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Prevalence and Associated Factors of Anxiety and Depression among Patients with Cancer at Ibn Sina University Hospital, Rabat: A Cross-Sectional Study

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ABSTRACT

Objective: This study aimed to estimate the prevalence of anxiety and depression in Moroccan cancer patients and to identify associated sociodemographic and clinical factors.

Methods and Materials: We conducted a cross-sectional study among adults with cancer attending the radiotherapy department of Ibn Sina University Hospital, Rabat. Between September 2023 and December 2024, 246 of 296 approached patients completed the assessment. Sociodemographic and clinical data were collected using a structured questionnaire. Anxiety and depressive symptoms were measured with the Hospital Anxiety and Depression Scale (HADS), using scores ≥11 on each subscale to define cases. Data were analyzed with descriptive statistics and bivariable and multivariable logistic regression in SPSS 20.

Findings: Participants had a mean age of 56.3 ± 14.6 years, 58.5% were women, and 66.6% had incomes <2000 dirhams. Gynecologic and breast cancers (43.9%) were the most frequent sites. The prevalence of anxiety and depression was 57.7% and 54.1%, respectively. In multivariable models, anxiety was independently associated with age 41–50 years, while depression was associated with younger age (≤30 years), medical history, chronic pain, and receipt of brachytherapy. No significant associations were found for education, income, or cancer site.

Conclusion: More than half of cancer patients in this oncology sample met HADS criteria for anxiety and depression, indicating a high burden of psychological distress. Routine screening and age- and symptom-sensitive psychosocial support should be integrated into cancer care pathways to improve patients' quality of life.

Keywords: Anxiety, depression, cancer, psychosocial factors.

Introduction

Depression/cancer comorbidity impairs the quality of life of cancer patients. Yet these disorders are often unrecognized, underdiagnosed, and underestimated by oncologists. They are considered normal given the realization of a diagnosis as serious as cancer, and many signs are common to both cancer and depression, such as weight loss, fatigue, and sleep disturbances (Albahadlv et al., 2023; Marrakchi et al., 2025; Spiegel & Giese-Davis, 2003).

Today, men and women combined account for nearly half of new cases, and more than half of cancer deaths worldwide in 2018 occurred in Asia, partly because the region accounts for nearly 60% of the world's population (Organization, 2007). Europe accounts for 23.4% of total cancer cases worldwide and 20.3% of cancer deaths, despite representing only 9% of the global population (Organization, 2007). The United States accounted for 13.3% of the population in 2018, but accounted for 21.0% of incidence and 14.4% of mortality worldwide. Unlike other regions, the proportions of cancer deaths in Asia and Africa (57.3% and 7.3%, respectively) are higher than the proportions of incidence cases (48.4% and 5.8%, respectively). These regions have a higher incidence of certain types of cancer associated with a poorer prognosis and higher mortality rates, in addition to limited access to diagnostic services and timely treatment in many countries (Organization, 2007).

In Africa, however, WHO estimates in 2008 reported 571,000 new cancer cases (318 women/253 men). According to the International Agency for Research on Cancer (Meeting & Cancer, 2007), the most common forms in Africa, primarily among men, were prostate cancer (13.7%), liver cancer (11.5%), Kaposi's sarcoma (8.7%), esophageal cancer (6.2%), and non-Hodgkin's lymphoma (6.2%). Among women, the most common forms are cervical cancer (23.8%), breast cancer (21.3%), liver cancer (4.7%), and Kaposi's sarcoma (3.8%).

The number and increase in new cancer cases should not be overlooked. According to the 2014 WHO report, the annual incidence is estimated at 15,000 new cases, and the prevalence is estimated at 25,000 patients. The most common forms are breast cancer (18.5%), cervical cancer (13.8%), malignant lymphomas (ML) representing 11.9%, prostate cancer (7.5%), Kaposi's sarcoma (6.9%), liver cancer (2.9%), and colorectal cancer (2.9%). Out of an estimated population of nearly 24,678,233 inhabitants, Cameroon recorded 15,759 new cases and 10,533 deaths in 2018. This represents a valence rate of 27,048 new cases by 2023 (Bray et al., 2018). In Morocco, a study conducted on a series of 15648 cancer cases, Authors have shown that cancer patients were a median age of 54 years for females and 61 years for males and an incidence of 68,0 per 100.000 person-years (Belbaraka et al., 2022). The study has demonstrated that the most kind of cancer among males are lung, stomach, colic, prostate, and rectal cancers. And Among females, the most frequent cancers are cervix, breast, ovary, stomach and colon.

The above demonstrates the interest of various research based on cancer. This disease thus generates in the patient a set of repercussions. The repercussions can be not only physical, but also psychological. The psychological disorders generally observed in cancer patients are anxiety and depressive disorders (Alreda et al., 2022; Niedzwiedz et al., 2019). In the context of this research, our particular attention was focused on anxiety disorders present in cancer diseases. Several studies have already been carried out on the importance or presence of anxiety disorders in cancer diseases (Benallel et al., 2023; Mitchell et al., 2013; Yen et al., 2025). These studies have shown that cancer patients still mostly develop psychological disorders of the anxiety category, which increasingly justifies the state of unhappiness of these patients. The objective of this study was to assess the prevalence of anxiety and depression and identify their associated factors in cancer patients followed at Ibn Sina Hospital, Rabat, Morocco.

Methods and Materials

This was a cross-sectional study of cancer patients admitted to the radiotherapy Department of the University Hospital, Rabat, Morocco. The study period was from September 2023 to December 2024. Data were collected using an anonymous questionnaire. Inclusion Criteria were all patients with cancer who agreed to be interviewed were included in the study. Exclusion Criteria were cognitive impairment preventing completion of the questionnaire; Subjects who refused to respond to our questionnaires and didn't complete the questionnaires.

Instruments

The questionnaire consisted of two parts. The first part concerns the independent variables (sociodemographic data, history, clinical variables, and the presence or absence of psychological support), and the second part concerns the dependent variables, the HADS (Hospital Anxiety and Depression Scale), which is an assessment tool for anxiety disorders and depression. It comprises 14 items rated from 0 to 3. Seven items are intended for the anxiety dimension (A sub-scores) and seven others for depression (D sub-scores), thus allowing two sub-scores to be obtained (the maximum score for each sub-score is 21). Psychological assessment was carried out during cancer treatment for the majority of patients.

Anxiety and depressive disorders were assessed using the Hospital Anxiety and Depression Scale (HADS). In accordance with methodological recommendations, each subscale (HADS-A and HADS-D) was categorized as follows: a score of 0 to 7 indicates the absence of clinically significant symptoms, a score of 8 to 10 corresponds to "questionable" or intermediate symptoms, and a score ≥ 11 reflects a probable case of anxiety or depression. These thresholds were applied consistently throughout the manuscript for both descriptive analysis and multivariate models.

Several clinical variables were revised to ensure terminology conforms to medical standards. For example, the expression "psychotic disorders" was replaced with "diagnosed psychotic disorders," defined as a medical diagnosis confirmed in the clinical record. The term "prostatis" was corrected to "prostate cancer." Similarly, "curitherapy" was reformulated as "curitherapy (brachytherapy)," corresponding to local treatment using an internal radioactive source. All of these variables were coded according to clear operational definitions to ensure the reproducibility of the analyses.

Analysis

Data were analyzed using the Statistical Package for Sociological Sciences (SPSS) for Windows, version 20.0. Data were considered significant at a p-value <0.05. Patient consent was obtained prior to the study. The purpose of the study was explained to the patients orally; they had the option of not participating. All information obtained during the research remained strictly confidential. Anonymity was ensured by using codes for each file. Generalized descriptive analysis and logistic regression were used to determine the prevalence of anxiety and its associated factors. Bivariable and multivariable logistic regressions were performed to identify independent predictors of depression and anxiety. Odds ratio (Bardwell et al.) with 95% confidence interval were reported. The level of significance was set at 5% (two-tailed).

Variables with $p < 0.20$ in bivariate analysis were included in multivariate analysis, with an event-to-variable ratio ≥ 10. A Holm-corrected threshold was applied for secondary analyses (Josse & Holmes, 2016).

Findings and Results

Sociodemographic and clinical characteristics

During the study period, out of 296 patients with cancers admitted to the radiotherapy Department. Of these 296 patients, 50 cases were excluded based on the study's predefined exclusion criteria, representing 16.90%, and 246 patients were retained for the study, representing 83.10% of the patients evaluated (figure 1).

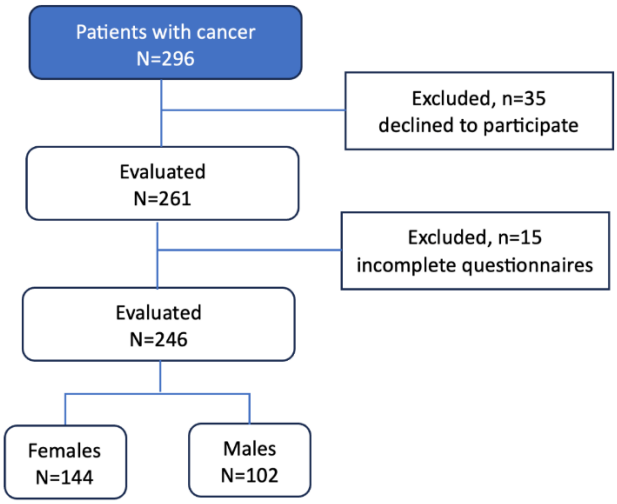

Figure 1

Research participants flowchart

The mean age of the patients was 56.33±14.58 years, with a range of 15-94 years; 41.5% of the patients were in the 60 and older age group; 24% of the patients were in the 40-50 age group; 21.5% of the patients were in the 50-60 age group. 8.9% were between 30-40 and 4.1% were under 30 years of age. Married patients represented 73.6% of the study population, 10.6 were divorced, 9.3 bereaved and 6.5% were single; 55.3% were illiterate, 25.6% had a primary education, 15% had a secondary education and 4.1% had a high education. 65,4% of patients were unemployed, 22% of patients were employed; 11.8% were retired and 0.8% were students. Regarding socioeconomic status, 66,6% of patients had an income less than 2000dh per month, 29.3% had an intermediate income (2000-7000dh) and 4.1% a high income (> 7000dh/month). The majority of cancer cases were gynecologic or breast cancers (25.2%) followed by head and neck cancers (14.2%), prostatis (13.8%), lung cancer (10,2%) and 8.9% for both digestive system and bone and soft tissues (Table 1).

Table 1

Sociodemographic and clinical characteristics of participants.

		Number	Percentage
Gender	Female	144	58.5
	Male	102	41.5
Marital status	Married	181	73.6
	Single	16	6.5
	divorced	26	10.6
	Bereaved	23	9.3
Occupation	Employed	54	22.0
	Retired	29	11.8
	Student	2	0.8
	Unemployed	161	65.4
Age	≤ 30	10	4.1
	31–40	22	8.9
	41–50	59	24
	51–60	53	21.5
	> 60	102	41.5
Education level	Illiterate	136	55.3
	Primary	63	25.6
	Secondary	37	15
	High school	10	4.1
	< 2000	164	66.6

Monthly household income (dh)	2000–7000	72	29.3
	≥ 7000	10	4.1
Children	None	36	14.6
	1-3	91	37
	4-5	59	24
	More than 5	60	24.4
Origin	Urban	167	67.9
	Rural	79	32.1
Cancer location	Gynecologic, breast	108	43.9
	Head and neck	35	14.2
	Lung	25	10.2
	Digestive	22	8.9
	Prostatis	34	13.8
	Bone and soft tissue	22	8.9
Medical history	No	167	67.9
	Yes	79	32.1
Surgery history	No	165	67.1
	Yes	81	32.9
Cancer history	No	237	96.3
	Yes	9	3.7
Cancer family history	No	170	69.1
	Yes	76	30.9
Psychotic troubles	No	243	98.8
	Yes	3	1.2
Chronic pain	No	152	61.8
	Yes	94	38.2
Treatment	Curative	225	91.5
	Palliative	21	8.5
Surgery	No	140	56.9
	Yes	106	43.1
Radiotherapy	No	3	1.2
	Yes	243	98.8
Chemotherapy	No	68	27.6
	Yes	178	72.4
Hormonotherapy	No	158	64.2
	Yes	88	35.8
Curitherapy	No	215	87.4
	Yes	31	12.6
Immunotherapy	No	244	99.2
	Yes	2	0.8
Sport activity	No	241	98
	Yes	5	2

Among the study population, urban patients constitute 67.9% and rural 32.1%, 32.1% had medical history, 32.9% had surgery history, 3.7% had cancer history and 30.9% had cancer cancer family history. 1.2% of patients suffer from psychotic troubles and 38.2% had chronic pain. Regarding therapeutic management, 98.8% of patients received radiotherapy, 72.4% received chemotherapy, 12.6% received curitherapy and 0.8% received immunotherapy. Regarding the treatment phase, 91.5% of the study population were in the curative phase and 8.5% in the palliative phase (Table 1).

2. Anxiety-depressives disorders assessment `

From this sample, the rates for anxiety and depression were 57.7% (95% CI: 51.3–64.01) (n=142) and 54.1% (95% CI: 47.6–60.4%) (n=133), respectively (Table 2).

Table 2

Distribution of patients according to HADS score.

	Anxiety		Depression	
	N	%	N	%
Absence of symptomatology	104	42.3	113	45.9
Doubtful symptomatology	37	15	17	6.9
Certain symptomatology	105	42.7	116	47.2

3. Factors associated with the occurrence of anxiety and depression disorders

Non-significant variables: There were no statistically significant differences between sociodemographic variables, and the occurrence of anxiety and depression disorders (Tables 4 and 5).

Association between anxiety-depression disorders and type of cancer. According to multivariate analysis, anxiety was not associated with gender and a family history of cancer. Indeed, patients aged between 41 and 50 years are 4.64 more likely to develop anxiety than those under 30 years (OR = 0.266; 95% CI: 0.70-1.016; p = 0.05). In addition, depression significantly affects patients aged between 41 and 50 years (OR = 0.197; 95% CI: 0.045-0,868; p = 0.032) and patients under 30 years (p=0,043); depression is associated with age and chronic pain (OR = 1.77; 95% CI: 1.05-3.01; p = 0.02), medical history (OR = 1.860; 95% CI: 1.018-3,398; p=0,044) and curitherapy(OR = 3.191; 95% CI: 1.253-8.125; p = 0.015) (Tables 4 and 5).

Table 4

Association Between Demographic and clinical characteristics and Anxiety in Patients with cancer.

		No anxiety	With anxiety	OR (95% CI)	p-value
Gender	Female	55	89	-	0.08
	Male	49	53	1.81(0.4-1.57)	0,55
Marital status	Married	80	101	-	0,74
	Single	6	10	0.93(0.36-2.38)	0.88
	divorced	6	20	0.74(0.13-4.21)	0.73
	Bereaved	12	11	0.53 (0.14-1.97)	0.34
Occupation	Employed	16	38	0.00	0.99
	Retired	16	13		
	Student	0	2		
	Unemployed	72	89		
Age	≤ 30	3	7	-	0,41
	31–40	4	18	0.53(0.68-4.21)	0.55
	41–50	19	40	0.26(0.70-1.01)	0.05
	51–60	23	30	0.59(0.24-1.41)	0.23
	> 60	55	47	0.72(0.33-1.54)	0.40
Education level	Illiterate	65	71	-	0,94
	Primary	24	39	1.39(0.29-6.59)	0.67
	Secondary	12	25	1.47(0.29-7.30)	0.63
	University	3	7	1.16(0.21-6.32)	0.86
Monthly household income	< 2000	164	66.6	-	
	2000–7000	72	29.3	1.06(0.19-5.97)	0.94
	≥ 7000	10	4.1	1.59(0.30-8.48)	0.58
Children	None	16	20	-	0,48
	1-3	28	63	1.75(0.58-5.21)	0.31
	4-5	29	30	0.79(3.35-1.77)	0.58
	More than 5	31	29	1.09(0.49-2.43)	0.82
Origin	Urban	66	101	-	
	Rural	38	41	0.60(0.32-1.11)	0.10
Medical history	No	68	99	-	
	Yes	36	43	0.82(0.48-1.81)	0.47
Surgery history	No	64	101	-	
	Yes	40	41	1,19(0.66-2.16)	0.54
Cancer history	No	99	137	-	
	Yes	4	5	0.90(0.24-3.45)	0.88
Cancer family history	No	65	105	-	
	Yes	39	37	2.03(1.10-3.74)	0.02
Psychotic troubles	No	103	140	-	
	Yes	1	2	1.47(0.13-16.45)	0.75
Chronic pain	No	70	82	-	
	Yes	34	60	0.65(0.36-1.17)	0.15
Sport activity	No	103	138	-	
	Yes	1	4	0.69(0.29-1.63)	0.40

Table 5

Association Between Demographic and clinical characteristics and depression in patients with cancer.

		No depression	With Depression	OR (95% CI)	p
Gender	Female	71	73	1.57(0.79-3.12)	0.20
	Male	42	60		
Marital status	Married	86	95	-	0,36
	Single	5	11	0.98(0.35-2.72)	0.97
	divorced	9	17	0.15(0.13-1.93)	0.14
	Bereaved	13	10	0.53(0.13-2.08)	0.36
Occupation	Employed	22	32	0.00	0.99
	Retired	16	13		
	Student	0	2		
	Unemployed	75	86		
Age	≤ 30	4	6	-	0.04
	31–40	4	18	14.04(0.94-209.02)	0.05
	41–50	29	30	0.19(1.04-0.68)	0.03
	51–60	22	31	0.38(0.61-2.21)	0,69
	> 60	54	48	0.84(0.26-1.93)	0.68
Education level	Illiterate	73	63	-	0.14
	Primary	28	35	4.16(0.77-22.75)	0.09
	Secondary	10	27	3.75(0.06-1.51)	0.13
	University	2	8	1.53(0.12-3.73)	0.65
Monthly household income	< 2000	164	66.6	-	0,86
	2000–7000	72	29.3	1.11(0.27-4.54)	0.87
	≥ 7000	10	4.1	0.89(2.23-3.36)	0.86
Children	None	11	25	-	0.75
	1-3	39	52	0.53(0.15-1.84)	0.32
	4-5	31	28	0.96 (0.40-2.31)	0.93
	More than 5	32	28	0.99(0.40-2.40)	0.98
Origin	Urban	75	92	Non significatif en univarié-	
	Rural	38	41	0.88(0.51-1.50)	0.37
Medical history	No	69	98	-	
	Yes	44	35	1.86(1.01-3.39)	0.04
Surgery history	No	71	94	-	
	Yes	42	39	1.21(0.65-2.24)	0.53
Cancer history	No	109	127	-	
	Yes	3	6	0.58(0.14-2.38)	0.34
Cancer family history	No	72	98	-	
	Yes	41	35	1.52(0.83-2.79)	0.17
Psychotic troubles	No	111	132	-	
	Yes	2	1	2.37(0.21-26 ;57)	0.44
Chronic pain	No	78	74	-	
	Yes	35	59	0.67(0.34-1.29)	0.23
Sport activity	No	112	129	-	
	Yes	1	4	1.42(0.28-5.24)	0.59

The relationship between cancer location, the type of treatment and the occurrence of anxiety and depression, as well as the phase of treatment, was significant only for curitherapy with p≤0.05.

No significant correlation between other therapeutic treatment and the occurrence of anxiety-depressive disorders was revealed (Table 6).

Table 6

Association between anxiety-depression disorders and therapeutic management.

		HADS-A score			p-value	HDS-D score			p-value
		Absence	Doubtful	Certain		Absence	Doubtful	Certain	
Cancer location	Gynecologic, breast	44	18	46	0.71	56	9	43	0.36
	Head and neck	12	5	18		15	2	18	
	Lung	8	5	12		5	2	18	
	Digestive	10	2	10		9	1	12	
	Prostatis	20	4	10		16	2	16	
	Bone and soft tissue	10	3	9		12	1	9	
Treatment	Curative	97	32	96	0.45	105	16	104	0.62
	Palliative	7	5	9		8	1	12	
Radio-therapy	No	0	0	3	0.18	0	0	3	0.18
	Yes	104	37	102		113	17	113	
Chemo-therapy	No	36	6	26	0.06	32	3	33	0.63
	Yes	68	31	79		81	14	83	
Hormono-therapy	No	65	25	85	0.85	71	13	74	0.54
	Yes	39	12	37		42	4	42	
Curi-therapy	No	86	31	98	0.05	92	16	107	0.03
	Yes	18	6	7		21	1	9	
Immunotherapy	No	103	37	104	0.83	112	17	115	0.92
	Yes	1	0	1		1	0	1	

Discussion and Conclusion

The experience of a cancer patient is frequently associated with anxiety and depressive disorders that are underdiagnosed and therefore undertreated. The study aimed to determine the prevalence of depression and anxiety and associated factors among cancer patients in Rabat, Morocco.

Our findings show that 57.7% of the study population presented an anxiety disorder and 54.1% depression. In the literature, authors have also reported a high prevalence of anxiety disorders and depression. In a 2018 study conducted in Asia, Tsaras et *al.* reported a percentage of 38.2% for depression and 32.2% for anxiety disorders in breast cancer patients (Tsaras et al., 2018). In the United States, in 1991, Golden et al, among hospitalized women with cervical, endometrial, and vaginal cancer, reported a prevalence of 23% of major depression (Golden et al., 1991).

Authors report that age is a high-risk factor for the occurrence of anxiety-depressive disorders, particularly in young subjects (Burgess et al., 2005). This finding was also observed in previous studies conducted in Germany and in the United States (Bardwell et al., 2006; Ell et al., 2005; Jacob et al., 2017). In this study, the majority of patients presenting with anxiety-depressive disorders were in the over 60 years age group, but the statistical result was not significant, but the logistic regression analysis show that the patients aged between 41 and 50 years are more exposed to anxiety-depressive disorders, respectively. This result corroborates that of Aass in a study conducted in Norway, as well as Ciaramella in Italy. The authors mention that there is no link between the age of cancer patients and depressive symptoms (Aass et al., 1997; Ciaramella & Poli, 2001).

The impact of cancer is not limited only to physical health but can also have repercussions on family life and marital relationships. Patients worry about their body image in relation to their spouses and their marital role, questioning their femininity, which can lead to a loss of self-esteem. Klügel et al. mention that marital status is a factor associated with the occurrence of depression (Klügel et al., 2017). In this study, the result was non-significant.

Indicators of low socioeconomic status, such as low income, unemployment, and low education are recognized as risk factors for mental disorders in the general population (Marrakchi et al., 2024; Patel et al., 2002; Sheela & Venkatesh, 2016).

In this study, education level, occupational status, and socioeconomic level had no influence on the occurrence of depression. This result corroborates with other studies reporting that there is no significant correlation between education level, occupation, and the occurrence of depression (Ciaramella & Poli, 2001; Ell et al., 2005). However, other authors mention that socioeconomic

status is a high-risk factor for the occurrence of depression (Klapheke et al., 2020). The presence of a psychiatric history influences the development of psychological distress in cancer patients (Marrakchi et al., 2024; Woodruff, 1999). Authors have reported that previous psychiatric problems are a high-risk factor for the occurrence of anxiety and depression disorders (Stark et al., 2002). In this study, it was found that the absence of a psychiatric history did not protect against the occurrence of depression.

In a study conducted in Germany, Jacob reported that the type of cancer is a risk factor for the occurrence of anxiety disorders or depression. Patients with breast cancer had a 1.41 times greater risk of developing depression or anxiety than those with genital cancers (Jacob et al., 2017). In this study, there was no significant difference between the type of cancer and the occurrence of anxiety disorders or depression. In the present study, patients with advanced cancer were the most depressed and anxious, but the statistical result was not significant. According to the literature, cancer stage is a risk factor for the occurrence of anxiety and depressive disorders. Ciaramella, in a study conducted in Italy, reported a significant increase in depression in patients with metastatic cancer (Ciaramella & Poli, 2001). Similarly, in Germany, Jacob and Klügel et al. mentioned that cancer stage is a factor associated with the occurrence of depression (Jacob et al., 2017; Klügel et al., 2017). This finding was also reported by Shim et al., in Korea, with $p < 0.001$(Shim et al., 2018).

In this study, there was no correlation between the occurrence of depression and cancer treatment. The results in the literature are controversial. According to Burgess et al in a study conducted in 2005, there is no link between treatment and the occurrence of anxiety-depressive disorders (Burgess et al., 2005). On the other hand, in 2021, Habimana et al., 2023 found a significant association between the type of surgery and depression (Habimana et al., 2023). For the anxiety sub-score, an association was found between therapeutic management and the occurrence of anxiety disorders with $p = 0.02$.

This result is consistent with the study conducted by Goerling et al.. The authors report that cancer treatments are associated with anxiety, but this depends heavily on the specific circumstances (Goerling et al., 2023).

Patients in the curative phase were more depressed than those in the initial palliative phase, but the statistical result was not significant. Studies that have analyzed this factor report that the treatment phase is a high-risk factor for the onset of depression (Velasco-Durantez et al., 2024).

Regarding the anxiety subscore, the statistical result was significant. This could be explained by the fact that patients are concerned about their survival prognosis and the evolution of their health.

The results of our study should be interpreted with caution. Some observed associations, particularly those related to age, chronic pain, or medical history, are not always consistent with the international literature, where reported risk factors vary widely depending on the clinical context, cancer type, and treatment phase. These discrepancies may be explained by the heterogeneity of our population, the high proportion of patients already undergoing active treatment, and the lack of data to distinguish the specific impact of tumor stage, symptom severity, or type of therapy. Consistent with the cross-sectional nature of our study, the results reflect associations, not causal relationships. Any mechanistic or causal interpretation was deliberately avoided to prevent overinterpreting the data.

It is important to emphasize that the majority of participants had already received at least one cancer treatment at the time of evaluation (radiotherapy, chemotherapy, or surgery). The observed associations between anxiety/depression and certain therapeutic parameters must therefore be interpreted within the context of a population undergoing or in advanced stages of treatment, and not during a “first consultation.” The identified emotional differences could thus reflect the cumulative experience of care, the side effects of treatments, or clinical progression, rather than an initial psychological state. This distinction is essential to reduce the risk of confounding related to the treatment phase.

Cancerous conditions cancers can cause psychological reactions that are difficult to manage, such as anxiety and depression. However, the coexistence of these disorders with cancer could have a detrimental effect on patients' prognosis. Although this study is not representative of the Moroccan population, the results demonstrated that anxiety and depression disorders among patients with cancers are a reality. Improving our understanding of the risk factors for anxiety and depression among cancer patients in Morocco will enable us to take action to promote their well-being and help them better cope with

their challenges. In this regard, a large-scale study is desirable.

Given the cross-sectional nature of our study and the variability of patients' treatment trajectories, our results support the value of regular screening for anxiety and depression in people with cancer. Thus, rather than recommending systematic screening at the first consultation, it seems more relevant to suggest that psychological screening can be useful at different points in the care pathway, taking into account the stage of treatment and individual factors. This approach would allow for better identification of vulnerable patients and optimize their overall care.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

Ethical approval was granted by the Faculty of Medicine Ethics Committee (ref. 023/2022). All participants provided informed consent prior to data collection, and confidentiality was strictly maintained throughout the study.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

RF was involved in the design, interpretation of data. MC was involved in the conception, design, analysis, interpretation of data, and revision of the manuscript. JK was involved in the interpretation of data. FL was involved in the conception, design and revision of the manuscript. All authors approved the final manuscript.

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