

Self-efficacy, emotional intelligence, and quality of life amongst cancer patients

Abstract

Background: This research examined the self-efficacy, emotional intelligence, and quality of life among cancer patients, predominantly focusing on patients with either breast cancer or GI cancer. The purpose of the study was to identify and investigate the relationship between the psychological factors of self-efficacy, emotional intelligence and quality of life among cancer patients.

Method: This is a cross-sectional study which involved a sample of both females and males participants, diagnosed with GI cancer or breast cancer, (N=86), were aged above 18years old and had achieved a minimum level of education up to secondary. Therefore, this ensured they were able to read and understand the psychological tests.

The tools used were: the Schutte Self-Report Emotional Intelligence Test, The General Self-Efficacy Scale and The SF-12 of quality of life scale.

Result: The results showed a correlation between the self-efficacy and emotional intelligence, and a statistically significant relationship between the self-efficacy and quality of life on the physical domain only. In addition, there is a gender and diagnosis type differences, with male cancer patients having higher self-efficacy in comparison to female cancer patients. Furthermore, the GI cancer patients both genders had a higher self-efficacy than the breast cancer. However, females have higher quality of life in terms of the mental health domain in comparison to males.

Conclusion: The results emphasise the paramount importance of psychological intervention to assess and provide cancer patients with a psychological program to enhance the self-efficacy for cancer patients (breast and GI cancer) to improve and modify the quality of life for the patient.

Keywords: self efficacy, emotional intelligence, quality of life, cancer

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Introduction

Cancer has been described as a leading cause of death worldwide, accounting for 8.8 million deaths in 2015.¹ Cancer is usually caused by the transformation of normal cells into tumour cells, in a multistage complex process that generally progresses from a pre-cancerous lesion to a malignant tumour eventually.¹ It is the second-most-common cause of death in the United States, surpassed only by heart disease, and is the leading cause of death worldwide.¹ This highlights the magnitude of the problem cancer presents to even a developed country. According to the Saudi Oncology Society, "the Saudi Cancer Registry (SCR) in 2010 was 13,706. Overall, cancer was slightly more prevalent among women than men".² Such a physical health problem that patients face who have been diagnosed with cancer also has the potential to cultivate a psychological problem for the patient too. In addition, without adequate help and early therapy intervention to deal with the psychological aspect, this may lead to other issues long term. Here are a few examples of the thoughts of actual cancer patients "I am punished for something I did or failed to do in the past." Some patients contemplate that if they had just done what they knew was right; they would not have developed cancer. Most patients wonder and question themselves if they somehow caused cancer themselves. Research into physical, psychological, social, and environmental factors suggested that psychosocial support was considered as one of the top factors that can improve the quality of life in cancer patients.³ Many studies examine the relationship between the emotional intelligence and quality of life.

Mayer et al.,⁴ described the concept of Emotional Intelligence (EI) as the capacity to reason about emotions, and the capacity of emotions to enhance thinking. EI includes the abilities to accurately perceive emotions, access and generate emotions in order to assist thoughts, to understand emotions and emotional knowledge, and to reflectively regulate emotions in order to promote emotional and intellectual growth. On the other hand, several studies have examined the relationship between self-efficacy and quality of life. Self-efficacy refers to an individual's belief in his or her capacity to execute behaviours necessary to produce specific performance attainments. Self-efficacy reflects confidence in the ability to exert control over one's own motivation, behavior, and social environment.⁵⁻⁷ Emotional intelligence and self-efficacy play essential roles in patients' quality of life, as concluded in a study conducted by Amirifard et al.,⁸ who investigated the relationship between emotional intelligence and the quality of life was discussed. In addition, Moradi et al.,⁹ & De Castro et al.,¹⁰ investigated the association between self-efficacy and the quality of life for cancer patients and identified a positive correlative relationship between the two. This research topic concerns self-efficacy, emotional intelligence, and quality of life among cancer patients. The topic was chosen for the following reasons: firstly is occupational, namely to study and understand the relationships between and the effects on the quality of life for cancer patients in relation to the psychological factors of self-efficacy and emotional intelligence; secondly, is that there is a research gap in information and knowledge about cancer patients related to the psychological factors of self-efficacy and emotional intelligence, in particular focusing on

cancer patients from Saudi Arabia. Lastly, for educational purposes the university enhance and support the health psychology approach for patients, therefore this research will cover the three mentioned psychological factors covering the eastern province of the Kingdom of Saudi Arabia.

Statement of the problem

Psychological intervention is of paramount importance for the patient to improve their quality of life both in terms of physically and mentally related to psychological factors from the health and psych-oncology prospective. At present, there is a gap of study in the Middle East and Saudi Arabia about the psychological support available for cancer patients. However, this study aims to examine the self-efficacy, emotional intelligence, and quality of life for patients who have cancer in Saudi Arabia. The study finding will provide and guide the psychologist and all the treating team with knowledge, to deliver an appropriate psychological plan starting from the assessment ending with intervention for the patient, from evidence based research. The study hypotheses 1) There are significant relationships between cancer patient's self-efficacy, emotional intelligence, and quality of life (DV). 2) Sociodemographic factors will show significant effects of these psychological variables (DV). 3) Types of cancer will show significant effects of these psychological variables (DV).

Methodology design and setting

The study uses descriptive correlation (cross-sectional) design to investigate the relationship emotional intelligence, self-efficacy and quality of life, as dependent variables, with cancer types and sociodemographic factors as independent variables. A descriptive design is useful to create a snapshot of the current state of affairs. A correlation design is used to assess the relationships between two or more variables.¹¹ In this way, the research design will help in clarifying the dynamics of the patients' psychological responses and their consequent physiological effects. It might also be the case that extraneous variables will affect the artefact outcomes. The proposed sample method is convenience sampling, which is more suitable for this kind of research. In this type of sampling design, a convenience sampling technique was used. All the patients were from King Fahad Specialized Hospital-Dammam tertiary hospital in the eastern province of Saudi Arabia.

Participants

All participants were Saudi people from various regions in Saudi Arabia. They are aged 18 years old and above, included both genders, and had a minimum high school graduation status and above to confirm that they were able to read and understand the psychological tests. Convenience sampling is also the most suitable for the study's control and limiting of the extraneous variables, such as education level and age. These might have effects on the study's result due to the participants' varying maturity and education level.¹² Some patients who were approached and asked to partake, refused to participate in the study, as people in Saudi Arabia consider themselves conservative and the issue of personal health as private, or in the alternative, their adverse decision might be for personal reasons.

Materials

For the proposed psychological testing, the study used the following standard protocol psychological tests: Salovey & Mayer¹³

proposed the emotional intelligence test the Schutte¹⁴ Self-Report Emotional Intelligence Test (SSEIT) as a method of measuring general emotional intelligence. The SSEIT arises from the emotional intelligence model. The SSEIT assesses perception, understanding, expression, regulating and harnessing of emotion in the self and others.¹⁴ The Schutte Emotional Intelligence was translated and adopted to Arabic. (Dr. Amantianouse Mikhail, Damascus University, 2015). Scoring and interpretation: the (SEIS) comprises of 33 self-referencing statements and requires subjects to rate the extent to which they agree or disagree with each statement on a five-point scale (one=strongly disagree; five=strongly agree) the items (3, 28 and 33) are reverse on the (Ciarrochi et al., 2000). Participants reply on a Likert scale and a total score is derived by summing up the item responses (Petrides & Furnham, 2000). The overall score range is from 33 to 165.

The General Self-Efficacy Scale is a 10 items developed by Ralf Schwarzer and translated by Issa Almansour¹⁵ Psychometric scale that is designed to assess optimistic self-beliefs to cope with a variety of difficult demands in life. The scale was originally developed in German by *Matthias Jerusalem* and Ralf Schwarzer in 1981 and has been used in many studies with hundred thousand of participants. In contrast to other scales that were designed to assess optimism, this one explicitly refers to personal agency such as the belief that one's actions are responsible for successful outcomes. Perceived self-efficacy is a prospective and operative construct. Scoring and interpretation: there are four ways to respond (1 is not at all true, to 4 exactly true), the responses are then summated to give an overall score range from 10 to 40 points.

SF-12: is a short version of the SF-36 developed by the Health Assessment Lab at the New England Medical Center (Kondo et al. 2013). Items are used to measure functional health and physical domains from the patient's point of view. The SF-12 Survey is a shorter version of the SF-36 Survey that uses just 12 questions to measure the same domains. The sub-domains are Physical Functioning; Role-Physical (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Social Functioning (SF), Role-Emotional (RE), Mental Health (MH), and Reported Health Transition. (John E. & Ware, Jr, 2014) Alshehri, and Khalil, (Alshehri, et al, 2008) reported that the academic translator at the King Fahd University Hospital Medical Education Centre translated the document from English to Arabic. For the sake of content validity, three consultants from the Department of Family and Community Medicine reviewed the Arabic version. They translated it to English again and their translation was compared with the original English version of the questionnaire. A pilot study was conducted at one primary health care center among 20 patients (10 males and 10 females) with diabetes. As a result of this pilot study, the wording was slightly altered for better understanding of the questions. In testing the reliability of the translated questionnaire.¹⁶

Result

(Table 1) Sociodemographic and other characteristics of the participants (n=86) the participants were all adult cancer patients, with an age ranged between 27 and 76 years old. From this, 56% of the sample was older than 40 year old and 44% younger than 40 year old. The majority of the sample participants were females (73 %) while the males represented only 27% of the sample. Most of the diagnostic group were represented by breast cancer (65%) while GI cancer

represented 35% of the sample. Similarly, the numbers of outpatients were more (65%) than the inpatient (35%) of the participants (Figure 1).

Table 1 Sociodemographic and other characteristics of the participants (n=86)

Characteristics	Frequency n (%)
Sex	
Male	23 (26.7)
Female	63 (73.3)
Age	
Less than 40 years	38 (44.2)
40 years or above	48 (55.8)
Marital status	
Single	8 (9.3)
Married	69 (80.2)
Divorced	8 (9.3)
Widow	1 (1.2)
Type of patient	
Inpatient	30 (34.9)
Outpatient	56 (65.1)
Diagnosis	
Breast Cancer	56 (65.1)
GI	30 (34.9)

The participant’s educations level. The vast majority of participants had completed bachelor and high school (44% - 43%), the diploma

Table 2 Correlation

	Total EI	Total SE No	Total SF-12 (Scaled Scores)	PH SCORE	MHC SCORE
Total EI	1	.404**	0.072	0.041	0.064
Total SE No	.404**	1	-0.004	.218*	-0.164
Average of t transformed from z score	0.072	-0.004	1	0.762**	0.799**
PH score	0.041	.218*	0.762**	1	0.248*
MHC score	0.064	-0.164	0.799**	0.248*	1

Table 3 Manova for All IV

Multivariant analysis of variance: all IV (Demographic and clinical).			
Wilks' Lambda	Value	F	Sig.
Gender	0.307	3.45b	0.011
Age	2.170	1.03	0.416
Education	0.326	.74	0.775
Marital	0.265	.8	0.681
Diagnosis	0.380	4.78	0.002
Type	0.135	1.22	0.319

represented significantly less (7%), as well as those holding a Ph.D. (4%) and master (2 %).

A significant correlation was found between emotional intelligence and self-efficacy as presented in table 2 (R=0.40, P=0.001; Pearson test), and between self-efficacy and the PH score (physical health) of the SF- 12 (R=0.22, P=0.05; Pearson test). The correlations between the PCS and MCS components of the SF-36 and SF-12 scales were also highly significant (R=0.76 to 0.80; P_0.001; Pearson test (Table 2). Table 3 presents the results of MANOVA which shows that the gender and type of cancer have significant effects on self-efficacy. The male’s self-efficacy was higher than the females and patient with GI cancer has higher self- efficacy than the breast cancer patients P<0.05.

Figure 1 Distribution of education level among the study participants.

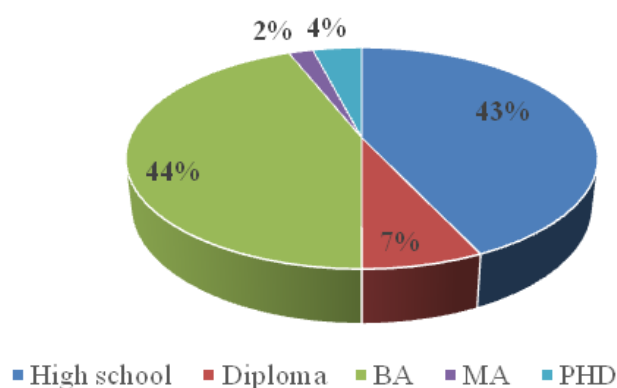


Table 4 Univariate Analysis of the effects of gender, diagnosis on Self Efficacy and MHC score of SF-12.

Table 5 presents the result of regression analysis which shows a significant predictive effect of gender, diagnoses, and types of patients (outpatient/inpatient) on the score of self-efficacy.

Table 4 Univariate analysis

Dependent variable	Sum of Squares	df	Mean Square	F	Sig.
Total EI	2.24	1	2.24	0.02	0.898
Total SE No	187.03	1	187.03	6.32	0.016
Average of transformed from z score	12.09	1	12.09	3.16	0.083
PHscore	6.66	1	6.66	1.21	0.278
MHCscore	35.42	1	35.42	5.55	0.023

The F tests the effect of Diagnosis. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Table 5 Shows the regression analysis of the predictive variables related to self-efficacy.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	16.4	3.91		4.17	0
	Gender	-4.8	2.2	-0.41	-2.18	0.032
	Age	0.02	0.06	0.02	0.32	0.747
	education	0.51	0.5	0.11	1.02	0.312
	Marital	0.81	1.1	0.08	0.74	0.464
	Diagnosis	7.34	2.03	0.68	3.63	0.001
	type of patient	3.21	1.18	0.3	2.71	0.008

a. Dependent Variable: Total SE No=====Self-efficacy

Discussion

Firstly, through the conducted assessments for self-efficacy and emotional intelligence the results showed a relationship between self-efficacy and emotional intelligence however, no correlation was found with the quality of life in this study. This is partially consistent with the first hypothesis; there are significant relationships between cancer patient's self-efficacy, emotional intelligence, and quality of life. The patients had a wide range of scores on both tests. For the emotional intelligence, the minimum score is 105 and self-efficacy is 17 while the average scores for the EI between 160 to 30 and SE 40 to 10. Therefore, during the interview it was felt that the vast majority of patients were excessively emotional, confident and optimistic that they were going to pass this experience (cancer) in a positive manner. The significant relationship between the self-efficacy and quality of life in terms of physical domain PH, is in congruence with the health action process approach that self-efficacy appraisal captures an individual's confidence that s/he is able to deal with the present situation. Individuals with higher levels of self-efficacy tend to have both lower subjective stress and increased cellular immunity.

This study also found that there is a significant effect of both gender and diagnosis on self-efficacy; The GI cancer patients had higher self-efficacy in comparison to the breast cancer patients, and the male patients had higher self-efficacy than the females. Furthermore, the results of regression analysis demonstrated that the level of self-efficacy can be predicted from patients' gender, type of cancer and from whether the patients are inpatients or outpatients. As expected, outpatients showed higher level of self-efficacy, since most of them are in their earlier stages of the disease. These findings are consistent with other studies which also reported significant effects of cancer type on the self-efficacy and quality of life of the cancer's patients. However, the percentage of female's patients in the sample

with GI cancer was 25%, while the 75% was males. Lastly, significant effects for females in relation to the quality of life and the mental health domains were found. This could be attributed to the type of patients, the female outpatient participants presented with 72%, while for the inpatient it was only 28%.18-49

Conclusion

The study showed a correlation between the self-efficacy and emotional intelligence, and a statistically significant relationship between the self-efficacy and quality of life on the physical domain only. In addition, there is a gender and diagnosis type differences, with male cancer patients having higher self-efficacy in comparison to female cancer patients. Furthermore, females have higher quality of life in terms of the mental health domain in comparison to males.

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Conflict of interest

Author declare that there is no conflict of interest.

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