Cancer goes on to be a leading cause of death worldwide. However, Morocco has between 30,000 and 40,000 new cases of cancer each year. But only 20,000 are taken care of. They will therefore be at least 10,000 Moroccans with cancer who do not receive any treatment. Every year 7.2% of deaths in Morocco are attributed to cancer. The purpose of our study is to analyze the psychological consequences of such a disease on the person affected; this one is already confronted with various changes: image of the body, feeling of competences.

Our study was carried out on 92 cancer patients consulting the INO Rabat, (national institute of oncology). This prospective study took place during the period from May to July 2015. For data collection, we used a questionnaire with information on socio-demographic characteristics, Life Satisfaction Scale, Rosenberg Self-Esteem Scale and Social Support Questionnaire (ssq6).

The analysis of the correlations between scores of life satisfaction, self-esteem and social support scores shows the life satisfaction test is strongly correlated with the availability social support test (r = 0.263; p < 0.05) and the social satisfaction test (r = 0.424, p < 0.001). Also, the self-esteem test is correlated with the social satisfaction test (r = 0.393, p < 0.003) and the life satisfaction test (r = 0.309, p < 0.021). Of satisfaction tend to have familiar support or a close friend.

In light of these findings, we have noticed that patients with cancer with effective social support and satisfying self-esteem are satisfied with their lives and subsequently behave normally.

Key words: Cancer disease, psycho-cognitive, life satisfaction.
INTRODUCTION

In the early 1980s, there were few cancers that could be cured. Today, control of this evil has become possible in many cases (Desports et al 2003; Martel et al 2012). In addition, according to the International Agency for Research on Cancer (IARC), this disease is the second leading cause of death in the world, its prevalence in 2015, reached 8.8 million deaths. The main types of cancer are:

- lung cancer (1.69 million deaths);
- liver cancer (788,000 deaths);
- colorectal cancer (774,000 deaths);
- stomach cancer (754,000 deaths);
- breast cancer (571,000 deaths).

In addition, smoking is the most important risk factor for cancer accounting for about 22% of all cancer deaths (GBD, 2015). 70% of these deaths occur in low- and middle-income countries. More than 30% of all these cancers are preventable (World Health Organization, 2005). In Morocco, there are about 30 000 new cases of cancer every year, of which breast and cervical cancer represent almost 50% of women’s cancers. Breast cancer is the first cancer of Moroccan women (36.4%) followed by cancer of the cervix (12.8%). Most often they are diagnosed at an advanced stage (cancer registry, 2012). These two cancers constitute a public health priority in Morocco.

The purpose of our study is to analyze the psychological consequences of such a disease on the person affected; this one is already confronted with various changes: image of the body, feeling of competences. We will focus, in our research, on the intensity of emotions in the face of cancer, on the self-image reached by treatments and their effects, on the temporal aspect related to the threat (of death), but also on the coping traits, essential in the management of this stressful situation (GBD 2015; Desports et al 2003; Abdel-Rahman 2021).

MATERIAL AND METHODS

Our study was concerned with cancer patients consulting INO Rabat. This prospective study took place during the period from May to July 2015. For data collection, we used a questionnaire with information on socio-demographic characteristics, life satisfaction, and social support. The oral consent of the respondents before administering the questionnaire, the anonymity and confidentiality of the information collected were elements of rigor for our study. We also used:

1. **Life Satisfaction Scale** (Diener et al 1985) in which each statement will follow the questions, indicate how much, on a scale of 1 to 7, the respondents agree. The average tends to be between 20 and 24 for a level of logical satisfaction;

2. **Rosenberg Self-Esteem Scale (ees-10)**, (Rosenberg 1979) translated by Vallières and Vallerand (1990)] represents an assessment of the overall self-esteem that the person can have on their own. The scale includes 10 statements measured on a scale of 1 to 4. The interpretation of the results is identical for either a man or a woman.
a. If you score below 25, your self-esteem is very low. Work in this area seems desirable.
b. If you score between 25 and 31, your self-esteem is low. Work in this area would be beneficial.
c. If you score between 31 and 34, your self-esteem is average.
d. If you score between 34 and 39, your self-esteem is strong.
e. If you score above 39, your self-esteem is very high and you tend to be strongly reestablished.

3. Social Support Questionnaire (ssq6). The French adaptation (Sarason 1983). Our choice was focused on the SSQ6 (Social Support Questionnaire with 6 items). We then calculate two total scores, one of availability (N = number of people cited) and the other of satisfaction (S), which correspond respectively to the sum of the scores "number" (score N) and "satisfaction" (S score) obtained in each of the six items. Thus, the score N varies from 0 to 54 and the score S from 6 to 36.

**Rating:** To calculate the Availability score, record the number of people who are said to be able to count (from 0 to 9) on items 1, 2, 3, 4, 5, and 6, and then the total availability score. N (sum of these numbers) which varies from 0 to 54.

To calculate the Satisfaction score, note the satisfaction level expressed by the subject on each item (from 1, very dissatisfied to 6, very satisfied), then calculate the total satisfaction score, S (sum of these scores) which varies from 6 to 36.

**RESULTS**

**Sociodemographic characteristics of our sample**

Our study concerned 92 patients, present at the level of the health structures at the time of our passage. 56 questionnaires were collected, a response rate of 60.87%. 83.93% (n = 47) of participants are female. The minimum age is 14 years and the maximum age of 86 years with an average age of 50.43 years ± 1.89 years, 95% of patients are between 46.64 years old and 54.22 years old. years. The distribution therefore satisfies the conditions of the Gaussian law (coefficients of asymmetry = 0.15 and flattening = 0.13).

Depending on the level of education: 51.8% hardly exceed primary school, 35.7% have a secondary level and 7.1% reach university level. However, 51.8% have no stable function and live in rural areas. Frequency distribution by family situation: 66.1% are married, 25% are single and 7.1% are in a state of divorce. 52% of patients consulting the hospital center are from Rabat-Sale-Kenitra, followed by patients from the Tangier-Tetouan-Alhoceima region (21%). In addition, it was noted that this center welcomes patients from all parts of the kingdom (Oriental 18% and southern Morocco 9%). The link between the organ affected by cancer and sex is shown in the table (). The results of this test show that there is a strong association between these two factors (chi-square = 28.87, p <0.001). The distribution in our sample shows that 44.64% of patients have breast cancer.
of which only one patient is male, followed by cancer of the uterus (17.86%) and lung cancer (10.86%). In addition, 8.93% of patients have stomach cancer. The rest of the patients mainly suffer from blood cancers, prostate (see: Table 1).

Of these cases studied, 67.9% (n = 38) are at the beginning of care after cancer identification, 21.4% (n = 12) are in the final stage of care, while 10.7% (n = 6) have just discovered the disease. However, 64.3% of these patients believe they may be healing, 28.6% confirm will have more chance to heal themselves and 7.1% say they will have no chance to recover.

### Results of the Life Satisfaction Test

We will present here the degree of life satisfaction in the patients surveyed according to the appropriate scale by Ed Diner. In fact, the average of the total scores is 18.02 ± 0.91, with a minimum score of 5 and a maximum score of 30. In addition, 95% of the scores are between 16.19 and 19.85. coefficient of variation is therefore 37.90% heterogeneity. The distribution of the scores appears to be completely symmetrical (coefficient of asymmetry = 0.11, flattening coefficient = -1.23). The analysis of variance "sex effect" shows no significant difference between the average scores of the two sexes (Fisher = 0.94, p <0.34). According to the satisfaction interval ([20-24]), 62.5% (n = 35) were not satisfied with the quality of life of which 50% are female and 12.5% are male, against 37.5% who answered satisfied with the quality of their life (score> 20) of which 25% reaching scores exceeding 24. The Chi-square test of independence realized between satisfaction and certain variables of inclusions (sex school level, affected organ, ....) showed no significant association with the exception of the hope of healing, which showed a significant association with life satisfaction (khideux = 5.98, p <0.05).

The chi-square independence test between the expectation of cure and the satisfaction state shows that these two factors are significantly related (khideux = 8.08, p <0.049). In fact, of those who answered unsatisfied with their life, 71.42% believe in healing and also in non-healing, 17.14% are sure of their re-

<table>
<thead>
<tr>
<th>Body affected</th>
<th>Gender</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>b</td>
<td>25</td>
<td>44.64%</td>
</tr>
<tr>
<td>Uterus</td>
<td>a</td>
<td>10</td>
<td>17.86%</td>
</tr>
<tr>
<td>Blood</td>
<td>a</td>
<td>4</td>
<td>7.14%</td>
</tr>
<tr>
<td>Lung</td>
<td>a</td>
<td>6</td>
<td>10.71%</td>
</tr>
<tr>
<td>Nose</td>
<td>a</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>Prostate</td>
<td>a</td>
<td>1</td>
<td>1.79%</td>
</tr>
<tr>
<td>Stomach</td>
<td>a</td>
<td>5</td>
<td>8.93%</td>
</tr>
<tr>
<td>Basin intestine</td>
<td>a</td>
<td>1</td>
<td>1.79%</td>
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<tr>
<td>Goitre</td>
<td>a</td>
<td>2</td>
<td>3.57%</td>
</tr>
<tr>
<td>Intestine</td>
<td>a</td>
<td>1</td>
<td>1.79%</td>
</tr>
</tbody>
</table>

Note: Groups with the same letter do not differ significantly
covery and 11.43% believed that they had not recovered. No chance to heal. However, 47.62% of patients who said they were satisfied with their own lives believed in their recovery one day, the rest of the patients have doubts between recovery and non-recovery. Strong association was reported between expectation of cure and stage of cancer (contingency coefficient = 0.5, chi-square = 19.08, p <0.001). Moreover, 53.57% of patients who doubt the cure are already in an intermediate state of cancer this confirms that at this stage the patient has already built a clear idea of the severity of the tare.

The multiple correspondence analysis (cronbach index = 0.87) revealed two distinct groups (see Fig.1).

The first group located on the negative side of axis 2. This group is made up of female patients who have shown no life satisfaction (score<20). They mainly suffer from breast, uterine and blood cancers. These patients disagree with almost all questions.

The second group located on the positive side of axis 2, it consists mainly of men with cancer of the prostate, intestine and stomach. Despite the condition they live in, they are almost in agreement with all the questions.

Results of the Rosenberg Self-Esteem Test

The average score obtained on the SEA is 23.73 ± 0.63, with a minimum score of 15 and a maximum score of 39. In addition, 95% of the calculated scores are between 22.48 and 24.98. The results of the analysis of variance show that sex has no effect on the average score distribution (F = 1.30, p <0.26).

The distribution of patients according to their score allowed to classify them into three categories. Indeed, 66.07% of respondents have a score below 25, of which 81.08% are female, this category includes patients with very low self-
32.14% of these patients scored between 25 and 31, of which 88.89% are women, this category is characterized by low self-esteem. In the end, only one female patient reaches the score of 39 and subsequently assumed that her self-esteem is strong. The overall analysis integrating all the factors studied is represented in the figure of the multiple correspondence analysis (see: Fig. 2). The results of this analysis make it possible to discriminate between two large groups.

The first group consists of patients with a score below 25 (low self-esteem) and are usually married with a primary level. They are in the second stage of cancer development and they are not really sure of their cure. These people are women and men with breast and prostate cancer respectively.

The second group usually brings together single patients suffering from cancer of the blood, lung. These patients believe in healing, moreover are in advanced stages of the disease.

**Social Support Questionnaire (ssq6)**

The distribution of patients by availability score and satisfaction score for both sexes is shown in Table 2. The comparison of the averages between the two sexes shows no significant difference and this for the two tests designed. This average value is 6 people in total who can count the patients to circumvent the situation. However, the intra-group dispersion represented by the coefficient of variation expressed as a percentage shows that this variation is much greater for women (72.79%) than for men (42.21%). On the other hand, the extent in women reaches 17 people on which the patient can count, whereas among men the extent is of 8 people. Similarly, in case of satisfaction the extent in women is 26 and 9 in men.
The combinatorial analysis of the availability and the satisfaction by the calculation of correlation coefficient shows that the evolution between these two factors is increasing but the connection is very weak ($r = +0.2$). This link is much more marked in patients with breast cancer or cancer of the uterus.

### DISCUSSION

Cancer is never the result of a single cause. It requires a set of factors, moreover, likely to interact with each other, for the disease to develop. A number of these factors, external and internal, have been identified (National Federation of Cancer Centers 2002; WHO 2011; Martel et al., 2012). External factors are related to the environment (radiation, viruses, industrial products ...) or lifestyle (tobacco, alcohol, food ...) and among the internal factors, mention age and heredity (Mattox 2017).

The distribution of cancers in our sample is almost similar to many situations in the world. In France (2012 data), the number of new cancer cases in Metropolitan France is estimated at 355,000, including 200,000 for men and 155,000...
for women. In men, the three most common cancers are those of the prostate (56,841 cases), lung (28,211 cases) and colon-rectum (23,266) for solid tumors. In women, these are breast cancers (48,763 cases), colon-rectum (18,926 cases) and lung cancer (11,284 cases) (German et al 2008).

One of the most important factors in the treatment and rehabilitation of the patient with cancer is proper nutrition support in clinical practice (National Federation of Cancer Centers 2002; WHO 2011; Tisdale et al 1996; Gogos et al 1998; De Wys et al 1981; Klein et al 1997). Cachexia occurs in the majority of cancer patients before death. It is the result of major metabolic changes produced by tumor-released substances as well as by cytokines and some endogenous peptides (Mattox 2017). The most significant clinical manifestation is profound anorexia. Aggressive parenteral nutrition has not been able to increase patient survival or produce any significant symptomatic improvement. Recent research, therefore, has focused on drugs that might result in symptomatic improvement, even if no significant nutritional changes are detected (Bruera1992). Cachexia may change the body image which is important as it can be linked to feelings of self-worth (Dolto 1984 ; White 2000 ; Hopwood et al 2001). In recent studies it was shown that most of the cancer patients had body image disturbances. In the group of patients tested by Bahrami et al (2017) it wasn’t associated with the type of cancer, kind of treatment and duration of illness. Totally, these results underscore the importance of assessing and treating body image disturbance in cancer patients.

In the last 50 years, marked advances in enteral feeding techniques, venous access, and enteral and parenteral nutrient formulations have made it possible to provide nutrition support to almost all patients (Nitenberg et al 1998; Hebuterne et al 2006; Brown et al. 2018; Mattox et al. 2017; Mantzorou et al. 2017; Ravasco 2019). The prevalence of malnutrition is high in patients with cancer, and systematic screening for and treatment of malnutrition is necessary (Hébuterne et al. 2014). In this context, our patients were adequately treated which could be related to the satisfaction of life and therefore to their quality of life (Sideris et al 2005).

The results of the Satisfaction of Life Test show that the average of the total scores is 18.02 and the standard deviation is 0.91. These data are different from those reported by Diener et al. (1985). That is respectively 23.5 and 6.43. The standardized coefficient of internal consistency (Cronbach Alpha) of 0.87 is also similar to that of the original US version (Alpha = 0.87). In addition, the data were subjected to the same exploratory factor analysis as that used by Diener (1985), that is to say the main axis analysis. The results were similar to those of the original version supporting a single-factor structure explaining 55% of the variance.

It should be pointed out that cancer and its treatments have been shown to have a negative psychological effect on many cancer patients. One of the most important factor is depression (Smith 2015). Depression is a common comorbidity in cancer cases, affecting >10% of patients. A cancer diagnosis is life-changing, and is a source of considerable psychological and emotional stress. Non-
pathological sadness may be a normal response to a cancer diagnosis, however, stress beyond the coping mechanisms of patients may result in major depressive disorder. The current reviews, in addition to the obvious psychosocial elements of depression, explores its biological mechanisms, including tissue damage, inflammatory mediators and the chronic stress response, and how these immune and endocrine pathways may underlie depression in cancer (Christensen et al 2008). Possible iatrogenic causes of depression in cancer are also explored. Therefore, there is a strong need to identify and treat depression in cancer patients in order to increase quality of life and reduce mortality (Pollok et al 2015). In this context, our patients were adequately treated which could be related to their self-esteem, and therefore to their quality of life.

In terms of self-esteem, many studies intersect with our results (Rosenberg 1979). However, among cancer patients interviewed in 2004 in a survey conducted in France on the living conditions of people with cancer, 43% say they are cured, 42% answer in the negative and 15% do not pronounce.

For social support, there is no consensus as to its definition, and little is known about the mechanisms that explain its beneficial impact on health, mechanisms that are still hypothetical (Furukawa et al 1998; Bessell & Moss 2007; Cousson-Gelie et al 2007). But according to studies and ours confirms that well-supported patients are likely to show encouraging signs. Indeed, such support, as Gazzaniga (2013) notes, allows for a more fully integrated self system (see also Aulagnier 1986).

In this context we can suggest, that the proper functioning of the self system depends on the integration and interaction of all types of self. This concept include the minimal (working) and longitudinal (autobiographical) self, which is the basis for the formation of the self system. Pachalska (2019) developed such model of the self system, which requires the nesting of the minimal (working) and longitudinal (autobiographical) self (cf. Fig. 3):

1. The individual self includes:

A) the objective self understood as the organism, that is the body together with its states and processes occurring in it. It has consciousness, but it lacks self-awareness and meta-consciousness (awareness of mental operations on its own subject). As soon as you realize the existence of the outside world, your subjective self also becomes the object of perception. This process enables the subjective self to be formed;

B) the subjective (cognitive) self, having consciousness, self-awareness and meta-consciousness, enabling one to know oneself and act in accordance with one's own needs and values as well as the requirements of the environment. The person has a sense of separateness, autonomy, has insight (introspection), the possibility of self-assessment and self-control and creativity. The subjective self conditions are needed to form the individual identity.
2. The social self, includes:

A) the relational self, understood as an image and description of the You – You (interactions), from an individual and social perspective taking into account relationships with other important people and social groups around which social identity develops.

B) the collective self, understood as an image and description of the We – We from an individual and social perspective including nesting in the culture or subculture of a given social group around which cultural identity develops.

It should be added that based on the clinical observation longitudinal (autobiographical) self has the task of:

- the creation and conception of self and its change in the course of life and action;
- ensuring the stability of the world model and its modification in connection with changes in connection with life events taking place in the environment;
- ensuring a sense of subjectivity, i.e., the agent’s own actions;
- ensuring a sense of identity and its modification in connection with changes and life events taking place in the environment.

Pachalska’s processual approach to the self-system which takes into account the concept of nesting of the minimal (working) and longitudinal (autobiographical) self in the individual and social self creates good basis for the development and integration of the self system. It allows for a better explanation of disinte-
igration of this system in people with various kinds of illness. In the persons with cancer the longitudinal self breaks down and the patient drifts in the present tense which might lead to depression. Gradually, changes in self-image occur that lead to a decrease in the patient's quality of life. This processual approach to the self-system provides a good basis for more effective rehabilitation of the patient through psychoanalysis. This therapeutic technique can help the cancer patients to get to know themselves better and to understand their problems (De-schamps 1997). The person with cancer guided by a therapist in the analytic cure, will have access to a better knowledge of herself. She will be able to face differently some blockages and to put more easily in question its mode of operation (Figueiredo et al., 2004). Therefore psychoanalysis might help the persons with cancer to have a better quality of life.

**CONCLUSIONS**

In light of these findings, we have noticed that patients with cancer with effective social support and satisfying self-esteem are satisfied with their lives and subsequently behave normally.

**REFERENCES**


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