

The Evolution of the Socio-cultural and Religious Characteristics of Cancer Patients in Morocco: Case of the National Institute of Oncology Rabat

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Abstract

Background: In 2018, Morocco recorded more than 52,783 new cases of cancer and more than 32,962 cases of death (IARC, 2018). Cancer is always accompanied by socially constructed, differentiated and contingent interpretations and practices according to the socio-cultural and religious characteristics of each region. The aims of this study is describing the evolution of the socio-cultural and religious aspects of Moroccan cancer patients followed at the National Institute of Oncology (NIO) of RABAT between 2010 and 2020.

Methods: We have prospectively studied all cancer cases diagnosed at the National Oncology Institute (NIO), Rabat in 2019. We have collected 1102 cases. The data collected was compared with the results of the study carried out in 2010 (1600 cases). Statistical analysis has been assessed by SPSS 20 software and the correlations between socio-cultural characteristics were examined using a chisquare test.

Results: from a socio-economic point of view, almost all patients claim that cancer is a costly disease as well as a disease that leads to a drop in income and the inevitable impoverishment of Moroccan patients. The illiteracy rate is higher than in subsequent studies 42.4%. On the psychological level, the damage to body image has a negative impact on the marital relationship. The number of female patients who are victims of spousal divorce and separation is very high. Damage to body image (alopecia) can lead to stigmatizing behaviour. Concerning the spiritual aspect, in the Arab-Berber-Muslim culture, the impact of the occurrence of cancer is very particular, and the repercussions are assessed differently depending on the degree of conviction. for practicing believers, cancer is considered a divine trial, but for non-practicing believers, cancer is regarded as a divine punishment coming from outside. New behaviours reported by this research concern the use of ROKIA as an anti-cancer remedy, 42% of patients use ROKIA.

Conclusion: It is important to take these data into account in the therapeutic management of patients in order to better relieve them, which sometimes proves difficult for the healthcare team. The main relief seems to come from the deep religious beliefs that help.

Background

In Morocco, cancer is the second leading cause of death, the cancer incidence rate is estimated at 139.6 cases per 100,000, the mortality rate is estimated at 86.9 cases per 100,000. According to the IARC, Moroccans have a 14.67% probability of contracting cancer before the age of 75, and a 9.28% risk of dying from it before the same age. In 2018, Morocco recorded more than 52,783 new cases of cancer. Breast cancer (10,136, 20.73%), lung cancer (6,488, 13.27%) and prostate cancer (3,990, 8.16%) were the most common. On the other hand, 32,962 cases of death were recorded (IARC, 2018).

Having cancer is always and simultaneously accompanied by socially constructed, differentiated and contingent interpretations and practices according to the socio-cultural characteristics of each region (Errihani et al, 2010). Different spheres of the patient's life are affected (personal, conjugal, family and professional life) (Reiche, 2009).

Several studies have been conducted at the National Institute of Oncology (NIO) in Rabat (Errihani et al 2005, 2008, 2010). These studies were prospective and included between 125 and 1,600 patients in order to study the psychosocial and religious characteristics specific to the Moroccan population as an Arab-amazigh-Muslim

African country. The results obtained showed that some of these characteristics can lead to harmful consequences: high divorce rate among Moroccan patients, misuse of traditional medicine (harmful plants) that endangers the patient's life, and changes in the religious practices in almost all patients. It is clear that this leads to major difficulties in patient information and care.

This study examines changes in the socio-cultural and religious characteristics of cancer patients between 2010 and 2020.

Methods

This is a comparative cross-sectional study that aims to describe the evolution of the socio-cultural and religious aspects of Moroccan cancer patients followed at the NIO of RABAT between 2010 and 2020. NIO is the leading oncology center in Morocco (in operation since 1985) recruiting more than six thousand new patients per year. In addition, the hospital is a center of reference in oncology in Morocco. It took place between January 2019 and January 2020.

Inclusion criteria:

Patient recruitment concerns all patients followed at NIO who have given their written consent to the study by means of a consent form; must be at least 18 years of age, histologically confirmed cancer regardless of its stage and current or completed treatment.

Prior to patient recruitment, the descriptive study was approved by the ethics committees of the Faculty of Medicine and Pharmacy of the flap under No. 26/19.

Exclusion criteria:

Patients who do not meet the inclusion criteria above-mentioned are excluded from this research, as well as those with diffuse brain metastases that may have an impact on language or intellectual abilities that bias the questioning.

Data collection

For data collection we adopted a questionnaire with questions adapted to the main psycho-socio-cultural characteristics of Morocco. The questionnaire was developed in consultation with a multidisciplinary medical team consisting of a psychologist, a sociologist a nursing executives and medical oncologists (view supplementary files) after the References.

Data analysis: statistical analysis

The data were analysed using SPSS software and the bibliographic management using ZOTERO software. Qualitative data were summarized by absolute numbers and percentages. Quantitative data were summarized

by medians. The statistical analysis consisted of descriptive analysis of the 1102 data and a study of the relationships between the different characteristics.

Results

One thousand one hundred and twenty-five (1125) cancer patients were enrolled in this study. Of these patients, 23 were ineligible. The reasons for patient ineligibility were as follows: five (5) subjects were in palliative care, 4 subjects did not have sufficient knowledge of the Arabic language, 8 subjects found the questionnaire long enough to answer all the items, and 6 patients did not have time because of the distances they travelled (exhaustion, fatigue).

As a result, one thousand one hundred and two (1102) patients were included in this study

Table 1
Socio-economic characteristics of cancer patients in Morocco.

	2010		2020		
	Number of caces	Percentage	Number of caces	Percentage	P
Sample	1600 new cases		1102 new cases		
Sex					
Man (male)	685	42,8	242	22	0.001
Woman (female)	915	57,2	860	78	
Marital Status					
Single	400	25	122	11,1	
Married	832	52	813	73,8	0.001
Divorced	272	17	93	8,3	
Widowed	96	6	75	6,8	
Ethnic Group					
Arab	1200	75	902	81,9	
Amazigh	400	25	200	18,1	0.001
Spoken Language					
Arabic	480	75	1018	92,4	
Amazigh	1120	25	82	7,4	0.001
Frensh or English	0	0	2	0,2	
Level of education					
Illiterate	608	38	472	42,8	0.001
Qurranic	560	35	195	17,7	
Primary	320	20	232	21,1	
Secondary	48	3	155	14,1	
University	64	4	48	4,4	
Social Security					
No insurance	1328	83	724	66,2	0,001
With Inssurance	192	12	354	32,1	
Paid	80	5	19	1,7	
Patient's income					
No income			643	58,30%	0,001

Les than 270 \$	1216	76	317	28,70%
270 \$ and more			142	13

According to the results obtained, women represent 78% of the sample (860 participants), while men represent only 22% (242 participants). It emerges that married status predominates with 73.8% of patients. Single status followed with a frequency of 11.1%. Divorced or widowed persons are represented at 8.3% and 6.8% respectively.

The age of the participants ranged from 20 to 92 years old. The median age is 51 years. The most affected age group is 40-60 years (59.62%), of which women represent 85%.

Concerning the confession of the participants, Islam is the main religion with more than 99% and only one participant is of Jewish origin. The study population consists of a mixture of ethnic groups: 81.9% Moroccan Arabs, 18.1% Amazigh.

Arabic is the official language for cancer patients 92.4%. The spoken language is the Moroccan dialect that is called darija, i.e. "The common language". It is generally used as a tool for communication between Arabic and Berber speakers. Darija is the most widely used language throughout Morocco.

The illiteracy rate is very high 42.4% of the study population. Only 18.6% have reached secondary or university level. The educational situation at the rural level is much more deleterious.

Socio-economic characteristics

According to Table 1, 68.8% of the patients investigated are unemployed patients or patients who lost their jobs due to their illnesses. To this end, 58.2% have no income, 28.7% receive less than the SMIG (legal minimum wage in Morocco), which is \$270/month, and only 13% of patients receive a monthly payment to help them cover the costs of care.

For social security, 66.2% of participants have no insurance. In this case, the state covers the costs related to treatment up to the limit of treatments available in public health institutions. 32.1% of the participants are members of the health insurance which is based on the principles of social insurance for the benefit of persons in gainful employment (state employees and private sector employees). As a result, 86% of the participants claim the high cost of medicines and examinations related to health care.

Concerning the geographical remoteness of patients, according to the results obtained 68.5% of patients come from outside the city of Rabat, almost half of them from rural areas. To access care, NIO patients travel a distance of up to 1,300 km with a median of 80.00 km. Nearly two-thirds of patients report significant transportation costs exceeding an average of \$30. Add to this the cost of hotels and food.

As a result, 66% of patients turn to their families or associations to ensure their care and/or stay. In this worrying context, almost all patients claim that cancer is an expensive disease as well as a disease that leads to a drop

in income and the inevitable impoverishment of Moroccan patients.

Marital and family relationship

59.5% of participants have gynaecomammary cancer. 72.3% believe that their body image has changed after their cancer, 74% of whom are female. As a result, 71.1% feel isolated from the outside world following their cancer. And almost half of the patients are ashamed to talk about their cancer pathology to others as well as suffer from stigma and discrimination either in the family, friends or professional environment. 9% of the participants have experienced rejection by at least one member of their family or close friends.

Consequently, some patients cannot share their disease with others, even sometimes the closest includes the spouse (10% of participants keep their disease secret).

On the conjugal level, 93 participants were victims of divorce, 87 of whom were women. Similarly, 233 patients claim the distance and indifference of their partners after their cancer.

Beliefs related to cancer

According to the results obtained, 22.3% of the participants consider cancer a dangerous disease, 8.8% consider it malignant, 22.1% consider it fatal and 7.1% consider it frightening. 16.3% see cancer as a monster that is difficult to manage. Nevertheless, despite these pejorative connotations related to cancer, the belief of cure is very strong since more than 83% of patients keep the hope of cure and believe in drug treatments.

Table 2
Religious characteristics related to cancer

	2010		2020		p
	Number of cases	Percentage	Number of cases	Percentage	
Sample	1600 new cases		1102 new cases		
Religious customs					
Believer non practicing	852	51	160	14,5	0,001
Practicing believer	784	49	743	85,5	
Wearing the Veil					
Yes	622	68	590	68,5	0,001
No	293	32	270	31,5	
Visit of the marabouts					
No	1296	81	1029	93,4	0,001
Yes	304	19	73	6,6	
Medical Plants					
No	1184	74	534	48,5	0,001
Yes	416	26	568	51,5	
Alcohol and Tobacco cessation					
No	40	23,5	64	5,8	
Yesi	128	76,50%	227	20,6	
Healthy person	1432		811	73,6	
Rokia					
No	Not known	Not known	643	58,3	
Yes	Not known	Not known	459	41,7	

Religious beliefs related to cancer

Based on the results, the impact of the occurrence of cancer is variable according to the degree of practice (Aggoun, 2010). Among practicing believers (85.5%), cancer is a divine test, therefore it resulted in an acceptance of the disease or even pride in being chosen by the god (errihani et al, 2010). more than half of them

become more practitioners following their cancer. This behaviour is seen in several ways: first, prayer, reading the Qur'an and praising the god become systematic and regular in almost all patients and more than half of them do more prayer and praise.

Nevertheless, another part of the participants (10%) believe that their illness is due to a divine punishment. Hence, the need to avoid certain behaviours such as alcohol and tobacco in almost all patients is necessary. More than two thirds of the participants wear a veil systematically, either to cover alopecia related to the different anti-cancer therapies or in order to be closer to God. Some patients adopt rather harsh religious behaviours even against medical advice, such as fasting (3.4%) or the great and/or small pilgrimage (0.4%).

Another important aspect is the use of medicinal plants more than half of the patients surveyed use them. Dozens of plants are used in different forms (plant extract, fumigation, mixed with other plants,). The most used plants according to our investigation are (Saffron, Propolis, Thyme, Oregano, Nigella, Myrtle, Cypress, Arar, Eucalyptus, Dill, Mugwort, Potentilla anserina, Lavender, Pomegranate, Garlic,) even the most harmful plants (Arestiloch, Euphorbia). More than half of the respondents use plants mentioned in the Qur'an and the sunnah: honey, dates, pomegranate and its leaves, nigella, wing, ginger, olives and figs. Moreover, Almost 42% of patients use ROKIA as an anti-cancer remedy which is either before, in parallel or after anti-cancer treatments.

According to our Moroccan culture, the visit of marabouts has a divine power 'albaraka' where marabouts can be found for the treatment of incurable diseases, or for the treatment of mental illnesses or for the treatment of the evil eye (marouf, 2007). In our context, 6.6% of the participants make use of the visits of the marabouts. Another attitude, which has just been added to the last one and which can be adopted alone or in parallel with the visit of the marabouts, is that of treatment by traditional healers (dawayya, kawayya or alhijama) at the rate of 7.5% of the total number of participants.

Discussion

The disease, especially when it is fatal, opens the door to difficult questions that the person may not have faced before. Different spheres of life are affected (Reiche, 2009). Indeed, on a socio-economic level, almost all patients claim that cancer is an expensive disease as well as a disease that leads to a drop in income and the inevitable impoverishment of Moroccan patients. This is corroborated by subsequent results conducted at INO (errihani et al 2010). All of the studies carried out found a high illiteracy rate of up to 38% (errihani et al 2005, 2008, 2010). In this study, the illiteracy rate is higher than in subsequent studies 42.4%. The educational situation at the rural level is much more deleterious. The illiteracy rate is four times higher among women than among men, resulting in a greater lack of understanding of medical information by women.

Moreover, the psychological impact of breast cancer has a dual origin: on the one hand, it is linked to the image of cancer, which means suffering, death, and on the other hand, to the image of breasts as symbols of femininity, maternity and sexuality (Errihani, 2008). This has a negative impact on the marital relationship, as Moroccan women are often financially dependent on their husbands, who will cover the cost of care (Errihani et al 2010). In addition, the number of female patients who are victims of divorce and separation motivated by the spouse is very high despite a decrease of almost half the rate obtained in subsequent studies (17%) (See table 1). In contrast, in the case of male cancer patients, they are often supported by their wives.

On the family level, Moroccan society is a society of solidarity; solidarity and family support are present in 90% of Moroccan patients. 45% of them were able to benefit of their material assistance (Errihani et al, 2010). The importance of the family support given to the patient is essential for his/her adaptation to disease and treatments, whether or not it facilitates his/her care and quality of life (Reiche, 2008).

Socio-culturally, cancer is associated with death in the collective imagination. Cancer results in a "bad death" for everyone it affects (Reich, 2009). This can lead to stigmatization of people with cancer. These stigmatizations are of different kinds. Damage to body image (alopecia) can lead to stigmatizing behaviour from the immediate environment (Chouaid et al, 2017).

Regarding the spiritual aspect, it is not surprising that spirituality positively influences health or well-being if it is defined in positive terms (Ana Cláudia et al, 2013).

Islam is the official religion in Morocco. In the Arab-Berber-Muslim culture, the impact of cancer occurrence is very particular, and the impact is assessed differently depending on the degree of belief (Errihani et al 2010). For the practicing believers, cancer is considered a divine trial, it is attributed to the will of the almighty (God, genius, spirit, etc.) who calls to order those who have strayed from the "right path" by sending them this trial to overcome cancer (Pujol, 2009). In the Qur'an, God tests the best of his followers to reward them, and as a result there was acceptance of the disease, and even pride in having been chosen by God (Errihani et al 2010).

In our study we note an important evolution in the percentage of practicing believers, going from 49% to 85.5%. Consequently, feeling supported by one's faith could alleviate the symptoms of depression and anxiety (pujol, 2013). Lopez and his team (2009) showed the place of spirituality in the acceptance of gynecological cancers among women with gynecological cancer which had a high level of spiritual well-being. Paola Lissoni (2008) demonstrated a link between the degree of spiritual faith and the response to chemotherapy in patients with advanced cancer. Tumour regression, lymphocyte count and three-year survival were all significantly greater in patients with high faith scores.

Nevertheless, another audience sees the disease as divine punishment from the outside (pujol, 2009). It is not uncommon to find that patients attribute their illness to an educational or punishing god (Eckhard Frick, 2006). "Divine punishment" seems to be particularly prevalent among cancer patients compared to other pathologies (Morin, 1996). These self-blame myths of patients can lead to harmful depressive "coping", marked by resignation and non-use of proposed treatments (Eckhard Frick, 2006). The results show a strong decrease in the number of patients considering cancer as divine punishment.

The use of certain coping strategies help to alleviate the suffering of the disease that is cited: prayer, reading the Qur'an, praise to God.

New behaviours reported by this research concern the use of ROKIA as an anti-cancer remedy which is either before, in parallel or after anti-cancer treatments. Almost 42% of patients use ROKIA. This practice is used either by the patient himself or by means of fkih or taleb "raki". The latter carries out the treatment by reading Qurranic verses while putting his hand on the patient's head and on the diseased organ or by writing these verses on papers with various modalities of use (glass of water, bath-shower, wearing on the body) (marouf, 2007). This mode of treatment is not safe from certain harmful complications in the case of the use of certain harmful plants with ROKIA without saying the insufficient level of study of people practicing the ROKIA.

Strengths And Limitations

The strengths of this study lie primarily in the sample size of 1125 participants, so the study population was well characterized and more than 70 characteristics were worked on. The results are not necessarily generalizable since the study site is limited to patients followed at INO.

Conclusion

The impact of the occurrence of cancer in the Moroccan environment is linked to the socio-cultural, economic and religious profile of patients. It is important to take these data into account in the therapeutic management of patients in order to better relieve them, which sometimes proves difficult for the healthcare team. The main relief seems to come from the deep religious beliefs that help, at the same time, to accept the disease, but also all the socioeconomic obstacles that accompany it. The family circle, with its emotional and economic support, also plays an important role in the psychological support of the patient.

Abbreviations

IARC: international agency for research on cancer

INO: national institute of oncology

SMIG: salaire minimum légal

WHO, world health organization

SPSS: Statistical Package for Social Science;

Declarations

Ethics approval and consent to participate

The protocol of study was approved by the biomedical research Ethics Committee (MREC), Faculty of Medicine and Pharmacy Rabat and was conducted with respect to legal aspects under Number 26/18.

For all patients who agree to participate in the study, a written consent was obtained from all patients before they were enrolled in the study.

Consent for publication

Not applicable.

Availability of data and materials

A request for the data and material may be made to the corresponding author of the article.

Competing interests

The authors have declared not having any competing interests.

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Authors' contributions

FE exploited the data, analyzed the data, performed statistical analyses, and wrote and edited the manuscript; FM and LR co-exploited the data and wrote the manuscript; SB and SE contributed to the review and critical writing of the manuscript; HE designed and coordinated the study, and wrote the manuscript. All authors approved the final manuscript for publication.

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