The association between depression and emotional intelligence in prostate cancer patients in Morocco

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ABSTRACT

Objective: Prostate cancer is a prevalent malignancy with potential psychological consequences, including depression. Emotional Intelligence (EI) has emerged as a crucial factor influencing mental health and well-being. This study investigated the association between EI and depression levels in Moroccan men with prostate cancer.

Methods: A cross-sectional study was conducted at the Oncology Department of the Centre Hospitalier Universitaire Hassan II in Fez, Morocco. The study included 100 participants diagnosed with prostate cancer who completed the Beck Depression Inventory (BDI-II) and the Schutte Self-Report Emotional Intelligence Test (SSEIT). Correlations and linear regression analyses were employed to examine the relationships between EI, depression, and socio-demographic variables. Ethical approval and informed consent were obtained.

Results: Results revealed a significant negative correlation between EI and depression scores (r=-0.326, p-value=0.05), indicating that higher EI was associated with lower depression levels. Furthermore, EI, age, marital status, and disease location significantly predicted depression, with EI being a negative predictor.

Conclusions: The findings support the protective role of EI against depression in men with prostate cancer and highlight the importance of considering EI in the development of interventions to improve mental health outcomes in this population. Future research should explore culturally sensitive interventions targeting EI and longitudinal studies to examine the long-term impact of EI on depression among men with prostate cancer.

Keywords: emotional intelligence, depression, prostate cancer

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INTRODUCTION

Globally, prostate cancer is the most common malignancy in men, and it is the fifth leading cause of death in men. The literature on the intersection between urologic oncology and psychology/psychiatry affirms the importance of depression in men with prostate cancer [1].

Depression in cancer refers to the dimension of psychic suffering and psychological distress. Given its prevalence and relatively low mortality rates, several biopsychosocial survival issues have recently attracted attention. It is important to note that cancer is not only associated with biochemical changes, but in general is also associated with alterations in psychological distress [2].

However, these men are at increased risk of depression due to unmet psychosocial needs, prostate cancer-related symptoms and treatment side effects, including sexual dysfunction and urinary incontinence [3]. Depression in prostate cancer is associated with a loss of masculine identity in men [4].

Significant advances have been made in the assessment of emotional dimensions in individual psychology over the past decade. Among these dimensions, emotional intelligence has seen a remarkable development, with the emergence of numerous instruments for its measurement. This has also given rise to interesting debates concerning the theoretical and practical implications of this concept [5, 6].

Salovey and Mayer proposed emotional intelligence as a human capacity to reason about emotions. The authors posit two assumptions:

- Intelligence is the ability to perform abstract reasoning.

- Intelligence can be seen as a system of mental abilities.

Secondly, emotionally intelligent individuals demonstrate the following abilities:

- Accurate perception of emotions.

- The use of emotions to facilitate thinking.

- Understanding of emotions and emotional meanings.

- Effective regulation and management of emotions in themselves and others [7].

With regard to emotional intelligence, two distinct formulations of this concept can be identified in the literature. For some

authors, emotional intelligence is defined as a cognitive-emotional skill [8]. This is defined as the ability to perceive, identify and express one's emotions, to use them to facilitate thought and action, to understand and analyse them, and to regulate one's own emotions and those of others . Other authors consider emotional intelligence to be a set of personality traits [9].

Furthermore, emotional intelligence influences interactions within dyads and is predictive of psychological adaptation and positively correlated with psychological well-being [10-12].

A number of studies have sought to highlight the relationship between levels of emotional awareness and depressive symptoms. The apprehension of this dimension may provide elements of understanding concerning these symptomatologies, insofar as they would be associated with a low level of development of emotional awareness [13, 14]. Given its importance in the well-being of prostate cancer patients, this study aims to investigate the relationship between emotional intelligence and mental health outcomes, focusing specifically on the level of depression.

MATERIAL AND METHOD

This is a one-year cross-sectional observational study conducted from June 2021 to June 2022 at the oncology Department of the Centre Hospitalier Universitaire Hassan II in Fez. Prior to commencement, the study was approved by the "Comité d'Ethique pour la Recherche Biomédicale d'Oujda" ethics committee (reference number: 15/2021) and underwent numerical testing. All prostate cancer patients referred to the oncology hospital following histological examination in favour of prostate cancer and consenting to the study were included. Patients who refused to participate and patients with other types of cancer were excluded.

The variables under investigation were age, level of education, marital status, social level, environment, location and duration of illness. These were assessed using the Beck Depression Inventory (BDI), a 21-item scale which has been validated in Arabic and adapted to the Moroccan context. The items can be divided into six phases, corresponding to six degrees of increasing symptom intensity on a scale from 0 to 3. The total score is the sum of the different items. A score between 1 and 10 corresponds to a normal state of health, a score between 11 and 16 to a mild mood disorder, a score between 17 and 20 to a state of intermittent depression, a score between 21 and 30 to moderate depression, a score between 31 and 40 for severe depression, a score over 40 for extreme depression. Emotional intelligence was measured using the Schutte Self-Report Emotional Intelligence Test (SSEIT), a reliable and validated instrument assessing various EI facets. Prior to their inclusion in the study, patients were informed of the nature of the study and provided with free and informed consent.

Furthermore, we ensured the anonymity and confidentiality of the data. The data analysis was performed using the Statistical Package for Statistical Systems (SPSS) software.

RESULTS

The socio-demographic characteristics of participants and mean depression and emotional intelligence scores

The data collected was classified according to categorical variables. Of the 100 participants, 38.0% were over 60 years of age. 56.0% were married, 49.0% had an income of over 5,000 dirhams, 30.0% had a secondary education and 67.0% had been diagnosed with a diffuse disease. The mean depression score was 31.69 ± 7.36, which is indicative of severe depression, while the mean EI score was 29.23 ± 5.19, which is indicative of low EI. Significant differences were observed in the depression test and EI scores in relation to age group (p-value=0.002), marital status (p-value=0.001), income level (p-value=0.002), education level (p-value=0.003) and disease location (p-value=0.002) (Table 1).

Relationships between depression test and emotional intelligence scale

Pearson correlation results indicate a significant negative correlation between the Emotional Intelligence (EI) scale factors and depression levels (r=-0.326*, p-value=0.05). This implies that when depression levels are high, emotional intelligence levels are low. This relationship is illustrated in table 2.

Variables	N	%	Depression (Mean ± S.D.)	EI (Mean ± S.D.)	p-value
Age					
40 years–45 years	12	12.00%	30. 23 ± 6.19	30.56 ± 7.19	
46 years–55 years	20	20.00%	32.61 ± 8.23	28.38 ± 6.41	0.002
56 years–60 years	30	30.00%	30.35 ± 8.33	31.06 ± 7.81	
More than 60 years	38	38.00%	33.79 ± 8.36	28.25 ± 5.35	
Marital Status					
Married	56	56.00%	32.21 ± 7.89	30.44 ± 7.34	
Single	11	11.00%	34.78 ± 8.02	28.72 ± 5.93	0.001
Divorced	21	21.00%	31.55 ± 7.81	29.16 ± 6.74	
Widower	12	12.00%	30.61 ± 8.53	28.48 ± 5.33	
Income Level					
Under 1.000 Dirham	16	16.00%	32.29 ± 8.44	29.44 ± 6.10	
Under 3.000 Dirhams	35	35.00%	32.23 ± 7.30	28.53 ± 5.63	0.002
Over 5.000 Dirhams	49	49.00%	34.23 ± 13.30	28.41 ± 5.66	
Education Level					

Tab. 1. Participants' mean depression and emotional intelligence scores as a function of age, marital status, income level, education, and disease location

Out of School	20	20.00%	32.86 ± 8.25	28.30 ± 5.42	0.003
Primary School	32	32.00%	31.92 ± 7.52	28.29 ± 5.20	
Secondary Level	30	30.00%	31.78 ± 7.47	29.31 ± 5.39	
University Level	18	18.00%	32.19 ± 8.47	30.17 ± 7.66	
Disease Localization					
Local	33	33.00%	31.69 ± 7.91	30.26 ± 5.10	0.002
Diffused	67	67.00%	39.43 ± 6.94	28.32 ± 5.27	

Note : * p-value < 0.05;
Abbreviation
    EI: Emotional Intelligence Scale
    SE: Standard Error
    SD: Standard Deviation

Tab. 2. The correlation matrix between the depression test and Emotional Intelligence scale factors scores

Variables	DT	1	2	3	4	5
Self-Emotional Appraisal	−0.341*	1	0	0	0	0
Others'Emotional Appraisal	−0.368*	0.272*	1	0	0	0
Use of Emotions	−0.209*	0.285*	0.263*	1	0	0
Regulation of Emotions	−0.387*	0.371*	0.305*	0.323*	1	0
Emotional Intelligence Scale	−0.326*	0.309	0.286*	0.315*	0.373*	0.371*

Note : * p-value < 0.05;
Abbreviation
    DT: Depression Test

Predictors of depression

The results of the linear regression indicated that, following adjustment for variables, four factors were significant predictors of depression in prostate cancer patients. These were age (β=0.458, p-value<0.05), marital status (β=0.475, p-value<0.05) and disease location (β=0.368, p-value<0.05). However, emotional intelligence was a negative predictor (β=-0.433, p-value<0.05) (Table 3).

Tab. 3. Results of linear regression analysis to predict variables determining depression in prostate cancer patients

Model	Unstandardized Coefficients		Standardized coefficients β	p-value	Significant
	B	SE			
Constante	12.689	5.631	0	6.675	0.001
Emotional Intelligence	− 0.394	0.193	− 0.433	− 6.871	0.001
Age	0.415	0.183	0.458	6.316	0.001
Marital Status	0.258	0,147	0.475	6.474	0.001
Disease Localization	0.297	0.169	0.368	5.932	0.001

Note : * p-value < 0.05;
Dependent variable:Depression;
Abbreviation
    SE: Standard error

DISCUSSION

The present study aimed to investigate the relationship between emotional intelligence and depression in prostate cancer patients in Morocco. The results indicated a negative and statistically significant correlation, demonstrating an increase in depression levels and a decrease in emotional intelligence. These findings align with those of the Pitman et al. (2018) study [15].

A meta-analysis by Krebber et al. (2014) on the prevalence of depression in cancer patients also indicates that cancer patients, when diagnosed with advanced or metastatic cancer, experience depressive symptoms that may be concerning for their health and well-being [16].

This finding can be further elucidated by the fact that cancer patients tend to exhibit a negative self-perception, which may account for the observed lower Emotional Intelligence (EI). This unfavorable perception during this type of illness is, in fact, associated with genuine feelings of anger, fear, sadness, and depression.

Research conducted by Downey et al. (2008) indicates that the abilities required to regulate and control emotions are closely associated with the severity of an individual's depressive state [17]. Indeed, a lack of emotional control is associated with a significant reduction in Emotional Intelligence (EI) levels in the following domains: the recognition and expression of emotions, the adaptive management of positive and negative emotions, and the control of the most intense emotions. This finding reaffirms the notion that a lack of emotional control and an inability to regulate emotions are important factors associated with depression [18].

For this population, depression can have multiple causes, including diagnosis-related psychological distress, both short-term and long-term [15]. Furthermore, psychological distress, which includes depression and other mental health problems, can occur at different stages of the disease [19].

The data from our study also demonstrate significant differences in depression test and EI as a function of age (p-value=0.002), marital status (p-value=0.001), income level (p-value=0.002),

education level (p-value=0.003) and prostate cancer location (p-value=0.002).

These findings are consistent with those of Mirzaei-Alavijeh et al. (2018), who confirmed that elderly, single patients with primary education and metastatic prostate cancer display high levels of depression and low emotional intelligence [20]. However, Petros et al. (2022) found no association between these variables and socio-demographic characteristics [21].

Our study showed that age (β = 6.316, p-value<0.05), marital status (β=6.474, p-value<0.05) and prostate cancer location (β=5.932, p-value<0.05) were positive predictors of depression. However, emotional intelligence was a negative predictor (β=-0.433, p-value<0.05).

Further research into the predictive value of EI in depression may assist in the development of EI-based interventions aimed at preventing clinical depression, as findings suggest that the development of emotional competencies may be a key outcome of therapeutic programmes [22, 23].

CONCLUSION

This study contributes valuable insights into the association between emotional intelligence and depression among Moroccan prostate cancer patients. The findings underscore the importance of EI as a protective factor against depression and highlight the need for comprehensive interventions that address both the psychological and emotional well-being of these individuals. By incorporating EI-focused strategies into existing cancer care models, healthcare providers can empower patients to navigate the challenges of their illness and promote better mental health outcomes. Future research exploring culturally relevant interventions and the long-term impact of EI on depression will further enhance our understanding of this complex relationship and inform the development of effective support systems for prostate cancer patients in Morocco and beyond.

AUTHOR'S CONTRIBUTIONS

Badr Elmarjany and Abdelhak Maghous share the first position in this manuscript. BE Conceptualized the study, designed the research methodology, collected, and analyzed data. AM drafted the last version of the manuscript. All authors critically reviewed and revised the manuscript for intellectual content. All authors read and approved the final version for submission.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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