Psychological and Spiritual Experiences of Breast and Cervical Cancer Patients

Karima Bendahhou[1,2*], Zineb Serhier[2], Samir Diouny[2,3], Nezha Tawfiq[4], Kenza Yaacoubi[5], Mohamed Bennani Othmani[2], Abdellatif Benider[4]

[1]Casablanca Cancer Registry, Ibn Rochd University Hospital, Casablanca, Morocco
[2]Clinical Neuroscience and Mental Health Laboratory, Faculty of Medicine and Pharmacy, University of Hassan II Casablanca, Casablanca, Morocco
[3]Faculty of Dentistry, University of Hassan II Casablanca, Casablanca, Morocco
[4]Mohammed VI Center for Cancer Treatment, Ibn Rochd University Hospital, Casablanca, Morocco
[5]Faculty of Medicine and Pharmacy, Hassan 2 University, Casablanca, Morocco
Email: *Bendahhou.karima@gmail.com

Abstract

Psychological mechanisms are often adopted by cancer patients to cope with the disease. This work aimed to describe the coping strategies adopted by cancer patients and to verify the psychometric properties of a Moroccan Arabic version of the Coping Strategies (AKU) questionnaire. A cross-sectional study was conducted on patients with breast and cervical cancer. Data collection was based on a questionnaire containing elements of the AKU's adaptation strategies. Internal reliability was assessed using Cronbach's alpha coefficient, and validity was verified using the multi-trait/multi-item correlation matrix. A total of 100 patients were enrolled in the study, with an average age of 53.8 years (SD 11.3 years). Different aspects of our patients' social life have been affected, with family and conjugal life being the most affected. Family and friends were the main sources of moral and financial support. An amplification of spirituality and religious practices has been observed especially since the diagnosis of cancer. The highest score of the AKU questionnaire was noted for the dimensions related to trust in God's help, medical help, and reappraisal of illness as a Chance. Internal consistency was found to be satisfactory for three dimensions, "Conscious and Healthy Living", "Reappraisal Illness as a Chance" and "Perspectives and Positive Attitudes". Good convergent and discriminant validity were noted for almost all dimensions. Our Moroccan version of the AKU questionnaire can therefore be used in the Moroccan socio-cultural context, to assess the coping strategies used to adjust to cancer in breast and cervical cancer patients in Morocco.

1. Introduction

Cancer remains an ongoing challenge, with a number of new cases and deaths that continue to rise from year to year reaching globally 19.3 million and 9.9 million respectively, according to the International Agency for Research on Cancer estimates in 2020 [1]. Its occurrence affects all aspects of the individual's life and goes beyond it to reach immediate surroundings and social sphere [2], significantly impacting the quality of life [3]. As a result, it is felt on several levels, not only in terms of physical fitness, but also in terms of psychological health and socioeconomic life, making it a challenging experience whose overall management is essential [4].

The announcement of cancer diagnosis is often experienced as emotional and psychological stress, which causes many disruptions such as anxiety, depression, denial, anger or even passivity. Terrifying thoughts related to pain, fear of the near future, and the disappearance of long-term projects can also be observed. These different feelings invade the patients, creating a psychological vulnerability as well as a questioning of choices, the meaning of life, personal and family responsibilities, and marital but also professional and social status [5] [6]. Many studies have shown that psychosocial distress in cancer patients is characterized by a wide range of unpleasant emotional experiences, cognitive, social or spiritual feelings ranging from feelings of vulnerability of sadness and fear to more severe manifestations such as depression, anxiety disorders, panic, social isolation and spiritual crisis [7] [8] [9] [10].

The improvement in survival rates has led to an interest in better management of cancer patients and to the emergence of several concepts and disciplines including psycho-oncology. Thus, mental health and quality of life of cancer patients have gained increasing interest, enclosing psychological experience and spirituality, which represent a new topic for cancer research [11] [12].

Psychological distress is observed in cancer patients when coping mechanisms are overwhelmed. Thus, patients need psychological defense mechanisms in order to maintain a reasonable emotional balance and a satisfactory self-image, while keeping as much as possible good social and professional integration [13].

Spirituality and religion allow an adaptation [14] and play an important role in the acceptance of the disease, in order to face the emotional impact of cancer diagnosis [15].

The impact of cancer on quality of life, including the psychological and spiri-

tual aspects, varies according to the specific socio-cultural context of each region. In Morocco, religion is omnipresent at all levels, from socio-cultural to constitutional, and Islam is its predominant religion. Some studies conducted in the Moroccan context have shown that religion plays a predominant role in cancer patients, whether practising or not, in the psychological experience and adjustment to their disease [16].

Studying the psychological experience and its relationship to spirituality in patients with breast and cervical cancer will allow us to better understand its role in the adaptation to the disease, therefore, we aimed in this study to describe the adaptation strategies adopted by patients with breast or cervical cancer and to study the psychometric properties of the Moroccan Arabic version of the questionnaire Adaptive Coping Strategies (AKU).

2. Materials and Methods

2.1. Population and Study Design

A cross-sectional study was carried out at the Mohammed VI Center for cancer treatment at Casablanca University Hospital in 2019. All the patients with breast or cervical cancer who attended a consultation at the center during the study period were invited to participate in the study. Their recruitment was done successively at the time of the oncology consultation, after having had their oral consent.

2.2. Data Collection

The data was collected using a questionnaire comprising two parts administered by a trained investigator. The first focused on socio-demographic characteristics such as age, marital status and residence, as well as clinical data such as stage at diagnosis and treatment received. The second included items on the Adaptive Coping Strategies (AKU) scale [17].

AKU is a scale of measure that addresses coping strategies for chronic diseases including cancer. It is designed to identify coping strategies, such as creating favourable conditions, seeking information, medical research, religious support, social support, initiative and positive interpretation of the disease. The underlying concept of the instrument refers to internal and external means of disease and health control. It has seven dimensions: "*Trust in God's help*", "*Conscious and Healthy Living*", "*Reappraisal Illness as a Chance*", "*Perspectives and Positive Attitudes*", "*Trust in Medical Help*", "*Search for Alternative Help*", "*Escape from Illness*".

2.3. Cross-Cultural Adaptation Process

This original scale in English was translated into Moroccan Arabic by two translators whose mother tongue is Moroccan Arabic dialect, who are fluent in English and who were not familiar with the original English version.

The two translators worked separately and made a cross-cultural adaptation of the concepts rather than a simple linguistic translation, and then in the presence

of a committee consisting of an oncologist, an epidemiologist, and both translators, a summary of the two translated versions was produced.

At the end of this stage, a preliminary Moroccan Arabic version was obtained which was counter-translated into English by two other counter-translators fluent in English and Moroccan Arabic and not familiar with the original English versions.

2.4. Scoring of the Scale

The answers to the different Items of the questionnaire are on a Lickert scale from 0 to 4 (0 = does not apply at all, 1 = does not apply much, 2 = I don't know, 3 = applies a little and 4 = applies fully). The total scores were referred to a level of 100 (transformed scale score). Scores > 50 indicate a high degree of agreement or use of the adaptation strategy, while scores < 50 indicate a low use of the respective strategy.

2.5. Statistical Analysis

First, a descriptive analysis of the study population was conducted. Qualitative variables were expressed as a percentage and quantitative variables as an average with a standard deviation (SD = Square root of the variance). Then the scores of the different dimensions were calculated separately, they are obtained by calculating the average of the items filled in each dimension.

Raw scores range from 0 to 4 for all dimensions and normalized scores are calculated as 0 being the worst fit and 100 being the best fit.

Differences between the scores distributions were tested using the Student, ANOVA or Kruskal-Wallis test. A p-value below 0.05 indicates a significant difference between the parameters compared. The internal reliability of the Moroccan version of the AKU scale was checked by Cronbach's alpha coefficient and the validity was checked by the multi-trait/multi-item matrix by calculating the convergent and discriminant validity. Convergent validity was calculated by the proportion of items whose correlation with their own dimension was higher than or equal to 0.40. The discriminant validity was calculated by the proportion of correlation of the item with its own dimension which is higher than its correlation with the other dimensions. The statistical analysis was carried out using Jamovi software.

3. Results

3.1. Description of the Study Population

During the study period, a total of 100 patients were included, about three-quarters had breast cancer (79%) and 21% had cervical cancer. Their average age was 53.8 with a standard deviation of 11.3 years. The majority were married (56%) and almost half were illiterate (49% of cases). 85% reported having a low socio-economic background and 59% reported living in the urban area. A family history of cancer was reported in 40% of cases. Regarding stage at diagnosis,

42.7% of cases were diagnosed at stage III and 33.3% at stage II. (Table 1)

Table 1. Sociodemographic and clinical characteristics of patients.

Variable	Size	Percentage
Marital status		
Single	20	20.0
Married	56	56.0
Divorced	7	7.0
Widow	17	17.0
Education level		
Illiterate	49	49.0
Primary	29	29.0
Secondary	18	18.0
High	4	4.0
Profession		
Housewife	91	91.0
Civil servant	1	1.0
Liberal profession	6	6.0
Retired	2	2.0
Health insurance		
CNOPS	1	1.0
CNSS	7	7.0
Private insurance	2	2.0
Ramed	87	87.0
None	3	3.0
Area of residence		
Rural	31	31.0
Suburbain	10	10.0
Urbain	59	59.0
Perceived socioeconomic level		
Medium	15	15.0
Low	85	85.0
Family history of cancer		
Yes	40	40.0
No	60	60.0
Cancer site		
Breast	79	79.0
Cervix	21	21.0
Stage at diagnosis		
Stage I	11	14.7
Stage II	25	33.3
Stage III	32	42.7
Stage IV	7	9.3

3.2. Effect of Cancer on Different Aspects of Life as Perceived by Patients

Participants reported that their illness affected their family life in 61% of cases as well as their social and conjugal life with respective proportions of 22% and 29%. They also reported receiving moral support mainly from their friends and neighbours followed by their siblings and then their children with respective proportions of 65%, 60% and 55%. Concerning the spirituality and religiosity of our patients, 53% of them reported that they began to pray more, read the Quran more and get closer to God after the diagnosis of their disease. (Table 2)

3.3. Psychometric Properties of the AKU Scale and Description of Scores of Different Dimensions

All dimensions indicated a high degree of agreement or use of the adaptation strategy with an average score higher than 50 for the six multi-item dimensions, 95.3 for "Trust in God's help", 92.9 for "Trust in Medical Help", 81.9 for "Reappraisal Illness as a Chance", 70.5 for "Conscious and Healthy Living", 68.7 for "Search for Alternative Help", and 65.6 for "Perspectives and Positive Attitudes".

Regarding the "Escape from Disease" dimension which is explored by three items, (I fear what my illness will bring), (I would like to run away from my illness), and (When I wake up, I do not know how to face the day), low scores with averages below 50 were noted.

The internal reliability of the Moroccan version of the AKU scale was satisfactory for the "Escape from illness, Reappraisal Illness as a Chance, Conscious and Healthy Living" and "Perspectives and Positive Attitudes" dimension with a Cronbach's alpha coefficient of 0.78, 0.60 and 0.56 respectively. (Table 3)

Verification of the validity of the Moroccan version of the AKU scale showed a good convergent validity for five out of six dimensions and a good discriminant validity ranging from 93.3 to 100%. (Table 4)

3.4. Comparison of the Scores of the Different Dimensions by Patient Characteristics

A comparison of the averages of dimensions scores according to patients' characteristics showed a significant association between the socioeconomic level and the "Trust in God's help" dimension, with an average of 98.7 (SD 2.9) in average-level versus 94.7 (7.0) in low-level (p = 0.03), a similar trend was noted for the "Perspectives and positive attitude" dimension with an average of 81.7 versus 62.8 (p = 0.002). On the other hand, concerning the item "When I wake up, I do not know how to face the day", the highest averages, indicating a more frequent adoption of these methods, were noted in patients with a low socioeconomic level with 44.7 versus 10.0 and a degree of significance of 0.02. (Table 5)

4. Discussion

It is now accepted, in cancer care, that the goal of care is no longer limited to the

Table 2. Patients' perception of the impact of cancer on different aspects of their lives and source of moral and financial support.

	n	%
Source of moral support		
Spouse	38	38.0
Parents	25	25.0
Siblings	60	60.0
Children	55	55.0
Friends and neighbours	65	65.0
Colleagues	1	1.0
Other	16	16.0
Financial support		
Family	73	73.0
Friends	15	15.0
Associations	4	4.0
Other	24	24.0
Impact on family life		
Yes	61	61.0
No	39	39.0
Impact on social life		
Yes	22	22.0
No	78	78.0
Impact on conjugal life		
Yes	29	29.0
No	71	71.0
Impact on professional life		
Yes	10	10.0
No	90	90.0
Impact of the disease on the spiritual and religious level		
Prayer		
I do not have strength to pray	7	7.0
I pray more	53	53.0
Nothing has changed since the diagnosis of the disease	40	40.0
Reading the Quran		
I no longer read the Quran	7	7.0
I read the Quran more	53	53.0
Nothing has changed since the diagnosis of the disease	40	40.0
Closeness to God		
I do not have the strength to get closer to God	7	7.0
I got closer to God	53	53.0
Nothing has changed since the diagnosis of the disease	40	40.0

Table 3. Description of the scores of the different dimensions of the scale and measurement of the reliability of the scale.

	Mean	SD	Score > 50 %	Cronbach's α
Trust in God's help	95.3	7.7	100.0	0.21
Trust in Medical Help	92.9	12.8	100.0	0.32
Search for Alternative Help	68.7	22.9	83.0	0.40
Conscious and Healthy Living	70.5	21.3	84.0	0.60
Perspectives and Positive Attitudes	65.6	21.3	72.0	0.56
Reappraisal Illness as a Chance	81.9	21.2	89.0	0.60
Escape from illness				0.78
I fear what my illness will bring	49.0	46.1	51.0	-
I would like to run away from my illness	33.5	44.9	34.0	-
When I wake up, I do not know how to face the day	39.5	45.3	42.0	-

Table 4. Multitrait scaling analysis of the Moroccan Arabic version of AKU scale.

	Item convergent validity Scaling success % (number of success)	Item discriminant validity % (number of success)
Trust in God's help	40.0 (2/5)	100.0 (25/25)
Trust in Medical Help	100.0 (4/4)	100.0 (20/20)
Search for Alternative Help	100.0 (4/4)	100.0 (20/20)
Conscious and Healthy Living	100.0 (5/5)	100.0 (25/25)
Perspectives and Positive Attitudes	66.7 (4/6)	93.3 (28/30)
Reappraisal Illness as a Chance	100.0 (4/4)	100.0 (20/20)

Table 5. Comparison of AKU scores averages by socio-demographic and clinical characteristics.

	TGH		TMH		SAH		CWL		PA		RIC		FIB		RFI		HFD	
	m	SD	m	SD	m	SD	m	SD	m	SD	m	SD	m	SD	m	SD	m	SD
Maritalstatus		0.2*		0.5*		0.5*		0.9*		0.5*		0.4*		0.8*		0.5*		0.8*
Single	94.0	6.0	95.9	11.2	65.3	24.3	68.3	23.5	56.0	22.9	73.8	22.5	42.5	43.0	32.5	46.0	43.8	47.9
Married	94.5	9.0	92.3	12.7	71.7	22.6	70.9	21.6	65.4	18.8	82.0	19.7	48.2	46.9	30.8	44.0	39.3	45.7
Divorced	99.3	1.9	95.5	9.4	59.8	22.5	72.1	14.4	64.0	24.1	71.4	36.6	53.6	50.9	25.0	43.3	46.4	50.9
Widow	95.9	5.7	90.4	16.0	66.5	22.7	71.2	21.7	63.1	24.5	77.6	23.5	57.4	47.4	47.1	49.1	32.4	41.2
Educationalevel		0.1*		0.8*		0.3*		0.2*		0.4*		0.4*		0.3*		0.6*		0.08*
Illetrate	93.2	8.5	92.1	13.1	68.6	22.9	68.4	22.5	61.4	20.6	76.8	21.3	51.0	46.8	33.7	45.2	43.4	44.1
Primairy	96.2	6.9	93.1	14.5	63.6	22.5	73.8	19.5	61.9	21.0	78.9	23.7	39.7	45.6	28.5	43.7	30.2	46.0
Secondary	97.8	5.2	93.8	10.5	75.7	22.7	75.0	17.0	70.2	21.2	84.7	22.2	61.1	45.6	43.1	47.6	52.8	46.9
High	96.3	7.5	98.4	3.1	75.0	27.0	52.5	31.8	59.0	27.2	78.1	29.5	37.5	43.3	25.0	50.0	0.0	0.0

Continued

	TGH		TMH		SAH		CWL		PA		RIC		FIB		RFI		HFD	
Occupation	0.4*		0.8*		0.1*		0.6*		0.7*		0.4*		0.6*		0.7*		0.2*	
Housewife	95.1	6.7	92.8	12.5	67.2	23.2	70.6	21.3	65.1	21.8	82.4	20.9	50.3	46.3	66.1	45.3	58.6	45.9
Active	97.8	6.7	93.0	16.4	80.5	15.4	67.2	22.6	70.8	24.4	75.0	24.6	52.8	45.8	66.6	45.0	83.3	33.0
Socioeconomic level	0.03*		0.4*		0.5*		0.07*		0.002*		0.5*		0.5*		0.2*		0.02*	
Low	94.7	7.0	94.0	11.6	68.0	23.2	68.9	21.4	62.8	21.6	81.3	22.1	50.0	46.7	35.8	45.8	44.7	46.5
Medium	98.7	2.9	86.7	17.5	72.5	21.6	79.7	18.9	81.7	16.3	85.5	14.6	43.3	42.7	20.0	38.0	10.0	20.7
Residencearea	0.4*		0.6*		0.5*		0.7*		0.4*		0.7*		0.9*		0.9*		0.9*	
Rural	94.0	7.9	91.1	14.8	67.5	23.1	67.7	19.0	61.8	19.5	83.1	17.0	52.4	44.9	37.9	47.3	41.9	45.4
Suburban	96.0	4.6	95.0	9.7	61.9	25.9	72.5	21.1	71.2	21.3	76.7	23.5	45.0	49.7	35.0	45.9	37.5	48.9
Urban	95.8	6.3	93.5	12.2	93.5	12.2	71.6	22.6	66.7	22.9	82.2	22.9	47.9	46.7	30.9	44.1	38.5	45.3
Family history of cancer	0.9*		0.2*		0.8*		0.6*		0.1*		0.6*		0.7*		0.2*		0.9*	
No	95.2	6.8	91.7	14.1	68.2	25.3	69.5	20.8	68.3	21.0	81.1	22.1	49.6	47.5	71.2	43.9	60.8	45.2
Yes	95.4	6.5	94.8	10.5	69.4	19.0	72.0	22.3	61.7	22.8	83.1	20.0	53.1	44.3	59.4	46.2	60.0	45.9
Type of cancer	0.6*		0.2*		0.5*		0.6*		0.4*		0.4*		0.4*		0.5*		0.5*	
Breast	95.1	6.6	93.7	12.0	69.5	23.5	71.1	22.0	66.7	21.3	82.8	21.1	47.2	25.0	31.3	43.7	37.6	44.9
Cervix	95.9	7.2	89.9	15.4	65.8	20.9	68.3	18.7	61.9	24.3	78.6	21.5	56.0	75.0	41.7	49.5	46.4	46.9
Stage	0.8*		0.5*		0.8*		0.2*		0.6*		0.9*		0.3*		0.1*		0.02*	
Stage I	97.2	6.7	93.0	10.6	75.7	21.3	78.3	26.6	68.5	21.6	85.2	18.0	75.0	30.6	97.2	8.3	88.9	33.3
Stage II	94.0	8.9	90.8	13.5	66.7	29.6	60.3	23.6	58.9	19.3	82.2	18.6	46.7	48.9	68.3	46.7	48.3	45.8
Stage III	95.5	7.2	93.7	11.9	70.3	20.7	71.6	20.2	61.3	23.9	79.4	24.7	42.2	46.4	61.7	47.5	59.4	46.1
Stage IV	94.3	7.3	99.1	2.4	67.8	16.3	62.8	27.2	70.2	16.2	77.4	29.1	39.3	49.7	42.8	47.2	21.4	36.6

*: p-value, TGH: Trust in God's help; TMH: Trust in Medical Help; SAH: Search for Alternative Help; CWL: Conscious and Healthy Living; PA: Perspectives and Positive Attitudes; RIC: Reappraisal Illness as a Chance; FIB: I fear what my illness will bring; RFI: I would like to run away from my illness; HFD: When I wake up, I do not know how to face the day.

control of tumor progression but consists in global management, which integrates the patient's quality of life and limits the psychological impact, social and spiritual impact associated with the physical impact of cancer, during the therapeutic phase but also in the longer term [18]. Measuring this quality of life in cancer care not only aims to improve the well-being and satisfaction of patients with treatment, but also to improve communication between the whole medical profession and the patient [19].

In Morocco, the introduction of notions of quality of life, psychological experience and spirituality is recent; there are few validated questionnaires, especially in cancer taking into account these notions. The objective of our study is to describe the coping strategies adopted by patients with breast or cervical cancer

and to check the psychometric properties of the Moroccan Arabic version of the questionnaire "Adaptative Coping Strategies (AKU)".

We recruited 100 patients with one of the two most common female cancers in Morocco; breast and cervical cancer. The average age of the patients was 53.8 years with a standard deviation of 11.3 years. As the majority of our patients were from a low socio-economic level (85%), the majority had medical coverage dedicated to economically disadvantaged people (RAMED) allowing them access to care in public facilities.

Our study has some limitations, including the fact that our population came only from the public sector which supports a different population than the private sector that drains a population with a higher intellectual and socio-economic level with often better health insurance. These differences could influence the quality of life of cancer patients and their coping methods.

The results showed that social solidarity is the main source of moral support, where a percentage of 65.5% of patients take refuge for moral support provided by friends and neighbors, followed by siblings with 60.0%. This result can be explained by our Moroccan socio-cultural context where there are strong bonds of neighbourhood, friendship and solidarity and by the predominant role of the family cocoon. Similar studies have pointed out that supportive care is an integral part of cancer care. This is the most useful and valued support for cancer patients [20]. Or, additionally, a study of breast cancer patients noted that social support from family and friends would help reduce the negative effects of diagnosis and treatment on the quality of life [21] [22] [23] [24].

In terms of spousal support, almost one-third of married women (32%) did not report such support. This is probably due to the difficulties and conflicts generated by cancer within the couple and is consistent with the results of some studies which have objected that female cancer is a real test for the couple, challenged in its emotional cohesion, functional and sexual and causes emotional distress, dysfunctional attachment, a change in the role of the couple and disruption of communication [25].

Financially, family is still the main source of support at 73%, facing the financial abyss that cancer represents for our study population, the majority of which is of low socioeconomic level, associated with work stoppages or unemployment, costly travel and medical expenses. According to some authors, cancer patient support in his misfortune is a timely moment for the Moroccan family to prove their dedication and attachment to the patient. For the family, it is also a duty according to cultural, social and religious norms. Family presence at all times of the disease is an undeniable source of comfort and encouragement that can only optimize the patient's ability to cope with the disease [26].

On a spiritual and religious level, a minority of our patients (7%) reported a decrease in their religious practice, believing that they no longer have the moral or physical strength to pray, no longer remember the Quran, or stopped praying for physical reasons (pain, fatigue, memory loss) or spiritual (depression, loss of

conviction, termination). In contrast, 53% of patients reported that they developed their religious practices by getting closer to God, praying more and reading the Quran more, which helped them establish a spiritual and religious connection that was strong enough to help them adapt to their cancer. Some studies have reported also changes in spirituality after cancer diagnosis [27].

The exploration of the means of adaptation to cancer disease was made by a Moroccan Arabic dialect version of the AKU scale whose internal coherence was proven satisfactory for three dimensions, "Conscious and Healthy Living", "Reappraisal Illness as a Chance" and "Perspectives and Positive Attitudes". Good convergent and discriminant validity were noted for almost all dimensions.

The literature includes a German study [28], which validated the AKU questionnaire, on women with breast cancer who referred to spirituality and religious practices in order to better cope with their disease. This study obtained a Cronbach's alpha coefficient ranging from 0.6 to 0.9.

The average scores of the majority of dimensions were satisfactory above 50% with averages ranging from 95.3 for "Trust in God's help" dimension witnessing the essential role that religion has in our context as a support and refuge in the face of disease and cancer. An average of 65.6 for the "Perspectives and Positive Attitudes" dimension where patients strive to keep positive thoughts and not constantly think about their cancer shows good use of these coping strategies.

A comparison of AKU scores by patient characteristics showed a significant association between socioeconomic level and "Trust in God's help" and "Perspectives and positive attitude" dimensions with higher averages in patients from the middle socioeconomic level thus reflecting the use of these methods in this group of patients.

5. Conclusion

This work provided an overall picture of the psychological experience, spiritual and psychological mechanisms of defenses implemented by breast and cervical cancer patients to deal with cancer. The disease affected several dimensions of the patients' lives, especially their family, and social and conjugal life. In general, patients were supported morally and financially by their relatives and tended to amplify their religious practices to cope with the cancer disease. The Moroccan Arabic version of the AKU questionnaire showed quite satisfactory psychometric properties that could be used as a basis for future studies to evaluate coping methods used by patients. The socioeconomic level of the patients seems to be associated with the patients' adaptation to their cancer disease. People of middle socioeconomic level adapt more by trusting in God's help and adopting positive attitudes, while patients with low socioeconomic level run away from the disease with difficulties to face the day when they wake up. Awareness of the impact of these different dimensions addressed by the study in order to allow global and personalized management can be made using the Moroccan Arabic version of the AKU scale.

Conflicts of Interest

The authors declare no conflicts of interest.

References

[1] Ferlay, J., Colombet, M., Soerjomataram, I., Parkin, D.M., Piñeros, M., Znaor, A. and Bray, F. (2021) Cancer Statistics for the Year 2020: An Overview. *International Journal of Cancer*, **149**, 778-789. https://doi.org/10.1002/ijc.33588

[2] Delvaux, N. (2006) L'expérience du cancer pour les familles. *Cahiers Critiques de Thérapie Familiale et de Pratiques de Réseaux*, No. 36, 81-101. https://doi.org/10.3917/ctf.036.101

[3] Leake, R.L., Gurrin, L.C. and Hammond, I.G. (2001) Quality of Life in Patients Attending a Low-Risk Gynaecological Oncology Follow-up Clinic. *Psycho-Oncology*, **10**, 428-435. https://doi.org/10.1002/pon.539

[4] Ripamonti, C.I., Giuntoli, F., Gonella, S. and Miccinesi, G. (2018) Spiritual Care in Cancer Patients: A Need or an Option? *Current Opinion in Oncology*, **30**, 212-218. https://doi.org/10.1097/CCO.0000000000000454

[5] Perdrizet-Chevallier, C., Reich, M. and Lesur, A. (2008) Dépression et anxiété chez les femmes souffrant de cancers gynécologiques. *Annales Médico-Psychologiques, Revue Psychiatrique*, **166**, 292-296. https://doi.org/10.1016/j.amp.2008.03.007

[6] Halstead, M.T. and Hull, M. (2001) Struggling with Paradoxes: The Process of Spiritual Development in Women with Cancer. *Oncology Nursing Forum*, **28**, 1534-1544.

[7] Mehnert, A. and Koch, U. (2008) Psychological Comorbidity and Health-Related Quality of Life and Its Association with Awareness, Utilization, and Need for Psychosocial Support in a Cancer Register-Based Sample of Long-Term Breast Cancer Survivors. *Journal of Psychosomatic Research*, **64**, 383-391. https://doi.org/10.1016/j.jpsychores.2007.12.005

[8] Ramirez, A.J., Pinder, K.L., Black, M.E., Richards, M.A., Gregory, W.M. and Rubens, R.D. (1993) Psychiatric Disorder in Patients with Advanced Breast Cancer: Prevalence and Associated Factors. *European Journal of Cancer*, **29**, 524-527. https://doi.org/10.1016/S0959-8049(05)80144-3

[9] Christensen, S., Zachariae, R., Jensen, A.B., Vaeth, M., Møller, S., Ravnsbaek, J. and von der Maase, H. (2009) Prevalence and Risk of Depressive Symptoms 3-4 Months Post-Surgery in a Nationwide Cohort Study of Danish Women Treated for Early Stage Breast-Cancer. *Breast Cancer Research and Treatment*, **113**, 339-355. https://doi.org/10.1007/s10549-008-9920-9

[10] Hannoun-Levi, J.M. (2005) Traitement du cancer du sein et de l'utérus: Impact physiologique et psychologique sur la fonction sexuelle. *Cancer/Radiothérapie*, **9**, 175-182. https://doi.org/10.1016/j.canrad.2004.11.005

[11] Bloom, J.R. and Kessler, L. (1994) Emotional Support Following Cancer: A Test of the Stigma and Social Activity Hypotheses. *Journal of Health and Social Behavior*, **35**, 118-133. https://doi.org/10.2307/2137360

[12] Balboni, T.A., Vanderwerker, L.C., Block, S.D., Paulk, M.E., Lathan, C.S., Peteet, J.R. and Prigerson, H.G. (2007) Religiousness and Spiritual Support among Advanced Cancer Patients and Associations with End-of-Life Treatment Preferences and Quality of Life. *Journal of Clinical Oncology*, **25**, 555-560. https://doi.org/10.1200/JCO.2006.07.9046

[13] Baitar, A., Buntinx, F., De Burghgraeve, T., Deckx, L., Schrijvers, D., Wildiers, H.

and van den Akker, M. (2018) The Influence of Coping Strategies on Subsequent Well-Being in Older Patients with Cancer: A Comparison with 2 Control Groups. *Psycho-Oncology*, **27**, 864-870. https://doi.org/10.1002/pon.4587

[14] Thuné-Boyle, I.C., Stygall, J.A., Keshtgar, M.R. and Newman, S.P. (2006) Do Religious/Spiritual Coping Strategies Affect Illness Adjustment in Patients with Cancer? A Systematic Review of the Literature. *Social Science & Medicine*, **63**, 151-164. https://doi.org/10.1016/j.socscimed.2005.11.055

[15] Visser, A., Garssen, B. and Vingerhoets, A. (2010) Spirituality and Well-Being in Cancer Patients: A Review. *Psycho-Oncology*, **19**, 565-572. https://doi.org/10.1002/pon.1626

[16] Errihani, H., Mrabti, H., Sbitti, Y., *et al*. (2010) Impact psychosocial et religieux du diagnostic de cancer chez les patients marocains: Expérience de l'Institut national d'oncologie de Rabat. *Bulletin du Cancer*, **97**, 461-468. https://doi.org/10.1684/bdc.2010.1082

[17] Büssing, A., Ostermann, T. and Matthiessen, P.F. (2008) Wer kontrolliert die Gesundheit? Adaptive Krankheitsverarbeitungsstile bei Patienten mit chronischen Erkrankungen. *Deutsche Zeitschrift für Onkologie*, **40**, 150-156. https://doi.org/10.1055/s-0028-1082647

[18] Büssing, A., Balzat, H.-J. and Heusser, P. (2010) Spiritual Needs of Patients with Chronic Pain Diseases and Cancer—Validation of the Spiritual Needs Questionnaire. *European Journal of Medical Research*, **15**, 266-273. https://doi.org/10.1186/2047-783X-15-6-266

[19] Cobb, M., Puchalski, C.M. and Rumbold, B. (2012) Oxford Textbook of Spirituality in Healthcare. Oxford University Press, Oxford.

[20] Moley-Massol, I. (2007) Le médecin, le malade et les proches. https://www.eyrolles.com/Loisirs/Livre/le-malade-la-maladie-et-les-proches-9782809801415/

[21] Manning-Walsh, J. (2005) Social Support as a Mediator between Symptom Distress and Quality of Life in Women with Breast Cancer. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, **34**, 482-493. https://doi.org/10.1177/0884217505278310

[22] Dapueto, J.J., Francolino, C., Servente, L., Chang, C.-H., Gotta, I., Levin, R. and del Carmen Abreu, M. (2003) Evaluation of the Functional Assessment of Cancer Therapy-General (FACT-G) Spanish Version 4 in South America: Classic Psychometric and Item Response Theory Analyses. *Health and Quality of Life Outcomes*, **1**, Article No. 32. https://doi.org/10.1186/1477-7525-1-32

[23] Fernandes, W.C. and Kimura, M. (2010) Health Related Quality of Life of Women with Cervical Cancer. *Revista Latino-Americana de Enfermagem*, **18**, 360-367. https://doi.org/10.1590/S0104-11692010000300010

[24] Pfaendler, K.S., Wenzel, L., Mechanic, M.B. and Penner, K.R. (2015) Cervical Cancer Survivorship: Long-Term Quality of Life and Social Support. *Clinical Therapeutics*, **37**, 39-48. https://doi.org/10.1016/j.clinthera.2014.11.013

[25] Vanlerenberghe, E., Sedda, A.-L. and Ait-Kaci, F. (2015) Cancers de la femme, sexualité et approche du couple. *Bulletin du Cancer*, **102**, 454-462. https://doi.org/10.1016/j.bulcan.2015.02.008

[26] Dauchy, S., Boinon, D. and Colombat, P. (2006) Mobiliser et soutenir les proches tout au long de la maladie. *Revue Francophone de Psycho-Oncologie*, **5**, 215-220. https://doi.org/10.1007/s10332-006-0161-z

[27] Johnson, K.S., Tulsky, J.A., Hays, J.C., Arnold, R.M., Olsen, M.K., Lindquist, J.H.

and Steinhauser, K.E. (2011) Which Domains of Spirituality Are Associated with Anxiety and Depression in Patients with Advanced Illness? *Journal of General Internal Medicine*, **26**, 751-758. https://doi.org/10.1007/s11606-011-1656-2

[28] Büssing, A., Ostermann, T. and Matthiessen, P.F. (2007) Adaptive Coping and Spirituality as a Resource in Cancer Patients. *Breast Care*, **2**, 195-202.
https://doi.org/10.1159/000104172