological therapies, there are certain restrictions that need to be taken into account. For example, the sample was limited to a certain geographic location, and most of the individuals had finished cancer treatment in the previous 24 months. As a result, there may be limitations to the results' applicability to other groups, especially those with distinct cultural backgrounds or those who are farther away from active treatment. Furthermore, while a wide range of cancer types were included in our research, specific tumors that show particular psychological difficulties could need for customized therapies.

Conclusion

This study demonstrates that psychosocial interventions significantly improve mental health and QoL in cancer survivors, with notable reductions in anxiety, depression, and fatigue, and enhancements in global QoL, emotional, social, and physical functioning. These benefits were sustained over time, highlighting the value of integrating psychosocial support into routine cancer care. The high adherence rates and consistent positive outcomes

underscore the effectiveness of these interventions, advocating for their broader application in survivorship care plans.

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