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Assessment of patient's feeling and psychological impact of Announcement of cancer diagnosis at HASSAN II university hospital in Fez

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SUMMARY

Introduction:The announcement of the diagnosis of cancer is the first step in the management; it conditions the experience of the disease and compliance with treatment.

Objective: The objective of this study was to assess patients' feelings about the diagnosis of cancer and its psychological impact.

Methodology: We conducted a monocentric cross-sectional study at Hassan II university hospital; we included 203 newly diagnosed patients over the year 2021. We assessed patient perception after the announcement and identified its psychological impact through the MINI scale.

Results: The average age was 52 (18-92). 65% were female, 51.7% were urban and 59.1% had a low income. 72.0% of patients felt that the time spent on the announcement was not sufficient, 68.5% were not involved in the therapeutic choice and 68.1% of our patients felt that their social, family and economic situation was not taken into account.

In terms of overall patient perceptions of the announcement, 77.3% of participants were satisfied. Three main psychiatric disorders were identified, major depression (37.9%), generalized anxiety (30.5%), and post-traumatic stress (8.4%). Patients who were dissatisfied with the quality of diagnosis announcement are 5.4 times more likely to have major depression independently of other factors (P<0.0001).

Conclusion: In our social context, the announcement of a cancer diagnosis can have psychological repercussions on patients or the interest in setting up a personalized announcement consultation.

Key words: cancer diagnosis, tumor, psychological trauma

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INTRODUCTION

Announcing the diagnosis of cancer is a very important step in the management of patients with this disease. Despite the progress made in the management of cancer diseases and the extension of life expectancy, the term cancer still evokes the idea of death.

The announcement of the cancer diagnosis represents a psychological trauma for the patient regardless of any physical suffering. This mental distress is often alleviated after treatment begins as the patient finds new points of reference in the organization of management, quality of care, and daily life. Sometimes the individual coping mechanisms can fail, and the patient will need real psychiatric management. According to the literature, 25%-40% of cancer patients develop an affective disorder within a year of diagnosis [1].

So far, few data are available in Morocco on the feelings of patients during the first weeks of their treatment. With the law of March 4, 2002 [2], which made information a right for patients and a duty for doctors, we have considered realizing an epidemiological study in our institution to adapt this practice to the needs of our population. The objective of this study is to assess patient satisfaction with the diagnosis announcement and its psychological impact, as well as to study the risk factors associated with psychiatric disorders.

The Moroccan National Cancer Research Institute has encouraged this work, which will make it possible to develop cancer research in Morocco.

METHODOLOGY

Inclusion of patients

We conducted a descriptive and analytical monocentric cross-sectional study at CHU Hassan II in Fez over one year from January 1, 2021 to December 31, 2021. All patients newly diagnosed with a cancer disease (aged 18 years and older), treated at the Hassan II University Hospital in Fez, in which the cancer diagnosis was announced in the previous 2 months, and who have given their written and informed consent to participate, have been included.

We excluded patients with cognitive impairments or functional impairments that did not allow them to answer questions, as well as patients whose diagnosis had not yet been clearly announced

Data collection

For each patient, we first collected socio-demographic data (age, sex, marital status, level of study, socioeconomic level), their history, the type of cancer, and the service where the diagnosis was announced…).

We developed a questionnaire to assess the conditions under which the announcement was made (structuring the announcement, the general framework of the announcement, the quality of the sick doctor relationship, coordination between the caregivers and the paramedic team, etc.).

We then conducted a psychiatric assessment using:

The MINI (INTERNATIONAL NEUROPSYCHIATRIC INTERVIEW) in its dialectal Arabic version [3]: is a validated scale to determine the current and/or lifetime prevalence of various psychiatric disorders explored including major depressive episode, dysthymia, suicidal risk, episode (hypomanic/bipolar disorder), panic disorder, agoraphobia, social phobia, obsessive-compulsive disorder, post-traumatic stress disorder, alcohol (addiction/abuse), drugs (addiction/abuse), psychotic disorders, anorexia nervosa, bulimia nervosa, generalized anxiety, and antisocial personality disorders.

Investigator training

The survey was carried out by psychiatrists trained initially on the particularity of the cancer patient, types of cancer, and anti-cancer treatments. As well as the different questionnaires (the purpose of each evaluation and how the questions are asked).

Statistical analysis

The collected data were processed on Excel software and then analysed by R software. Categorical variables were represented in percentages. The quantitative variables as means +/- standard deviation. A univariate analysis was made using the chi2 test for comparison of percentages and student t for comparison of averages. Multivariate analysis through logistic regression was used to determine factors associated with psychological disorders after adjusting for confounding factors. A p-value below 0.05 was considered significant.

Ethique

We had the approval of the ethics committee of the Faculty of Medicine and Pharmacy in Fez, study entered under number 20/20.

Informed consent was obtained for all patients in the study.

We also obtained permission from the director of Hassan II university hospital of Fez to conduct the investigation.

Tab. 1. Descriptive patient data statistics

Variables		Number of patients(in %)
Gender	Female	132 (65%)
	Male	71 (35%)
Area	Rural	98 (48,3%)
	Urban	105 (51.7%)
Marital status	Married	145 (71.4%)
	Other	58 (28.6%)
Education level	Primary	149 (73.4%)
	Secondary or higher	54 (26,6%)
Work activity	yes	140 (69.0%)
	No	63 (31.0%)
Monthly income	<2000 MAD	120 (59.1%)
	>2000 MAD	83 (40.9%)
Medical coverage	RAMED	177 (87.2%)
	Other	26 (12.8%)
Medical history	Yes	160 (78.8%)
	No	43 (21.2%)
Surgical history	Yes	139 (68.5%)
	No	64 (31.5%)
Notion of addiction	Smoking	37 (18.2%)
	Drinking	07 (3.4%)
	Other	04 (2.0%)
Localization	Gynecologic	79 (38.9%)
	VADS	71 (35.0%)
	Brain	10 (4.9%)
	Digestive	16 (7.9%)
	Bone	07 (3.4%)
	Lung	10 (4.9%)
	Urologic	10 (4.9%)

RESULTS

The participation rate in this survey was 420, but only 203 patients met the inclusion criteria.

The average age was 52 (18-92). 65% were female, 51.7% were urban, 59.1% had a low monthly income, 26.6% had secondary education or higher, 69% had no work activity, 71% lived with a spouse and/or children, 87.2% had RAMED as medical overage, 78.8% had no personal history of chronic disease, and 18.2% were smoking.

Among the participants 38.9% had gynaecological cancer, 35% had neoplasia of the upper aerodigestive pathways and 7.9% had digestive localization(Table 1).

For the results of the first assessment on the feeling after the announcement of the diagnosis, we note a favourable perception of patients of 88.7% compared to the structuring of the announcement. 79.8% of patients felt that the time spent on the announcement was not sufficient, 68.5% were not involved in the therapeutic choice and 68.0% of our patients felt that their social, family and economic situation was not taken into account.

In terms of overall patient perceptions of the announcement, 77.3% of participants were satisfied (Table 2).

Concerning the psychiatric assessment by the MINI, three main psychiatric disorders were identified, major depression trouble (37.9%), generalized anxiety (30.5%), and post-traumatic stress (8.4%).

Several factors have been significantly associated with major depression: female sex, occupational inactivity, RAMED, and low income. Regarding the state of post-traumatic stress, no factors were associated.

The factors associated with generalized anxiety are female sex, low income, and the presence of a history of surgery.

Smoking was a major protective factor against anxiety and depression in our study (Table 3).

Tab. 2. Description of how patients feel about the diagnosis announcement

Items		Number of patients(in %)
Structuring the announcement	Insufficient	23 (11.3%)
	Sufficient	180 (88.7%)
Time spent on the announcement	Insufficient	162 (79.8%)
	Sufficient	41 (20.2%)
Involvement in the therapeutic project	Insufficient	139 (68.5%)
	Sufficient	64 (31.5%)
Consideration of the socio-economic situation	Insufficient	138 (68.0%)
	Sufficient	65 (32.0%)
Overall satisfaction	Insufficient	46 (22.7%)
	Sufficient	157 (77.3%)

Tab. 3. Factors associated with psychiatric disorders after cancer diagnosis

Variables		Major Depressive Episode			Post-Traumatic Stress			Generalized Anxiety		
		No (N/%)	Yes (N/%)	P value	No (N/%)	Yes (N/%)	P value	No (N/%)	Yes (N/%)	P value
Gender	Female	71 (53.8%)	61 (46.2%)	0.001	123 (93.2%)	09 (6.8%)	0.275	80 (60.6%)	52 (39.4%)	0.0001
	Male	55 (77.5%)	16 (22.5%)		63 (88.7)	08 (11.3%)		61 (85.9%)	10 (14.1%)	
Area	Rural	67 (68.4%)	31 (31.6%)	0.074	92 (93.9%)	06 (6.1%)	0.263	69 (70.4%)	29 (29.6%)	0.776
	Urban	59 (56.2%)	46 (43.8%)		94 (89.5%)	11 (10.5%)		72 (68.6%)	33 (31.4%)	
Marital status	Married	90 (62.1%)	55 (37.9%)	0.561	132 (91.0%)	13 (09.0%)	0.631	103 (71.0%)	42 (29.0%)	0.441
	Other	36 (62.1%)	22 (37.9%)		54 (93.1%)	04 (06.9%)		38 (65.5%)	20 (34.5%)	
Education level	Married	90 (62.1%)	55 (37.9%)	0.561	132 (91.0%)	13 (09.0%)	0.631	103 (71.0%)	42 (29.0%)	0.441
	Other	36 (62.1%)	22 (37.9%)		54 (93.1%)	04 (06.9%)		38 (65.5%)	20 (34.5%)	
Work activity	yes	51 (81.0%)	12 (19.0%)	0.0001	61 (96.8%)	02 (03.2%)	0.073	48 (76.2%)	15 (23.8%)	0.162
	No	75 (53.6%)	65 (46.4%)		125 (89.3%)	15 (10.7%)		93 (66.4%)	47 (33.6%)	
Medical coverage	RAMED	103 (58.2%)	74(41.8%)	0.003	162 (91.5%)	15 (08.5%)	0.893	121 (68.4%)	56 (31.6%)	0.376
	Other	23 (88.5%)	03 (11.5%)		24 (92.3%)	02 (07.7%)		20 (76.9)	06 (23.1%)	
Monthly income	< 2000 MAD	61 (50.8%)	59 (49.2%)	0.0001	82 (68.3%)	38 (31.7%)	0.786	75 (62.5	45 (37.5%)	0.01
	>2000 MAD	65 (78.3%)	18 (21.7%)		55 (66.2%)	28 (33.8%)		66 (79.5%)	17 (20.5%)	
Surgical history	Yes	43 (67.2%)	21 (32.8%)	0.308	58 (90.6%)	06 (09.4%)	0.727	38 (59.4%)	26 (40.6%)	0.034
	No	83 (59.7%)	56 (40.3%)		128 (91.1%)	11 (07.9%)		103 (74.1%)	36 (25.9%)	
Médical history	Yes	26 (60.5%)	17 (39.5%)	0.807	40 (93.0%)	03 (07.0%)	0.709	29 (67.4%)	14 (32.6%)	0.746
	No	100 (62.5%)	60 (37.5%)		146 (91.3%)	14 (08.8%)		112 (70.0%)	48 (30.0%)	
Smoking	Yes	30 (81.1%)	7 (18.9%)	0.008	34 (91.9%)	3 (08.1%)	0.948	31 (83.8%)	6 (16.2%)	0.036
	No	96 (57.8%)	70 (42.2%)		152 (91.6%)	14 (08.4%)		110 (66.3%)	56 (33.7%)	
Other addictions	Yes	03 (75.0%)	01 (25.0%)	0.59	03 (75.0%)	01 (25.0%)	0.225	04 (100.0%)	00 (00.0%)	0.315
	No	123 (61.8%)	76 (38.2%)		183 (92.0%)	16 (08.0%)		137 (68.8%)	62 (31.2%)	

The results of the univariate analysis showed a statistically significant association between patient dissatisfaction with the diagnosis and the risk of a major depressive syndrome (P<0.003). This dissatisfaction concerns the structuring of the announcement, the time spent on the announcement, and the failure to take account of the economic and social situation (Table 4). The risk of a post-traumatic stress event increases significantly if the time spent on the announcement is insufficient (P<0.024).

In our study, we did not find a significant association between patients' satisfaction with the announcement of the diagnosis and generalized anxiety.

Multivariate analysis objected that patients who were dissatisfied with the quality of diagnosis announcement are 5.4 times more likely to have major depression independently of other factors with a value of P<0.0001. There was also a statistically significant association between monthly income and the onset of major depression (Table 5). This is because low-income patients are 10 times more likely to have major depression regardless of other factors with a P<0.039.

Tab. 4. The psychological impact of diagnostic announcement quality

Variables		Major Depressive Episode			Post Traumatic Stress			Generalized Anxiety		
		No(N/%)	Yes(N/%)	P value	No(N/%)	Yes(N/%)	P value	No(N/%)	Yes(N/%)	P value
Structuring the announcement	Insufficient	09(39.1%)	14(60.9%)	NA	19(82.6%)	04(17.4%)	NA	14(60.9%)	09(39.1%)	NA
	Sufficient	117(65.0%)	63(35.0%)	0.016	167(92.8%)	13(07.2%)	0.097	127(70.6%)	53(29.4%)	0.342
Time spent on the announcement	Insufficient	111(68.5%)	51(31.5%)	NA	152(93.8%)	10(06.2%)	NA	112(69.1%)	50(30.9%)	NA
	Sufficient	15(36.6%)	26(63.4%)	0.0001	34(82.9%)	07(17.1%)	0.024	29(70.7%)	12(29.3%)	0.843
Involvement in the therapeutic project	Insufficient	87(62.6%)	52(37.4%)	NA	128(92.0%)	11(08.0%)	NA	95(68.3%)	44(31.7%)	NA
	Sufficient	39(60.9%)	25(39.1%)	0.195	58(90.6%)	06(09.4%)	0.559	46(71.9%)	18(28.1%)	0.701
Consideration of the socio-economic situation	Insufficient	80(58.0%)	58(48.0%)	NA	125(90.6%)	13(09.4%)	NA	99(71.7%)	39(28.3%)	NA
	Sufficient	46(70.8%)	19(29.2%)	0.08	61(93.8%)	04(06.2%)	0.433	42(64.6%)	23(35.4%)	0.304
Overall satisfaction	Insufficient	20(43.5%)	26(56.5%)	NA	39(84.8%)	07(15.2%)	NA	32(69.6%)	14(30.4%)	NA
	Sufficient	106(67.5%)	51(32.5%)	0.003	147(93.6%)	10(06.4%)	0.057	109(69.4%)	48(30.6%)	0.986

Tab. 5. Multivariate analysis: Factors associated with depression.

Variables		OR ajustee(IC 95%)	P
Overall satisfaction	Insufficient	5.44(2.28; 12.96%)	0.0001
	Sufficient	1	NA
Monthly income	<2000 MAD	10.39(1.12; 95.97%)	0.039
	>2000 MAD	01.85(0.18; 18.54%)	0.6
Work activity	NON	2.67(1.014; 7.023%)	0.047
	OUI	1	NA

DISCUSSION

Our study is the first that evaluated the feeling and psychological condition of patients after the announcement of the diagnosis in our establishment, it made it possible to identify various psychological manifestations in our patients during the first weeks of their management.

Concerning age and sex, it was noted in our study a higher percentage of women than men, which joins the data of the hospital registry of Hassan II university hospital, as well as the population registers, according to the latest analyses, more than 48,000 new cancer cases were diagnosed in Morocco in 2019. 65% of cancers affect women (breast, cervix, thyroid, colorectal, and ovary) versus 35% for men (lung, prostate, colorectal, bladder, non-Hodgkin's lymphoma) [4].

The overall satisfaction rate was reassuring, but the assessment of patient feelings objected to deficiencies in the time spent on the announcement, the patients' lack of involvement in the therapeutic project, and the failure to take socioeconomic status into account. This can be explained by the large flow of patients and the limited number of doctors who have had prior training in announcing a diagnosis in our institution. This problem impacts negatively the quality and time spent in cancer diagnosis consultation.

In the literature, the majority of authors consider that the announcement of a cancer diagnosis is a very difficult task, which requires relational skills, communication techniques, and human qualities [5-6]. Dellavalez proposed a 3-phase advertising model by reporting on his Belgian experience with bad news in oncology in 2014 [7]. A preparatory phase of the patient called the pre-announcement phase, during which the doctor makes a global assessment of the patient, speaks about the purpose of the consultation, and provides psychological support to the patient, the second phase is devoted to the announcement itself, which according to him, must be done with precise, clear words, and without distorting reality. Finally, the third phase called post-announcement is a phase of verification of the reception of information by the patient and emotional support.

The announcement of a serious diagnosis is recognized as trauma in the DSM 5. According to Di Malto and al, it can lead to psychological distress that reduces the quality of life of patients and negatively impacts adherence to treatment [8]. The literature also reports a link between patient satisfaction with the announcement of the diagnosis and the risk of mental disorders including depression [9]. A study conducted by the Poitiers team on a population of cancer patients revealed significant rates of depression and anxiety that can be a source of aggravation of the underlying disease [10].

The social aspect poses a big problem in public hospitals in Morocco because the majority of patients have a low socioeconomic level, and undergo long, heavy, and expensive treatments. They require the presence of an assistant for the administrative procedures.

The Belgian model, which follows the recommendations concerning the announcement of the diagnosis [11-12], seems to be applicable in our establishment if we can add medical and social assistance. Training doctors in communication techniques are also needed to improve the quality of cancer announcement [13-14].

Moreover, the poverty of Moroccan patients, especially those consulting in a public facility, has an inevitable impact on the health care team and therapeutic management. All the studies carried out show that this economic difficulty is at the forefront. Indeed, 64%-87% of patients have low income or are unemployed and do not benefit from social security covering the cost of care [15-16].

These patients have a medical assistance scheme (RAMED), which allows them to benefit free of charge from the services offered by the public hospital, which are limited to low-cost cancer drugs. This requires physicians to tailor the treatment proposal to the financial means and stocks available in the hospital and not to therapeutic recommendations that include expensive antimitotics (targeted therapies, immunotherapy, and new techniques of radiotherapy), which has a very important psychological impact on these patients due to the fear of ineffectiveness of treatment. Finally, the new project of generalizing health coverage to the whole kingdom will be the beginning of the solution to the socio-economic problem.

Clinical implications

Our study is the first to assess the patient's feelings and their psychological impact in our region, it had shed light on several problems concerning the announcement of the diagnosis in our country as well as the ways of improvement and demonstrates the value of integrating psycho-oncology into the cancer advertising device.

Study limitations

Despite rigorous methodology and a satisfactory participation rate, the inclusion rate was lower than estimated, due to the presence of psychiatric history, or the localization of cancer that did not allow the patient to answer questions such as brain localization.

CONCLUSION

The announcement of the diagnosis leads to psychological repercussions that are difficult for oncologists to manage, not only at the time of the announcement but also throughout the course of treatment. These impacts are closely linked to the quality of the cancer diagnosis announcement and the social context of our population. Having an advertising device adapted to the needs of our patients has become necessary with adequate training of doctors in communication techniques.

Declaration of interest

The authors declare no conflicts of interest.

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