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INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI: 10.21474/IJAR01/13174
DOI URL: http://dx.doi.org/10.21474/IJAR01/13174

RESEARCH ARTICLE

EVALUATION OF THE ECONOMIC IMPACT OF BREAST CANCER: EXPERIENCE OF THE MOHAMED 6 CENTER FOR THE TREATMENT OF GYNECOLOGICAL BREAST CANCER

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Manuscript Info

Manuscript History
Received: 19 May 2021
Final Accepted: 20 June 2021
Published: July 2021

Abstract

Introduction: Breast cancer is the most common form of cancer amongst women. It is a serious disease that impacts all aspects of the patient' s life and goes beyond that to touch the lives of all their loved ones. This work aims to evaluate the impact cancer has on the lives of our patients and their loves ones, namely: their social, economic and psychological well-being.

Methodology: We have conducted a cross-functional study at the Mohamed VI Center of Cancer Prevention and Treatment, between May and July of 2017, leveraging 2 sets of questions, including the Arabic Dialect version of the " quality of life " questionnaire, in its 2 versions: Family and Patient.

Results: The average age of the patients' sample was 26-43. Amongst the studied aspects, " fear" was the most negatively impacted; spiritual, physical, and social well- being were the least impacted. 50, 9 % of patients were accompanied, 69, 6 % of companions were females. Amongst the companions, psychological well-being was most negatively impacted.

Conclusion: The patients and their companions had their quality of life severely negatively impacted, in all aspects. As such, caring for cancer patients must be done in all-inclusive manner, taking into account their life quality and their lives loves ' ones, who are their main source of support during their ordeal.

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Introduction:-

Breast cancer is the most common cancer in women worldwide. It accounts for 1.7 million new cases per year and 522,000 deaths per year. Incidence rates vary widely around the world, with age-standardized rates as high as 99.4 per 100,000 in North America. Eastern Europe, South America, South Africa, and Western Asia have moderate, but rising, incidence rates. The lowest incidence rates are found in most African countries, but they're too breast cancer incidence rates are increasing [1]-[2].

In Morocco, breast cancer has become the most common cancer among women. According to the Greater Casablanca Regional Cancer Registry (RCRC), a total of 4,839 cases of breast cancer were recorded during 2008 - 2012. The crude incidence in women was 47 per 100,000 women and the rate standardized to the global population was 49.5 per 100,000 women [3].

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The management of this cancer involves several phases from diagnosis to treatment and requires several additional examinations that can be costly.

In poor countries like Morocco, the cost of diagnosis and treatment is often added to the repercussions of the disease and its treatment. Complementary examinations to confirm the diagnosis, the extension assessment, the treatment, and the follow-up are very expensive, and in the absence of social coverage, patients are unable to finance their care. Since 2005, with the creation of the Lalla Salma Foundation for the fight against cancer, Moroccan patients have better access to expensive drugs, however, there are still additional costs that remain to be paid by the patient.

The objective of this work was to estimate the direct cost of care from the patient's perspective.

Patients And Methods:-

Study design and population , a cross-sectional study was conducted at the Mohammed VI Center for Cancer Control. It was conducted over 18 months from May 2017 to October 2018 involving 660 patients and their carers.

Patients were recruited at the consultation and interviewed thoroughly by a physician.

Data collection was anonymous.
Inclusion criteria
Adult patients (> 18 years)
Patients with a histologically confirmed diagnosis of any stage of breast cancer for at least six months.
Patients agreeing to participate in the study.
Non-inclusion criteria
Male patients.
Newly diagnosed patients (less than six months).
Patients with severe neuropsychological disorders.
Oral consent was sought. Data collection was anonymous.

Data collection

Two questionnaires were used, one for the patients and the other for the accompanying persons when they were present. When the patient was accompanied by more than one person, the person who was considered closest in terms of family relationship was interviewed, giving preference to those who lived in the same household as the patient.

The direct cost of care during the last six months was estimated according to whether a hospitalization took place during the period with the procedures performed during this hospitalization, as well as the performance of complementary biological or radiological examinations. The costs were estimated according to the declarations of the patients or their families.

Results:-

Sociodemographiccharacteristics of the study population:

A total of 660 patients were recruited. The mean age was 43.26 years with a standard deviation of 12.36 years. Approximately 54.5% of the patients were married, the number of children ranged from 0 to 8 with a median of 2. Eighteen percent of the patients were illiterate and 40.9% were housewives. The socioeconomic level was considered low in 62.7% of the population and 22.7% of the patients had social security coverage. Half of the patients (55.5%) were from the greater Casablanca region (Figure 1). The socio-demographic characteristics are shown in Table 1.

Figure 1:- The socio-demographic characteristics.

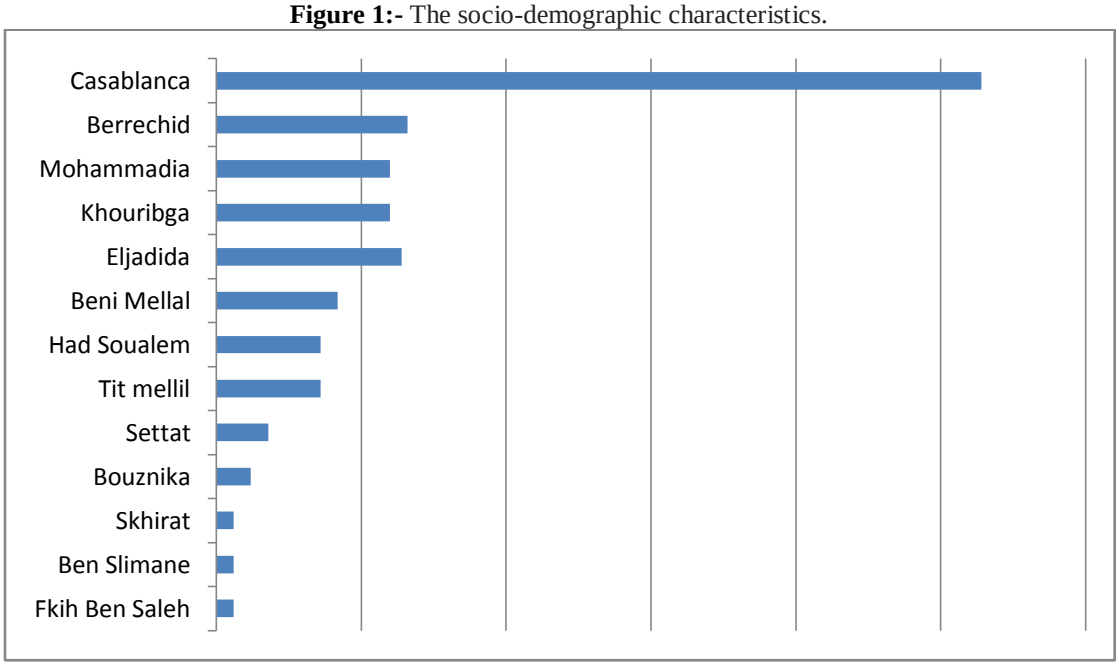


Table 1:- The socio-demographic characteristics are shown.

	Effectif	Pourcentage (%)
Marital status		
Maried	60	54,5
Single	20	18,2
Divorced	15	13,6
Widow	15	13,6
Level of study		
Iliterate	20	18,2
Primary	15	13,6
Middle school	25	22,7
College		
University	21	26,4
	29	19,1
Profession		
Housewife	45	40,9
Free profession		
Factory Girl	21	19,1
	31	28,2
official	9	8,2
Retired	3	2,7
Student	1	0,9
Perceived socioeconomic level		
Low	69	62,7
	38	34,5
Way	3	2,7

Social Security		
Without	32	29,1
Ramed	40	36,4
AMO	25	22,7
Other insurance	13	11,8
Current activity		
Not active due to disease	22	20,0
Not active for other reason	46	41,8
Active	42	38,2
Number of childrens :	2,62 (±2,373)	

2-Age and stage of the disease:

The mean age of disease was 2 years with a standard deviation of 1.34. Approximately 42.7% of patients were admitted for stage II. Figure 2 shows the stage distribution of the study population

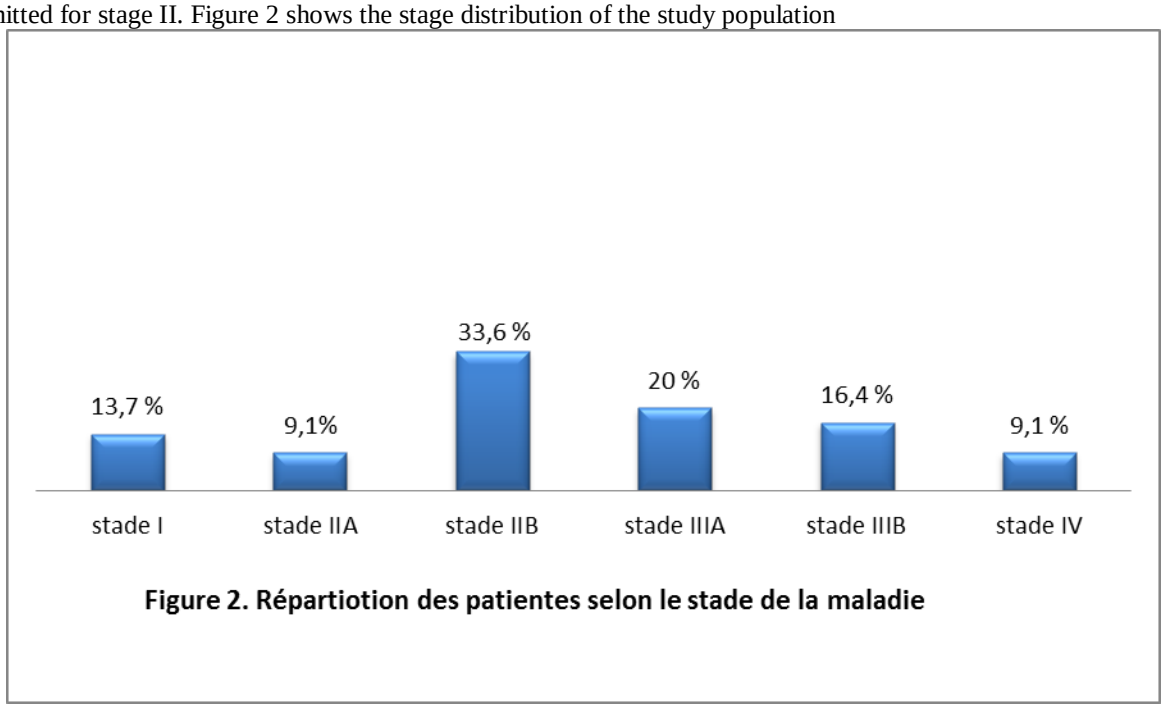


Figure 2. Répartiotion des patientes selon le stade de la maladie

3_Reason for visit:

Of the patients included in the study, 28.2% came for a follow-up visit, 12.7% for a chemotherapy session, and 8.2% for palliative care (Figure 3).

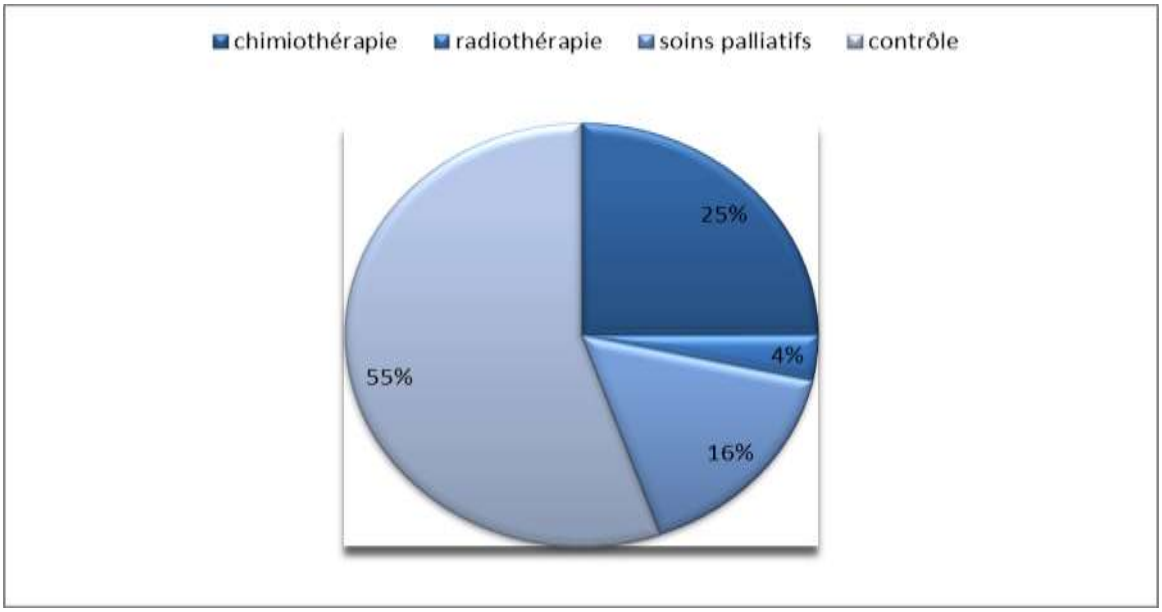


Figure 3:- Distribution of patients according to the reason for the visit.

4-Accompaniment during consultations

A total of 50.9% of patients were accompanied at the time of the study. 51% reported that they came to the hospital often to always accompanied and 12% of patients were never accompanied. (Figure 4). In 69.1% of the cases, it was always the same person, represented in 14.5% by the children and 12.7% by the parents (Figure 5). In 37.3% of the cases, this same person assisted the patient at home when needed.

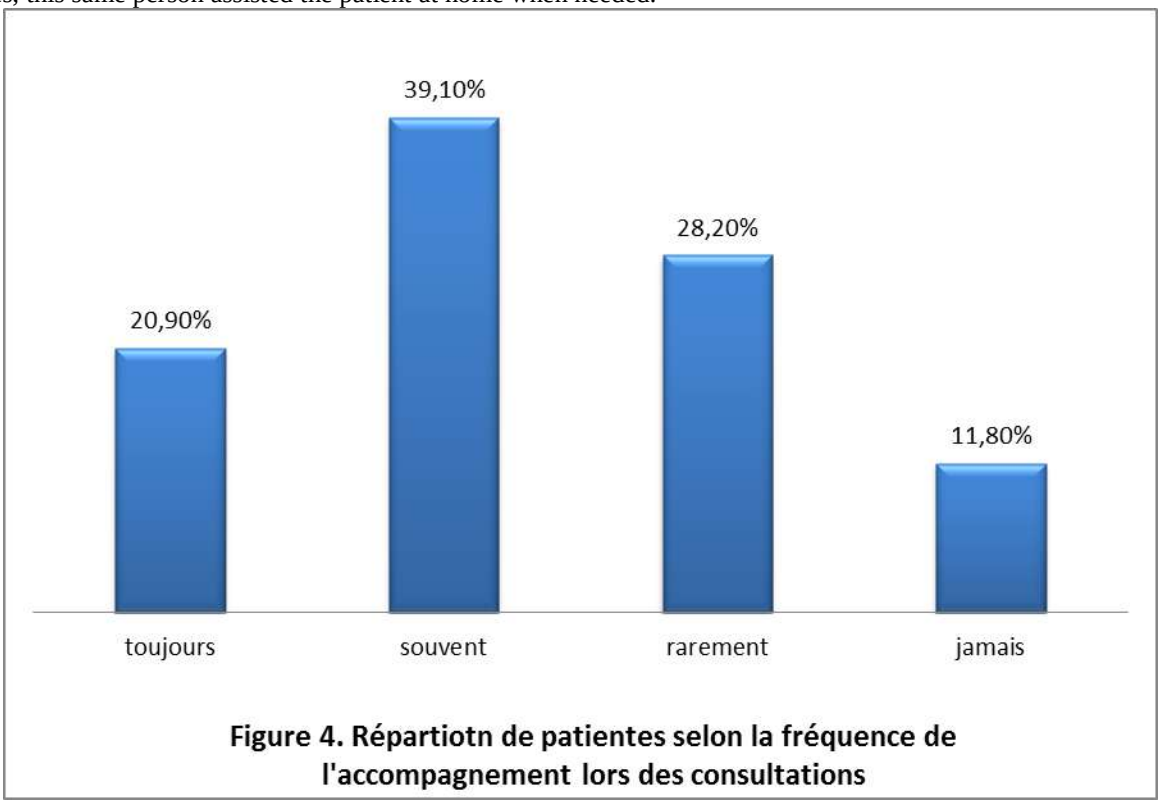


Figure 4. Répartiotn de patientes selon la fréquence de l'accompagnement lors des consultations

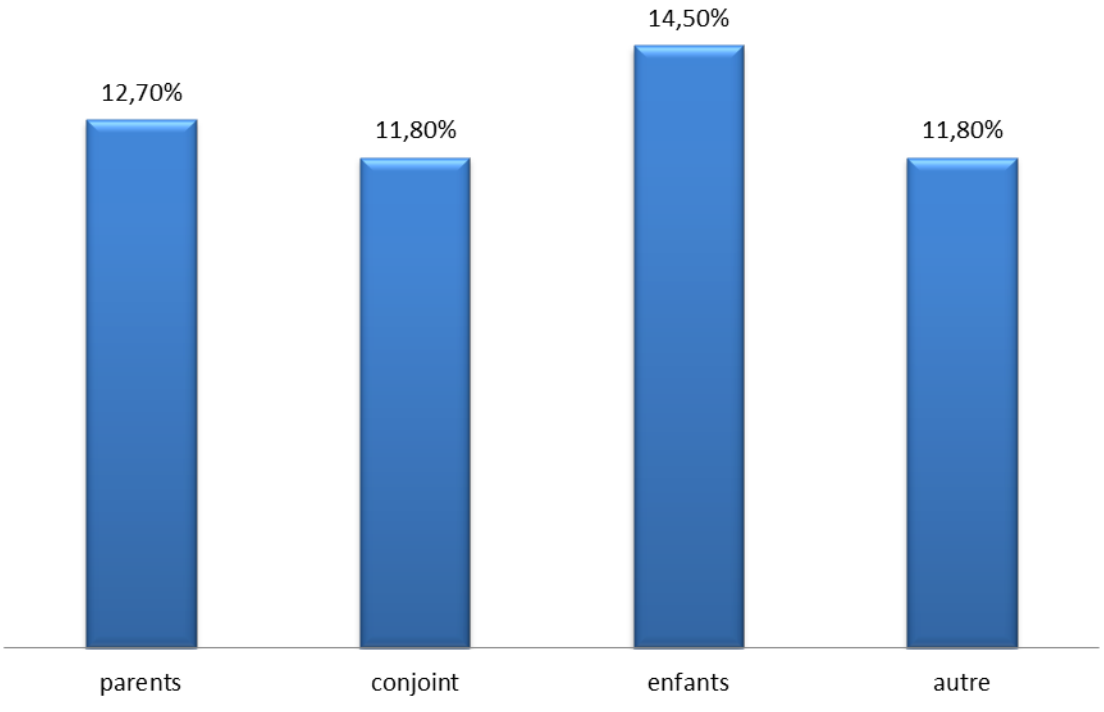


figure 5. Répartition des accompagnants selon le lien de parenté

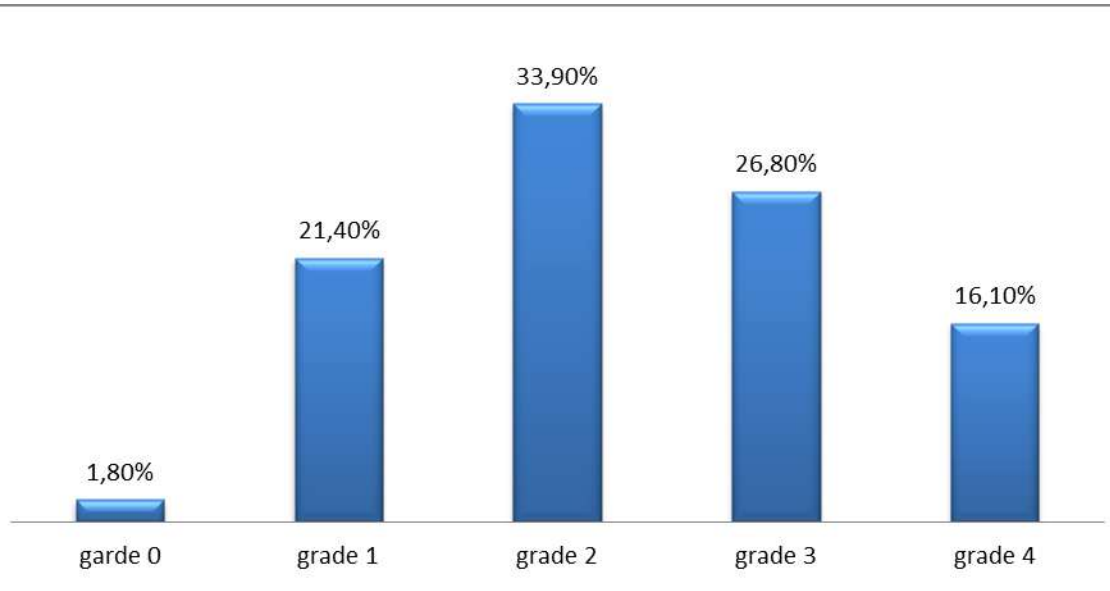


Figure 6. Répartition des patientes selon les stades du score ECOG

5-ECOG performance score

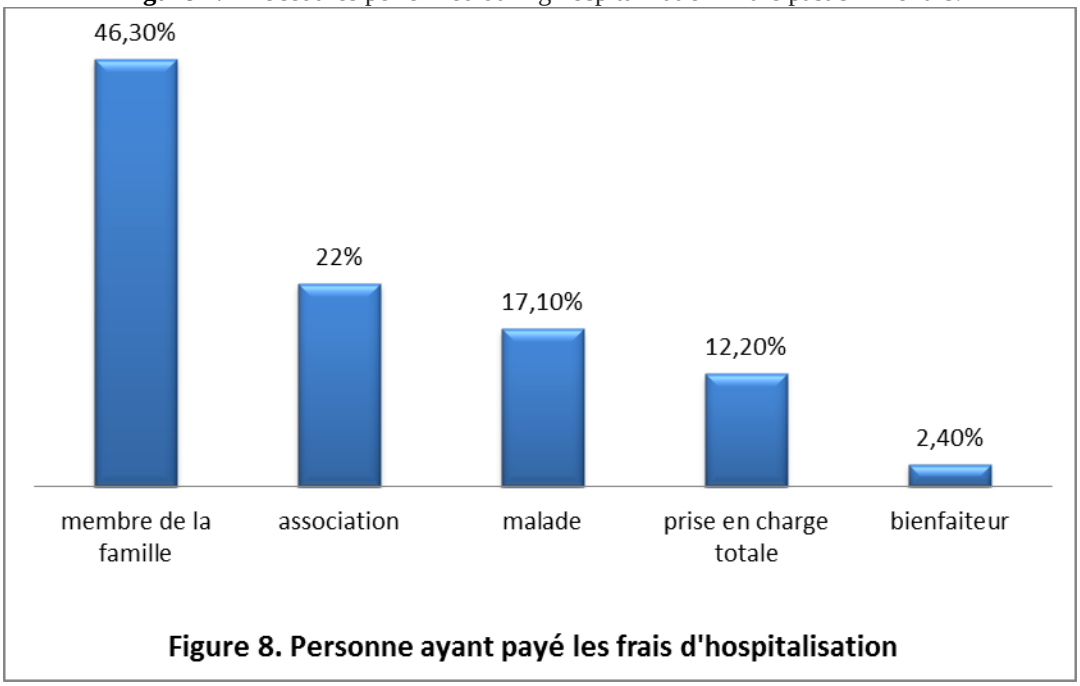
One-third of patients (33.2%) were bedridden for less than 50% of the day. Figure 6 shows the distribution of patients according to ECOG score grades.

6-Hospitalization in the last six months:

Approximately 37.3% of patients were hospitalized in the past 6 months. Surgery was the most frequent reason for hospitalization (53.6%). Management of complications of medical treatment of breast cancer such as febrile neutropenia, endometrial thickening of the uterus, poorly tolerated anemia represented 29.3%, other reasons for consultation such as therapeutic termination of pregnancy and management of hemorrhagic miscarriage represented 12.2% of cases (Figure 7).

Biologicalexaminations	24	58,5
Radiologicalexaminations	13	31,7
Médicaltreatment	25	61
chemotherapy cure	3	7,3
Patey	7	17,1
conservativetreatment	6	14,6
Lymphnode dissection	5	12,2
Tumor Intersection	3	7,3
Mastectomy of clealiness	3	7,3
Harpooning	2	4,9
Hystéroscopy diagnostic	5	12,2
PregnancyAspiration	3	7,3
Transfusion	11	26,8

Figure 7:- Procedures performed during hospitalization in the past six months.



Approximately 58.5% of patients received biological tests during their hospitalization. Almost one-third (31.7%) of patients had radiological examinations.

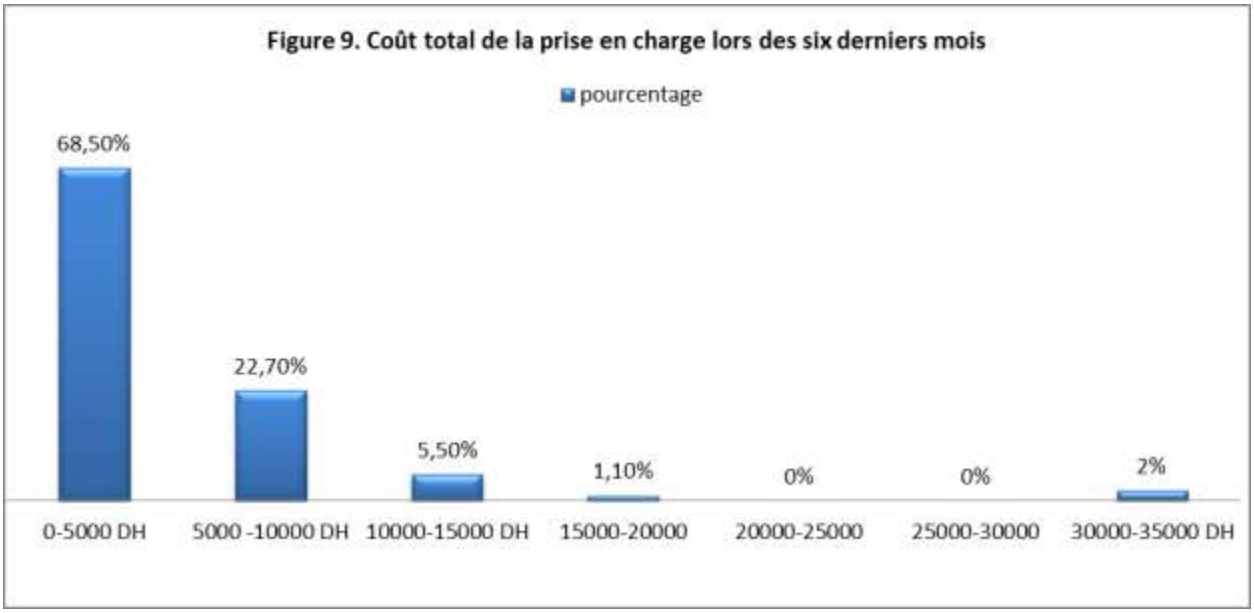
The most common procedures performed were surgical procedures such as Patey for 17.1% of patients, conservative treatment for 14.6%, diagnostic hysteroscopy in case of endometrial thickening for 12.2%.

Almost 61% of the patients received medical treatment (antibiotics, analgesics, growth factors, etc.) and 26.8% of them received transfusions (Table 2).

Thirty-two percent of patients paid the full hospital fee. The median amount paid was 2,631 DH, with a maximum of 8,000 DH and a minimum of 0 DH.

In 46.3% of cases, this amount was paid by a family member (Figure 8).

The total cost of care during the last six months (paid by the patient or his relatives) ranged from 0 to 35,000 DH (Figure 9).



Discussion:-

The socioeconomic level was considered low in 62.7% of our patients, with only 22.7% having social security coverage and 36.4% holding the RAMED card. One-third of the patients (32%) were illiterate or had a primary level of education and about 45% of the patients were not from the Greater Casablanca region (old division). Half of the patients (51%) were accompanied during this hospital visit. In 69% of the cases, it was the same person who usually accompanied the patient. Accompanying persons were children (14.5%), parents (12.7%), and spouses (11.8%). One in five companions was inactive at the time of the study because of the participants' illness.

More than one-third of the patients had been hospitalized in the past six months, 54% for surgery. About 32% of the patients had paid the full hospital fee. The median amount paid was 2,631 DH with a maximum of 8,000 DH. These expenses were paid by associations or benefactors in a quarter of the cases (24.4%).

Approximately 38% of accompanied patients were bedridden more than 50% of the day

Our study has some limitations, the study of the direct cost, borne by the patients, was estimated only by the cost of the procedures and investigations carried out during the last six months without taking into account the cost of travel and accommodation for the accompanying persons or the cost of purchasing medication

The majority of patients considered their socio-economic level to below, the observed proportion of 62.7% is similar to those reported in Moroccan studies conducted in this sense [4]-[7] where 64 to 87% of patients were low income. Indeed, the poverty of Moroccan patients, especially those consulting a public institution, is the main handicap they suffer from, with an inescapable impact on therapeutic management.

Thus, doctors are obliged to adapt treatment protocols according to the financial means and stocks available at the hospital and not to therapeutic standards that include increasingly expensive drugs (targeted therapies and new chemotherapy drugs). Almost half of the patients did not live in Casablanca, which requires travel to the treatment facility. In the study by RIHANI et al, 70-75% of patients were of rural origin, and 50% lived more than 200 km from the hospital [4]. Because treatment often requires frequent trips between home and the treatment center, some patients should plan to stay in a hotel, especially if there is no cancer center nearby or no space available. In addition, a person weakened by the disease and treatment will eventually need a travel companion, 50.9% of the patients in our series were accompanied, and in 69.1% of the cases, it was the same person, which implies additional costs and loss of salary for the accompanying spouse, child or family member.

More than one-third of the patients surveyed had been hospitalized in the past six months, and 32% of them had been forced to pay the full cost, which could amount to 8,000 DH. About 40% of the women had no social security coverage or RAMED. In the PNPCC, a program of access to medicines for low-income patients has been put in place. This program allows low-income patients treated in public health facilities to benefit from anti-cancer drugs without any payment from them. Its objective is to achieve 100% access to drugs for low-income patients without medical coverage, in terms of chemotherapy. However, in addition to the expenses related to anti-cancer drugs, cancer disease generates other costs related to the treatment of side effects or complementary examinations that are not covered by this program. This increase in expenses is often aggravated by a decrease in family income, especially for people who have been forced to stop their professional activity because of the disease (patient) or to care for the patient (family member). In our study, 20% of the carers had left their job because of their relative's illness. Other studies have reported this phenomenon of a sudden increase in expenses related to the disease and the loss of professional activity among patients [6], [8]-[11].

Despite the efforts of the Lalla Salma Foundation, many cancer patients are faced with material distress in addition to the psychological and physical distress caused by the disease. It should be noted that other associations (NGOs) and benefactors participate to relieve the economic burden on patients, which would testify to the solidarity within Moroccan society. In a Moroccan study, 70% of Moroccan patients relied on the financial resources of their families and 17% reported receiving their treatment from benefactors [12].

Indeed, the costs of hospitalization of 24% of patients were paid by associations or benefactors. According to SHANKARAN et al, the economic burden of the disease can have a much more perverse effect: the failure to adhere to conventional treatments [13]. According to a qualitative and quantitative study conducted by the Lalla Salma association for the fight against cancer on the knowledge, perception, and attitude towards cancer, 67% of Moroccans believe that it is the high cost of modern medicine that pushes patients to turn to a more affordable alternative solution: traditional medicine [7]. And it is the medicinal plants that are the most successful.

Conclusion:-

Assessing the cost of cancer is a delicate exercise. Indeed, it is a group of rather heterogeneous diseases requiring variable treatments and management. The occurrence of cancer is the source of significant financial burdens for both the patient and society. Due to its chronic and progressive nature, it requires heavy and expensive treatments and can quickly lead to precariousness with a decrease in income or even loss of employment. Access to care, due to lack of means, is not generalized.

Bibliography:-

[1] Curado MP, Edwards B, Shin HR, et al., « Cancer Incidence in Five Continents, Volume IX - WHO - OMS - ». http://apps.who.int/bookorders/WHP/detart1.jsp?sesslan=1&codlan=1&codcol=73&codcch=160 (consulté le mars 23, 2018).

[2] OMS 2017, « Cancer du sein: prévention et lutte contre la maldie. », WHO. http://www.who.int/mediacentre/factsheets/fs297/fr/ (consulté le mars 23, 2018).

[3] « Registre des Cancers de la Région du Grand Casablanca 2008-2012 ». http://www.contrelecancer.ma/fr/documents/registre-des-cancers-de-la-region-du-grand-casab-3/ (consulté le mars 24, 2018).

[4] H. Errihani et al., « Caractéristiques psychosociales des patients cancéreux marocains: étude de 1 000 cas recrutés à l'Institut national d'oncologie de Rabat », Rev. Francoph. Psycho-Oncol., vol. 4, n° 2, p. 80‑85, juin 2005, doi: 10.1007/s10332-005-0060-8.

[5] H. Errihani et al., « Impact of cancer on Moslem patients in Morocco », Psychooncology., vol. 17, n° 1, p. 98‑100, janv. 2008, doi: 10.1002/pon.1200.
[6] « Impact psychosocial et religieux du diagnostic de cancer chez les patients marocains : expérience de l'Institut national d'oncologie de Rabat - ScienceDirect ». https://www.sciencedirect.com/science/article/pii/S0007455115308602 (consulté le mars 24, 2018).
[7] « CONNAISSANCES, PERCEPTIONS & ATTITUDES A L'EGARD DU CANCER », Scribd. https://www.scribd.com/document/56672414/CONNAISSANCES-PERCEPTIONS-ATTITUDES-A-L-EGARD-DU-CANCER (consulté le mars 24, 2018).
[8] S. Lantheaume et al., « Cancer du sein, activité physique adaptée et qualité de vie », Ann. Méd.-Psychol. Rev. Psychiatr., vol. 175, n° 10, p. 841‑848, déc. 2017, doi: 10.1016/j.amp.2016.03.016.
[9] G. Behrens, C. Jochem, M. Keimling, C. Ricci, D. Schmid, et M. F. Leitzmann, « The association between physical activity and gastroesophageal cancer: systematic review and meta-analysis », Eur. J. Epidemiol., vol. 29, n° 3, p. 151‑170, mars 2014, doi: 10.1007/s10654-014-9895-2.
[10] « Cancer et activité professionnelle | Cairn.info ». https://www.cairn.info/revue-de-l-ofce-2008-1-page-105.htm (consulté le mars 24, 2018).
[11] J. A. Bennett, P. Brown, L. Cameron, L. C. Whitehead, D. Porter, et K. M. McPherson, « Changes in employment and household income during the 24 months following a cancer diagnosis », Support. Care Cancer Off. J. Multinatl. Assoc. Support. Care Cancer, vol. 17, n° 8, p. 1057‑1064, août 2009, doi: 10.1007/s00520-008-0540-z.
[12] S. Kharmoum El Azzouzi, « Impact du cancer chez la famille du cancéreux », Thesis, 2010.
[13] V. Shankaran, S. Jolly, D. Blough, et S. D. Ramsey, « Risk factors for financial hardship in patients receiving adjuvant chemotherapy for colon cancer: a population-based exploratory analysis », J. Clin. Oncol. Off. J. Am. Soc. Clin. Oncol., vol. 30, n° 14, p. 1608‑1614, mai 2012, doi: 10.1200/JCO.2011.37.9511.