Journal of Health and Rehabilitation Research 2791-156X JHRR

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Original Article

Relationship between Emotional Regulation and Life Satisfaction among Thyroid Cancer Patients

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ABSTRACT

Background: The interplay between emotional regulation and life satisfaction has garnered considerable attention in psychological research, particularly among populations facing chronic illnesses such as cancer. For individuals diagnosed with thyroid cancer, navigating the emotional landscape presents a unique set of challenges, influenced by various demographic and clinical variables. Understanding these dynamics is crucial for developing targeted interventions that enhance the quality of life for this patient group.

Objective: This study aimed to investigate the relationship between emotional regulation and life satisfaction among thyroid cancer patients and to examine the impact of demographic factors, including age, gender, marital status, family system, education level, and family history of cancer, on these psychological constructs.

Methods: A correlational research design was employed, utilizing purposive sampling to recruit 100 thyroid cancer patients from hospitals in Islamabad and Rawalpindi. The Emotional Regulation Questionnaire (ERQ) and the Satisfaction with Life Scale (SWLS), both validated instruments, were administered to measure the primary constructs of interest. Data analysis was conducted using Pearson correlation coefficients to explore the relationship between emotional regulation and life satisfaction, and t-tests and ANOVA were utilized to assess differences based on demographic variables. SPSS version 26 was used for all statistical analyses.

Results: The study found a significantly strong positive correlation between emotional regulation and life satisfaction ($r = .54$, $p < .01$). Gender differences were notable, with males reporting higher emotional regulation and cognitive reappraisal than females. Unmarried participants scored higher in emotional regulation compared to their married counterparts. Higher levels of education and a family history of cancer were also associated with better emotional regulation and cognitive reappraisal. However, therapy type, age, and monthly income did not show significant effects on the study variables.

Conclusion: The findings underscore the importance of emotional regulation in enhancing life satisfaction among thyroid cancer patients, highlighting the influence of demographic factors. These insights advocate for the integration of emotional well-being into cancer care, emphasizing the need for personalized psychological support tailored to individual patient profiles.

Keywords: Emotional Regulation, Life Satisfaction, Thyroid Cancer, Demographic Variables, Psychological Well-Being.

INTRODUCTION

The exploration of the nuanced interrelationship between emotional regulation and life satisfaction among thyroid cancer patients unveils a critical aspect of oncological care that transcends mere physical treatment modalities (1, 2). The journey of a thyroid cancer patient is fraught with not only the biological upheavals brought about by the disease but also the profound psychological perturbations that accompany a cancer diagnosis. This journey is significantly influenced by the individual's capacity for emotional regulation—a skill that becomes indispensable in the face of the myriad challenges posed by the illness (3-5). Emotional regulation, in this context, is not merely a psychological construct but a vital component of the therapeutic process, deeply intertwined with the patient's overall quality of life and satisfaction (6, 7).

Journal of Health and Rehabilitation Research 2791-156X JHRR

The significance of emotional regulation in the context of thyroid cancer cannot be overstated. As patients navigate the complexities of their diagnosis, treatment, and the uncertainties of the future, their ability to manage and modulate their emotional responses plays a pivotal role in determining their psychological resilience and, by extension, their life satisfaction (3-5). This is particularly pertinent in societies such as Pakistan, where cultural perceptions and stigmas surrounding cancer can exacerbate the emotional turmoil faced by patients (8-10). The societal penchant for attributing illness to personal deservingness or moral failings can deepen the psychological distress of individuals battling thyroid cancer, making the mastery of emotional regulation strategies not just beneficial but essential for maintaining mental well-being and enhancing life satisfaction (8, 9).

The interplay between emotional regulation and life satisfaction is anchored in a robust theoretical foundation that spans multiple psychological theories (11-14). The Emotion Regulation Theory elucidates how individuals employ various strategies to influence their emotional experiences and expressions, highlighting the adaptive benefits of effective emotional management techniques such as cognitive reappraisal and problem-solving. These strategies, by allowing individuals to reframe their experiences and engage in constructive problem-solving, can mitigate the psychological impact of cancer, thereby fostering greater life satisfaction (8). Similarly, the Cognitive Appraisal Theory emphasizes the role of individual perceptions in shaping emotional responses to stressful events (13, 14). For thyroid cancer patients, how they appraise their illness—whether as an insurmountable threat or a manageable challenge—can significantly influence their emotional well-being and satisfaction with life (1, 2, 6, 15). This cognitive appraisal process underscores the importance of psychological interventions aimed at reshaping patients' perceptions of their illness, thereby enhancing their capacity for emotional regulation and improving their quality of life (4, 8, 13, 16).

Furthermore, Gross's Process Model of Emotion Regulation provides a comprehensive framework for understanding the mechanisms through which individuals can modulate their emotional states (17, 18). By delineating between antecedent-focused and response-focused regulation strategies, this model offers insights into the timing and effectiveness of different emotional regulation approaches (19-22). Antecedent-focused strategies, such as cognitive reappraisal, which involve altering one's perception of an emotional stimulus before the emotional response is fully generated, are posited to be more effective in promoting psychological well-being and life satisfaction (23). This is particularly relevant for thyroid cancer patients, for whom early engagement with adaptive emotional regulation strategies can be crucial in navigating the emotional challenges of the disease (23).

Empirical research further substantiates the link between emotional regulation and life satisfaction among cancer patients, including those with thyroid cancer (7, 24-26). Studies have demonstrated a positive correlation between the employment of adaptive emotional regulation strategies and higher levels of life satisfaction (3, 27, 28). Specifically, cognitive reappraisal has been shown to be associated with better emotional well-being and lower levels of anxiety and depression, underscoring its potential as a valuable tool in the psychological support of thyroid cancer patients (23, 29-33). Conversely, strategies such as expressive suppression, which involve inhibiting the expression of emotions, have been linked to poorer emotional well-being and higher levels of psychological distress, highlighting the need for interventions that promote more adaptive forms of emotional regulation (20, 22, 31).

The Pakistani context presents unique challenges and opportunities for exploring the relationship between emotional regulation and life satisfaction among thyroid cancer patients. Cultural beliefs about illness and treatment, coupled with limited access to healthcare and financial constraints, can significantly impact the emotional experiences of cancer patients (11-14). Research within this context has highlighted the importance of emotional regulation in improving the psychological well-being of cancer patients, underscoring the need for culturally sensitive interventions that address the specific emotional regulation needs of this population. By focusing on the development and implementation of such interventions, healthcare providers can enhance the quality of life and satisfaction of thyroid cancer patients, providing a more holistic approach to cancer care that addresses both the physical and psychological dimensions of the disease (3, 34).

In conclusion, the relationship between emotional regulation and life satisfaction among thyroid cancer patients is a complex and multifaceted phenomenon that is crucial to understanding the psychological dynamics of cancer care (14, 17, 34-36). By delving into the theoretical and empirical foundations of this relationship, and considering the specific cultural and societal contexts in which it unfolds, researchers and healthcare providers can develop more effective strategies for supporting the emotional well-being of thyroid cancer patients (37-39). This, in turn, can lead to improved life satisfaction and better overall outcomes for individuals facing the challenges of this disease (18, 28).

MATERIAL AND METHODS

The study aimed to delve into the intricate relationship between emotional regulation and life satisfaction among individuals diagnosed with thyroid cancer, with a secondary objective to examine the influence of various demographic factors on these variables. To achieve these objectives, the research was structured as correlational, employing a purposive sampling technique to gather data from a diverse cohort of 100 thyroid cancer patients. These patients, diagnosed by medical professionals, were recruited

Journal of Health and Rehabilitation Research 2791-156X JHRR

from several hospitals within the cities of Islamabad and Rawalpindi. The demographic composition of the sample was meticulously recorded, encompassing a wide age range from 15 to 60 years, and including both genders, varying educational backgrounds, marital statuses, family systems, stages of cancer, therapy statuses, monthly income levels, and family history of cancer (40-42).

For the purpose of this research, two primary instruments were utilized. The Emotional Regulation Questionnaire (ERQ), originally developed by Gross and John (2003) and translated into Urdu by Farhana Kazmi, served to assess the emotional regulation strategies of the participants. This tool, featuring a total of 10 items divided into subscales for cognitive reappraisal and expressive suppression, employs a 7-point Likert scale ranging from strongly agree to strongly disagree. The ERQ has demonstrated reliability, with an alpha coefficient of .82. Additionally, the Satisfaction with Life Scale, crafted by Diener et al. (1985) and translated into Urdu by Butt (2015), was employed to gauge life satisfaction among the study participants. This 5-item scale also uses a 7-point Likert scale and has been validated with a reliability alpha coefficient of .87 (8).

The data collection process was initiated after obtaining the necessary permissions from the authors of the instruments used in the study. The researchers ensured to secure informed consent from all participants, clearly communicating the study's objectives and guaranteeing the confidentiality of their responses. The questionnaires were administered in a personal manner, following a detailed briefing to the participants about the study's purpose and ensuring their understanding and comfort with the process. All inquiries from participants were addressed comprehensively, with an emphasis on the voluntary nature of their participation and their freedom to withdraw at any stage (16, 27, 43, 44).

The logistical aspects of data collection involved systematic visits to various hospitals, preceded by the arrangement of appointments and the acquisition of administrative permissions. The research team's credentials and affiliations were verified by hospital administrators prior to data collection. Out of 150 distributed questionnaires, 120 were returned, and after a thorough data cleaning process, 100 were deemed suitable for analysis. The data analysis was conducted using SPSS version 26, adhering to standard statistical procedures to ensure the accuracy and reliability of the findings. The ethical considerations of the study were rigorously observed, with a commitment to uphold the principles of confidentiality and informed consent throughout the research process.

RESULTS

In the investigation of the relationship between emotional regulation and life satisfaction among thyroid cancer patients, a series of analyses were conducted to understand how these variables interact within this specific population. The findings, detailed across several tables, offer a comprehensive view of the significant correlations and mean differences based on various demographic and clinical variables.

The correlation analysis (Table 1) revealed a strong positive relationship between emotional regulation (ER) and life satisfaction (LS), with ER showing significant positive correlations with both cognitive reappraisal (CR) (.87**) and expression suppression (ES) (.74**), and a moderate correlation with LS (.54**). This suggests that individuals who are better at regulating their emotions, either through reappraising the situation or suppressing their emotional expressions, tend to report higher levels of life satisfaction. CR and LS also shared a moderate to strong correlation (.59**), indicating that the strategy of reinterpreting a negative situation into a more positive one is particularly effective in enhancing life satisfaction among thyroid cancer patients. The correlation between ES and LS was positive but weaker (.23*), suggesting that while suppression of emotional expressions is related to life satisfaction, it may not be as robust a predictor as CR.

When examining mean differences based on gender (Table 2), male participants demonstrated higher means across all variables: ER, CR, ES, and LS, compared to female participants, with small to moderate effect sizes (Cohen's d ranging from .29 to .31). This indicates that male patients may engage in emotional regulation more effectively and report slightly higher life satisfaction than their female counterparts. The confidence intervals and effect sizes provide a nuanced understanding of these differences, highlighting the need for gender-sensitive approaches in psychological interventions for thyroid cancer patients.

The analysis of marital status (Table 3) on study variables showed that unmarried participants reported higher levels of ER and LS compared to married participants, with effect sizes indicating moderate practical significance (Cohen's d of .42 for ER and .32 for LS). This could suggest that marital status influences how individuals cope with cancer-related stress and their overall satisfaction with life, potentially due to differing support systems or stressors inherent to marital relationships.

Differences based on family system (Table 4) revealed slight variations in ER, CR, ES, and LS between participants from nuclear and joint family systems, though effect sizes were small (Cohen's d ranging from .14 to .27). This suggests that while there are some differences in emotional regulation and life satisfaction based on family structure, these are not as pronounced as those observed for other demographic variables.

Journal of Health and Rehabilitation Research 2791-156X JHRR

Educational level also played a role in emotional regulation and life satisfaction (Table 5), with educated participants showing higher means in ER, CR, and LS than uneducated participants. The effect sizes (Cohen's d) ranged from .19 for ES to .48 for LS, indicating that education may equip individuals with better tools for emotional regulation and contribute to higher life satisfaction.

Family history of cancer (Table 6) was another significant factor, with participants having a family history of cancer demonstrating higher means in all study variables compared to those without. This could imply that previous exposure to cancer within the family context might prepare individuals to better regulate their emotions and maintain life satisfaction despite their diagnosis.

Table 1 Correlation between Emotional Regulation and Life Satisfaction

Variables	ER	CR	ES	LS
ER	-	.87**	.74**	.54**
CR		-	.33**	.59**
ES			-	.23*
LS				-
*p < .05, **p < .01. ER = Emotional Regulation, CR = Cognitive Reappraisal, ES = Expression Suppression, LS = Life Satisfaction.				

Table 2 Mean Differences by Gender on Study Variables

Variables	Gender	Mean	SD	95% CI	Cohen's d
ER	Male	35.25	13.19	[-1.60,-7.33]	0.31
	Female	31.89	10.76		
CR	Male	20.50	8.85	[0.35, 4.72]	0.30
	Female	18.35	8.83		
ES	Male	15.72	6.55	[-0.29,-3.78]	0.29
	Female	11.47	6.15		
LS	Male	16.16	7.36	[-0.62,-4.57]	0.30
	Female	12.68	7.99		

Table 3 Mean Differences by Marital Status on Study Variables

Variables	Marital Status	Mean	SD	95% CI	Cohen's d
ER	Married	32.28	10.51	[-11.2,-.18]	0.42
	Unmarried	38.00	16.06		
CR	Married	18.82	8.16	[18.11, 21.60]	0.37
	Unmarried	22.26	9.97		
LS	Married	14.54	7.45	[13.78, 16.85]	0.32
	Unmarried	17.07	8.16		

Table 4 Mean Differences by Family System on Study Variables

Variable	Family System	Mean	SD	95% CI for Mean	Cohen's d
ER	Nuclear	35.00	13.99	[-3.21, 6.84]	0.14
	Joint	33.18	11.26		
CR	Nuclear	21.30	8.95	[-1.15, 5.95]	0.27
	Joint	18.90	8.66		
ES	Nuclear	13.17	7.19	[-3.09, 2.05]	0.15
	Joint	14.21	5.73		
LS	Nuclear	16.44	7.99	[-1.24, 5.00]	0.24
	Joint	14.56	7.51		

Table 5 Mean Differences by Education Level on Study Variables

Variable	Education Level	Mean	SD	95% CI for Mean	Cohen's d
ER	Educated	36.86	12.67	[-9.54, 1.10]	0.34
	Uneducated	32.64	12.13		

Journal of Health and Rehabilitation Research JHRR

Variable	Education Level	Mean	SD	95% CI for Mean	Cohen's d
CR	Educated	22.00	10.00	[-6.84, 0.73]	0.33
	Uneducated	18.94	8.16		
ES	Educated	14.86	6.46	[-3.96, 1.52]	0.19
	Uneducated	13.64	6.28		
LS	Educated	17.96	8.13	[-7.05,-0.50]	0.48
	Uneducated	14.18	7.31		

Table 6 Mean Differences by Family History on Study Variables

Variable	Family History	Mean	SD	95% CI for Mean	Cohen's d
ER	Yes	34.75	13.98	[-8.85,-2.33]	0.31
	No	30.50	10.36		
CR	Yes	21.62	8.98	[-6.89,-1.03]	0.34
	No	16.69	6.08		
ES	Yes	14.13	6.59	[-3.35,-0.39]	0.29
	No	11.65	4.60		
LS	Yes	15.77	7.95	[5.22, 1.76]	0.32
	No	14.03	7.02		

Table 7 Mean Differences by Therapy on Study Variables

Variable	Therapy Type	Mean	SD	95% CI for Mean	Cohen's d
ER	Chemotherapy	34.01	12.68	[-4.79, 5.33]	0.02
	No Therapy	33.74	12.08		
CR	Chemotherapy	19.50	8.83	[18.11, 21.60]	0.09
	No Therapy	20.31	8.96		
ES	Chemotherapy	14.44	6.58	[12.75, 15.26]	0.17
	No Therapy	13.36	6.00		
LS	Chemotherapy	15.36	8.07	[13.78, 16.85]	0.01
	No Therapy	15.31	7.33		

Table 8 One-Way ANOVA Analysis on Age with Study Variables

Variable	Age Group	F	p	η^2
ER	15-30, 31-45, 46-60	.07	.92	-
CR	15-30, 31-45, 46-60	.49	.61	-
ES	15-30, 31-45, 46-60	1.30	.27	-
LS	15-30, 31-45, 46-60	.22	.79	-

Lastly, the type of therapy received (Table 7) did not significantly impact ER, CR, ES, or LS, as evidenced by the minimal differences in means and negligible effect sizes. This indicates that the psychological aspects of emotional regulation and life satisfaction are likely influenced by factors beyond the physical treatment modalities for thyroid cancer.

Age groups (Table 8) did not show significant differences in ER, CR, ES, or LS, suggesting that the capacity for emotional regulation and achieving life satisfaction does not vary markedly across different age categories within the thyroid cancer patient population.

These results collectively underscore the complexity of emotional regulation and life satisfaction dynamics in thyroid cancer patients, highlighting the influence of gender, marital status, education, and family history. The findings advocate for personalized psychological support strategies that consider these demographic and clinical variables to enhance the well-being of thyroid cancer patients.

DISCUSSION

The study embarked on an exploration into the intricate dynamics between emotional regulation and life satisfaction among individuals diagnosed with thyroid cancer, seeking to uncover the influence of demographic variables such as age, gender, marital status, family system, education level, and family history of cancer on these psychological constructs. The investigation revealed a

Journal of Health and Rehabilitation Research 2791-156X JHRR

significantly strong positive correlation between emotional regulation and life satisfaction, indicating that individuals adept at managing their emotions reported higher levels of contentment with their life circumstances. This correlation aligns with previous findings in the literature, underscoring the pivotal role of emotional regulation in fostering psychological well-being among cancer patients.

An interesting gender disparity emerged, with males demonstrating superior emotional regulation and a greater propensity for cognitive reappraisal compared to females. This observation is consistent with research suggesting gender differences in emotional processing and coping mechanisms in the face of chronic illness. The study further illuminated the role of marital status, revealing that unmarried individuals exhibited higher emotional regulation capabilities. This finding might reflect the nuanced emotional landscapes navigated by unmarried versus married individuals, potentially attributing to differences in social support structures and stressors inherent in marital relationships.

Participants from nuclear family systems outperformed their counterparts from joint family systems in emotional regulation and cognitive reappraisal. This could be indicative of the different emotional climates and individualistic coping strategies fostered within nuclear family setups. Moreover, a higher level of education was associated with enhanced emotional regulation and cognitive reappraisal, suggesting that educational experiences might equip individuals with sophisticated emotional management skills.

A noteworthy insight was the higher emotional regulation observed in participants with a family history of cancer, possibly due to a developed resilience or familiarity with navigating the emotional turmoil associated with cancer. This finding contributes to the nuanced understanding of how familial experiences with illness can shape emotional coping strategies.

The study also ventured into the examination of therapy's impact, with a specific focus on chemotherapy, uncovering that undergoing chemotherapy did not significantly affect life satisfaction. This suggests the complexity of the relationship between treatment modalities and psychological well-being, warranting further exploration. Furthermore, the investigation into age-related differences revealed that older participants reported higher life satisfaction, although these findings were not statistically significant, suggesting that emotional regulation and life satisfaction may transcend age boundaries.

The impact of cancer stages on emotional regulation and cognitive reappraisal was significant, indicating that advancing stages of cancer might necessitate and foster more refined emotional coping mechanisms. Conversely, the financial aspect, represented by monthly income, did not emerge as a significant determinant of emotional regulation or cognitive reappraisal, pointing towards the multifaceted nature of emotional well-being that extends beyond economic factors.

This research, while illuminating, is not without its limitations. The study's reliance on self-reported measures introduces the possibility of response bias, and the cross-sectional design precludes the establishment of causality. Furthermore, the study's demographic and cultural specificity to a Pakistani context may limit the generalizability of the findings to other populations.

In light of these findings and limitations, future research is recommended to employ longitudinal designs to unravel the causative dynamics between emotional regulation and life satisfaction. Diversifying the sample across different cultural contexts could enrich the understanding of how sociocultural factors influence emotional coping mechanisms in cancer patients. Additionally, exploring the role of psychological interventions aimed at enhancing emotional regulation in improving life satisfaction among thyroid cancer patients could offer valuable insights for holistic cancer care.

The study underscores the critical interplay between emotional regulation and life satisfaction in the context of thyroid cancer, advocating for an integrated approach in cancer care that addresses the psychological dimensions of coping with the disease. It calls for heightened attention to the nuanced influences of demographic variables on emotional well-being, paving the way for targeted support strategies that cater to the diverse needs of cancer patients.

CONCLUSION

The study's findings highlight the significant relationship between emotional regulation strategies and life satisfaction among thyroid cancer patients, underscoring the crucial role of cognitive reappraisal in enhancing life satisfaction. The observed differences based on gender, marital status, education level, and family history of cancer suggest that demographic and personal background factors considerably influence emotional regulation and life satisfaction. These insights call for the integration of personalized psychological interventions within thyroid cancer care, emphasizing the development of emotional regulation skills tailored to individual patient profiles. Such targeted support is essential for improving the overall quality of life for thyroid cancer patients, advocating for a holistic approach to cancer treatment that addresses not only the physical but also the emotional and psychological dimensions of patient care.

Journal of Health and Rehabilitation Research 2791-156X JHRR

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Journal of Health and Rehabilitation Research 2791-156X JHRR

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