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PREVALENCE AND ASSOCIATED RISK FACTOR OF CANCER DISEASE AMONG PATIENTS RECEIVING CHEMOTHERAPY IN NUCLEAR MEDICINE CENTER FOR THE TREATMENT OF TUMORS AND CANCER RESEARCH SHENDI 2020- SUDAN

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INTRODUCTION

Cancer is predicted to be an increasingly important cause of morbidity and mortality in the next few decades, in all regions of the world. Cancer rates have been substantially higher in high income Western countries in comparison to East-Asia and Africa. Migration studies have found that the rates of many types of cancers change when people move, especially if they move from low-incidence to high-incidence countries. The U.S. population is expected to grow from 305 million in 2010 to 365 million in 2030. The total number of cancer diagnoses per year will increase from 1.6 million in 2010 to 2.3 million in 2030. In 2030, 70% of cancers will be diagnosed in the elderly (Ferlay J et al.2010, Samera Azeem ,e-tal 2014, Nathan, et al., 2013).

Worldwide, the elderly population (age 65 years and over) were 7.6% of the total population male (227 million/ female 289 million), while in Egypt, the elderly population aged 65 years and over were 4.3% of the total population (male 1.5 million /female 1.8 million). Life expectancy increased in the world; 64.29 years for males, while 68.07 years for females, while Egyptian life expectancy increased to 69.8 years for males and 75.1 years for females (National Center for Health Statistics, 2012).

Cancer is one of the top causes of death worldwide, responsible for 13 percent of all deaths in 2005. If projections are accurate, this number could reach 9 million by 2015. The chance of developing cancer increases with age; 76 percent of all cancer is diagnosed in people over the age of 50. The four most commonly diagnosed cancers breast unfortunately its prevalence as a common female malignancy is still rising throughout the world, colon, lung, and prostate although some of the risk factors for cancer, such as age, ethnicity, and family history, smoking and alcohol intake (National Cancer Intelligence, 2009, Raisa Bano,et-al 2016).

Chemotherapy is used to shrink tumors, keep tumors from spreading, or simply to help relieve pain from some of the tumors when someone is receiving comfort measures only. Chemotherapy drugs damage healthy cells as well as cancerous cells and can have severe side effects that may seem worse than the cancer symptoms themselves. These types of reactions depend on the type of agents used; some chemotherapy agents cause fewer symptoms than others (Joensuu, 2008).

The primary purpose of the clinic is to assess the patient's ongoing suitability to receive chemotherapy. The focus of the consultation is to determine the presence of any toxicities of treatment. Side effects, if any, have often resolved by the time the patient returns to clinic, so it is important to determine how badly the patient was affected in the interval since the last treatment , This is determined by history-taking, physical assessment, and evaluation of the patient's physiological well-being and performance status or ability to manage day-to-day tasks.Based on this assessment, adjustments can be made to their chemotherapy and supportive medicines as necessary, including potentially delaying treatment for a few days to allow full recovery from a particular symptom(Lennan E,et-al 2012).

The nurse plays an important role in managing and teaching of chemotherapy side effects among elderly cancer patients. Some problems such as pain, nausea and vomiting are needed symptomatic relief or palliative care through effective early treatment as well as the disease. The elderly require special care for the prevention and controlling of cancers by modifying lifestyle choices, eating a healthy diet, staying physically active and steering clear of tobacco products as well as avoid their specific risk factors and preventive measures such as

routine examinations and testing, early diagnoses and treatment which can increase cure rates (Carlisle, 2013).

For many cancers, overall incidence rates in countries with high or very high HDI1 are generally 2–3 times those in countries with low or medium HDI. However, the differences in mortality rates between these two categories of countries are smaller, on the one hand because lower-HDI countries have a higher frequency of certain cancer types associated with poorer survival, and on the other hand because access to timely diagnosis and effective treatment is less common. In men, lung cancer ranks first and prostate cancer second in incidence in both developed and developing countries (Geneva, Switzerland 2018).

MATERIALS AND METHODS
Study design: This was retrospective hospital based study conducted in Nuclear medicine center for the treatment of tumors and cancer research
Study area: This study was conducted in Sudan, river Nile state, Shendi town
Setting: This study was conducted in Nuclear medicine center for the treatment of tumors and cancer research.

Study population: Cancer patients receiving chemotherapy
Including criteria: any cancer patient treated by chemotherapy.
Sampling technique: The study group was chosen using convenience sampling from all cancer patients.
Sample size: 123 patients Were included in this study.
Data collection tools: The data was collected by closed ended questionnaire designed by researcher based on reviewing of literature, it consists of three section the first section contain (1 – 6) questions designed to collect demographic data, the second section (7 – 8) questions designed to collect risk factors of cancer, the third section (9 – 11) questions designed to collect type and duration of cancer.
Data collection technique: In this study the data was collected in two days. From the statistic unit of the hospital (patient file).
Data analysis: The collected data was analyzed by using computer program statistical package for social sciences (SPSS version 20) and the data was presented in form of figures and tables.
Ethical considerations: Approval from faculty of Nursing Sciences Shandi University, Approval from tumor therapy and cancer research center hospital.
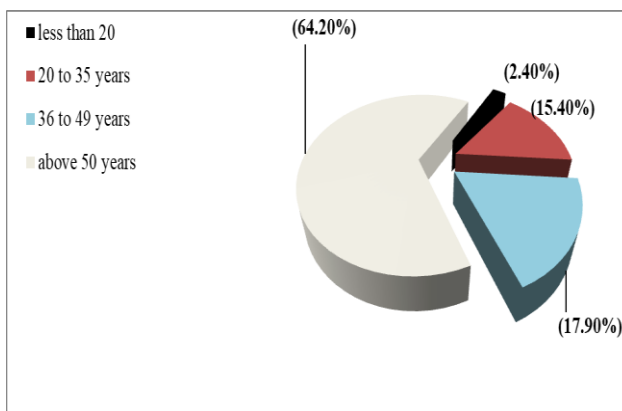
RESULT

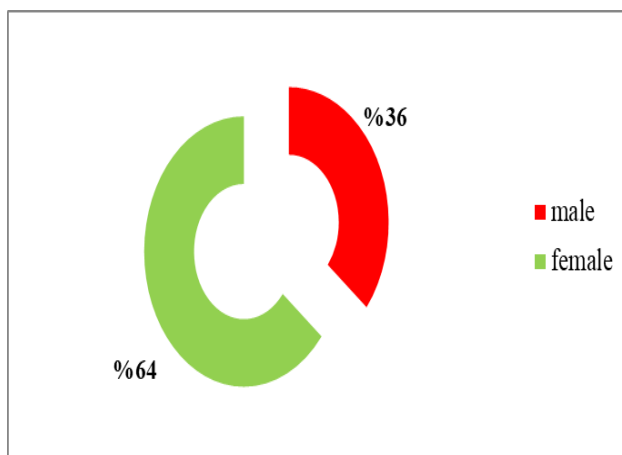**Figure 1: Distribution of the study group according to their age (N=123).**

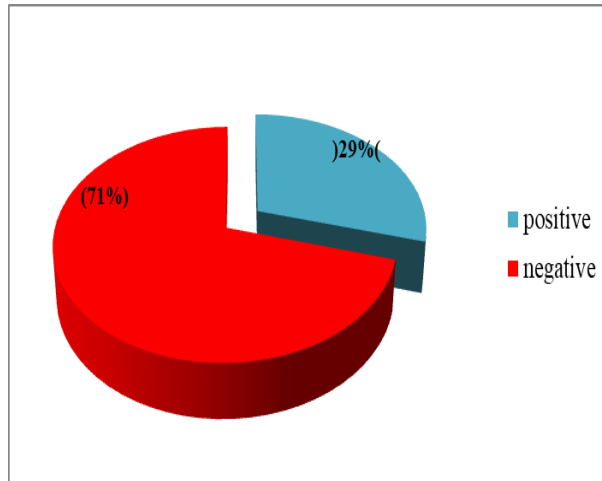**Figure 2: Distribution of the study group according to their gender (N=123).**

Figure 3: Distribution of the study group according to family history (N=123).
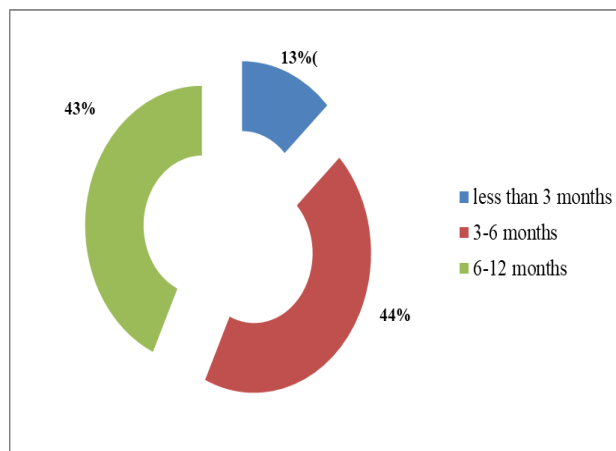

Figure 4: Distribution of the study group according to their time since diagnose (N=123).
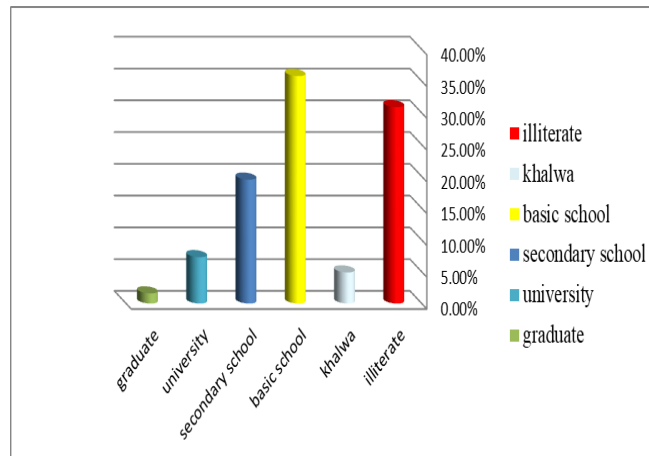

Figure 5: Distribution of the study group according to their educational level (N=123).
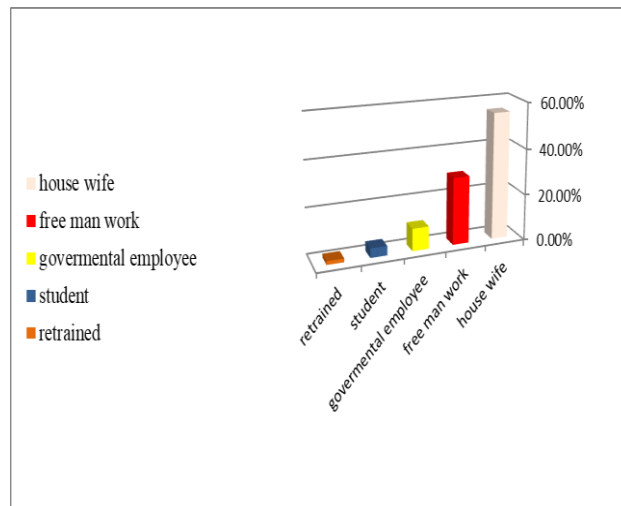
Figure 6: Distribution of the study group according to their job (N=123).

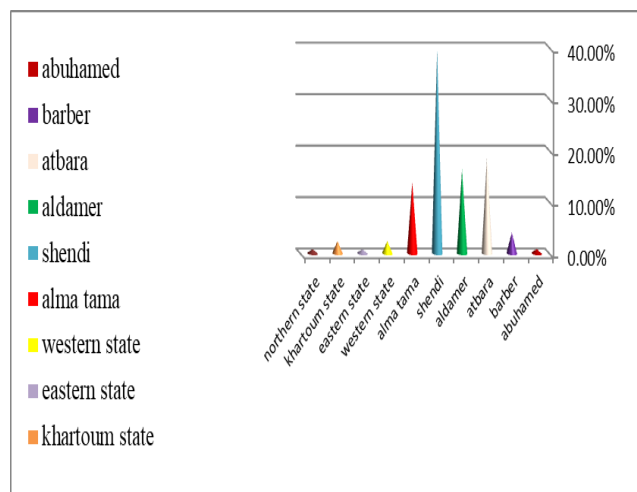**Figure 7: Distribution of the study group according to their residence (N=123).**
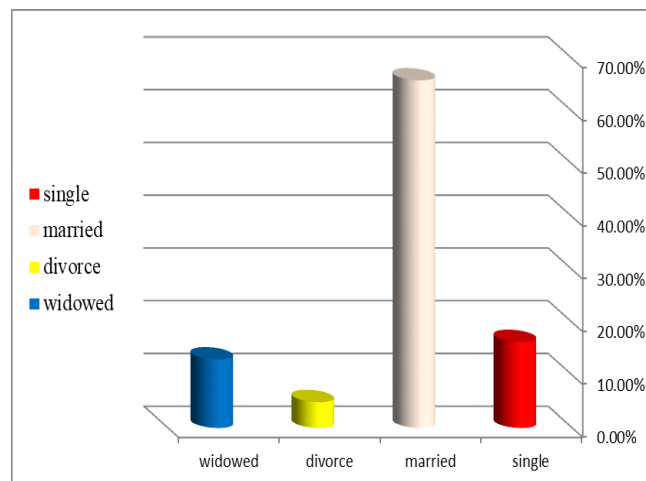

Figure 8: Distribution of the study group according to their marital status(N=123).

Table 1: Distribution of the study group according to their social habits (N=123).

Social habits	Frequency	Percent
Smoking		
Current smoker	8	6.5%
ex-smoker	7	5.7%
Never	108	87.8%

Alcohol		
Never	123	100%
Tobacco		
current tobacco	6	4.9%
ex-tobacco	6	4.9%
Never	111	90.2%

Table 2: Distribution of the study group according to their type of contact(N=123).

Type of contact	Frequency	Percent
Surgery	32	26 %
Radiotherapy	5	4.1%
Chemotherapy	79	64.2%
Surgery and radiotherapy	7	5.7%

Table 3: Distribution of the study group according to their type of cancer (N=123).

Type of cancer	Frequency	Percent
Breast	40	32.5%
Lung	7	5.7%
Prostate	1	.8%
Stomach	3	2.4%
Pancreatic	3	2.4%
Tongue	1	.8%
Leukemia	4	3.3%
Lymphoma	13	10.6%
Rectum	1	.8%
Colorectal	1	.8%
Skin	1	.8%
Uterine	2	1.6%
Molar pregnancy	1	.8%
Hepatic neuro endocrine tumor	2	1.6%
Myeloma	2	1.6%
Cholangio carcinoma	2	1.6%
Ovarian	14	11.4%
Endometrine	4	3.3%
Urinary bladder	1	.8%
Testicular	2	1.6%
Colon	8	6.5%
Kidney	2	1.6%
Adeno carcinoma	2	1.65%
Esophagus	1	.8%
Oropharyngeal	1	.8%
Lip	1	.8%
Oral cavity	1	.8%
Vocal cord ca	1	.8%
Osteosarcoma	1	.8%

DISCUSSION

The study revealed that near to tow third (64.23%) of the study group their age more than 50 year this result corresponding with previous study published by American Cancer Society which reported that (most patients committed suicide were 65-84 years old when they were diagnosed with cancer).[Anas M. Saad , et al,2019], also the result compatible with the result of another study done in Egypt at Assiut University Hospitals which reported that(Regarding the age of diseased patients, the majority of them (78.0%) aged between (60-69) years old and the rest are 70 years or more. This is might be due to limitations in activity, decreased ability to perform basic tasks, and conversely lower immunity) (Nermeen Mahmoud Abd-Elaziz Barakat, 2016)while less than half(44%) of them had basic school.

In addition to that more than two third (68%) of the study group were house wife also near to half (49%) of them came from Shendi, and less than half (43.9%) of them had 3-6 month in duration, the present finding corresponding with previous study published by American Cancer Society which state that (we were reviewed 4,671,989 patients with cancer ; 1,005,825

these patients died within the first year after their cancer diagnosis). (**Anas M. Saad , Mohammed M. Gad MD, et al,2019**).

The study represented that near to tow third (64%) of them were female, this study agree with previous study(Total of 6771 incident cases of cancer were recorded among Khartoum residents in 2009 -2010. Among them, 3125 (46.2%) were men and 3646 (53.8%) were women. (Intiar E.Saeed, Hsin-YiWeng, et al 2014)., ,this may disagree with some research done in Egypt at Assiut University Hospitals which show Controversial result which reported that (The present study revealed that the number of males more than females. This may be due to the fact that males are more active in outdoor life than females, so they are affected by sun exposure, radiation, and pollution hazards, this more liable to of cancer diseases) (Nermeen Mahmoud Abd-Elaziz Barakat,2016) on other hand majority(70.73%) of them had negative family history this study agree with previous study done in Twin Cities which reported that (Family history of cancer and other diseases can provide insight into the genetic (and/or shared environmental) basis of an illness, Most studies show no increased risk with a family history of cancer, but associations with specific cancer sites including brain, breast, colon/rectum, genital, lip/oral, kidney cancer, and testicular teratomas have been reported. (Heather Zierhuta,et-al,2012).

The study reflected near to one third of the study (32.5%) study group had breast cancer and majority (81%) of them were married this study agree with previous study done in Europe ,which reported that(The most common cancer sites were cancers of the female breast (464.000 cases). **(**http://www.ejcancer.com/article/S0959-8049(13)00007-5/abstract) also this result supported by other study which appear the married women were found to have increase risk of breast cancer (Rosner et al., 1994). while disagree with other study which explain (the marital status is not considered a risk for breast cancer), on the other hand; a case control study done in Iran showed that never married women were at higher risk for breast cancer (Ebrahimi et al ., 2009)

According to bad habits the present study indicated that most of (87.8%) study group had never smoke this result supported by study conducted in iraqi which appear there was no evidence of a statically significant difference in breast cancer risk between subjective who had ever smoked and those who had no (Latif et al .,2009). , all (100%) of them never drink alcohol this finding agree with study published by WHO which state that (alcohol consumption is deeply embedded in the cultures of many societies, an estimated 45% of the global adult population has never consumed alcoholic beverages in their lives**)(WHO,2011)**) another hand all most (90.2%) of them had never used tobacco and near to two third (64.2%)of them their type of contact to receive chemotherapy our result compatible with the result conducted in India which reported (Even cancer

chemotherapy provides complete cure from the disorder, the side effect of them are capable of producing adverse reactions in the body including death (Vijayan Ajaya,2019).

CONCLUSION
Based on the study finding the study concluded that
Near to one third of the study group had breast cancer and near to tow third of them were female, breast cancer was high incidence of cancer diseases, in Shendi city from river Nile state.

Recommendations
Based on the study finding the study recommend that
1. The Ministry of health should be regulate educational programs through mass media about sign and symptom, risk factor and prevention measure of cancer and importance of early detection and treatment Effective and availability of treatment for patient.
2. Establish an education program to enhance the awareness of population about the risk factors that have been recorded in this study
3. Achieving case - control studies about the most affecting risk factors to have more accurate results about the disease and the factors contributing to it.
4. The health care provider psychological support for each cancer patient receiving chemotherapy.

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