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Original Research Article

Cancer Opinion Survey 2019: Cancer Care in Saudi Arabia

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Abstract

According to the studies, Saudi Arabia has acquired the 26th position in the Health care sector in the WHO ranking. Cancer is one of the leading health diseases in Saudi Arabia and other Arab countries. In Saudi Arabia, the Saudi Human Genome Project (SHGP) was initiated to understand the genetic distribution of Cancer cells. The aim of this study is to survey the opinion of people living in Saudi Arabia about Cancer. The opinion of the general adult population of Saudi Arabia about cancer is determined using a pre-designed, validated questionnaire. About 18.1 million cases of cancer were registered globally and 9.6 million death rates due to cancer were reported in the year 2018.The total mean score of this study was that 75% of the population residing in Saudi Arabia knows what Cancer is. To increase the knowledge of the people about signs and symptoms of Cancer and the cause of the Cancer and the preventions that can be taken at many cancer control activities need to be performed in Saudi Arabia. After carrying out the survey, we would like to increase other people's knowledge about Cancer and then motivate them to participate in cancer preventive activities.

Keywords: Cancer, tumor, cancer care, neoplasm, Saudi Human Genome Project.

INTRODUCTION

Rapid and uncontrolled growth of the abnormal cells results in the formation of mass called 'tumor.' The tumor is also called 'Neoplasm,' and the abnormal cells forming the neoplasm are the 'neoplastic cells.' The phenomenon of formation of abnormal growth of tissue in any part of the body is called as 'neoplasia.' The size of the tumor ranges from a tiny nodule to a massive lump [1].

The tumors are basically of three types: Benign, Pre-malignant, and malignant. The benign tumor is not cancerous; it cannot grow or spread to various body parts. The pre-malignant tumor is not cancerous by nature but has the potential to develop into malignant. The malignant tumor is cancerous and can grow and spread to various parts of the body.

The word cancer is derived from the Latin word "crab," due to its irregular shape like a crab [2]. Cancer is defined as the ability of the abnormal cells to invade the surrounding tissues and spread to other parts of the body and may eventually lead to the death of the patient if left untreated. The term tumor is most commonly used for cancer, and this could be misleading, as the tumor may not necessarily be cancer.

Cancers can be broadly classified as primary and metastatic. Primary cancers originate in the body part or organ, whereas metastatic cancer that arises in one organ and spread to other organs and develops into another tumor [3].

Cancer is a genetic disease in which the genes that carry the code for cell-division is altered. Cancer may be inherited from the parents, and sometimes it can occur due to the error caused to the genes in the DNA molecule. The modifications in the genes arise due to its exposure to harmful radiations, the unsuitable environment, stress, infection, and trauma. The cancer cells can grow and spread to other parts of the body, developing into a new type of cancer. The cancer cells can spread via, the bloodstream, or the lymphatic system [4].

Cancer can be diagnosed by history and physical examination in case of visible mass; radiographic techniques like X-rays, computed tomography (CT), magnetic resonance imaging (MRI), ultrasonography (US), and mammography; laboratory analyses with carcinoembryonic antigen (CEA), alpha-fetoprotein (AFP), and human chorionic gonadotropin (HCG); genetic testing; cytology with fine-needle aspiration (FNA); tissue biopsy and surgery; autopsy. Most of cancer may be influenced by age, gender, race, the local environmental factors, diet, and genetics. The most common cancer in men is 'Prostrate cancer,' in females is 'Breast cancer' and in children below 12 years is 'leukemia' [6].

It was reported that about 80% of the cancer cases occur in the age group above 45 years of age. Many studies have been carried out throughout the world related to the awareness about cancer. The increase in knowledge about the disease in the general people helps to identify cancer and preventive measures can be taken to avoid cancer.

The Saudi Cancer Registry (SCR) is a committee that gives information related to all the registered cases in Saudi Arabia; it was established in 1994 [7]. According to the studies, Saudi Arabia has acquired the 26th position in the Health care sector in the WHO ranking [2, 3]. According to the cancer incidence report of Saudi Arabia in the year 2015, about 16,210 were the registered cases for cancer.

Cancer is one of the leading health diseases in Saudi Arabia and other Arab countries [8]. The cancer incidence had increased in the past ten years, basically due to various reasons like lifestyle modifications and obesity. The significant changes in the diet were that the old traditional food was replaced with western diets. The incidence of cancer has also increased due to the high cases of consanguineous marriages (marrying the first cousin) that lead to making genetic disorders in case of hereditary cancers in Saudi Arabia.

In Saudi Arabia, the Saudi Human Genome Project (SHGP) was initiated to understand the genetic distribution of Cancer cells [9]. About 10% of the newly diagnosed cancer cases are due to inherited genetic traits. The current national strategy of Saudi Arabia that is 'Vision 2030' includes even the improvement of the Public-Health and Health-care delivery and also focuses on expanding Saudi Arabia's acquisition and research-infrastructure.

Thus with this study, we will be able to understand and study the opinion of the people residing in Saudi Arabia about Cancer.

METHODOLOGY

Research instrument

The opinion of the general adult population of Saudi Arabia about cancer is determined using a pre-designed, validated questionnaire. The questionnaire was formulated in the English language and later was translated into Arabic. The questionnaire was distributed through online media to most of the people residing in Saudi Arabia to determine their opinion about cancer. This survey was carried out in the year 2019. This questionnaire included questions related to demographic characters of the person residing in Saudi Arabia as well as the knowledge and attitude related questions about cancer. The inclusion criteria of the study were the population living in Saudi Arabia. It was a generalized study on the overall population living in various cities of Saudi Arabia.

Statistical methods

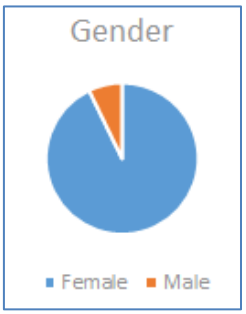
The data is collected in the pre-formulated tables, and the collected information was analyzed using the SPSS software. The frequencies and percentages of the responses from the population in Saudi Arabia were done using the P-value equal to or less than 0.05. The descriptive statistics were attained, and the mean, standard deviation, and frequency distribution were calculated.

RESULTS

The people residing in Saudi Arabia answered the questionnaire about the knowledge and attitude related to Cancer. This questionnaire included the questions related to demographic characters of the people, and their attitude and knowledge about cancer. About 1456 people answered the questionnaire with the cancer related questions.

Demographic Data

Among all the 1456 participants, 548 (37%) participants were in the age group 19-30 years, 267 (18%) in 31-40 years age group, 247 (17%) in 41-50 years age group, 179 (12%) below 18 years, 165 (11%) in 51-60 years age group and only 50 (3%) above 61 years of age. About 1000 (77%) participants were females and 323 (22%) were males.



Graph-1: Showing the ratio of male and female participants in this study

Around 771 (53%) did bachelor's degree, 364 (25%) did secondary school, 133 (9%) did diploma, 109 (7%) did Masters Specialization, 49 (3%) had no education and only 30 (2%) were Ph.D.

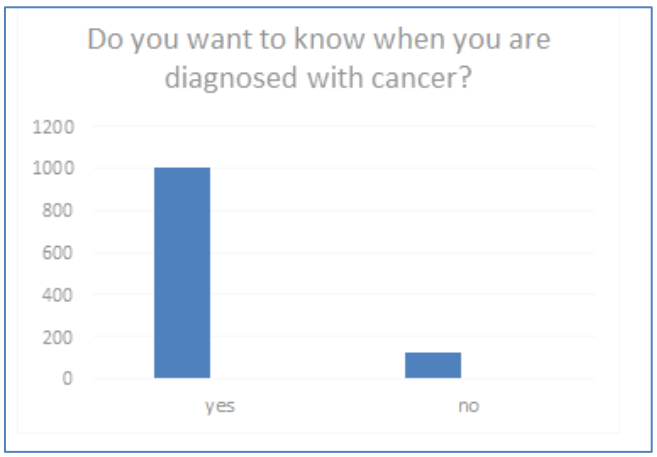
Majority of the participants reside in Riyadh 726 (49%), followed by 292 (20%) in Makkah Province, 117 (8%) in Qassim region, 113 (7%) in Medina, 62 (4%) in Eastern province, 60 (4%) in Jazan region, 27 (1%) in Tabuk region, 21 (1%) in Hail region, 15 (1%) in Al-Baha region, 8, 7, and 5 in Najran region, Al-Jouf region and Northern borders region respectively.

Table-1: Table representing the demographic data about participants

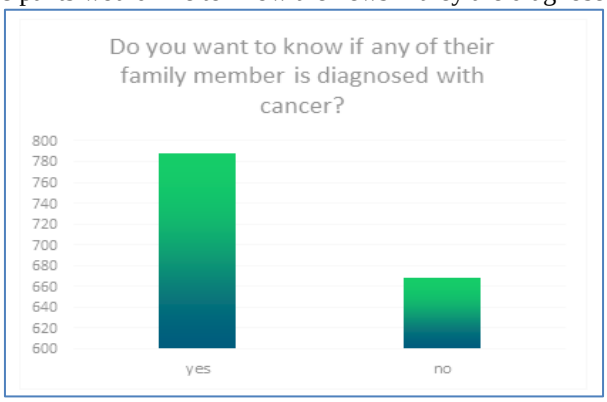
DEMOGRAPHIC CHARACTERS	FREQUENCY	PERCENTAGE
Age		
16-18 years	179	12
19 - 30 years	548	37
31 - 40 years	267	18
41 - 50 years	247	17
51 - 60 years	165	11
> 61 years	50	3
Gender		
Female	1000	77
Male	323	22
Qualification		
No Education I don't hold a degree yet		
Bachelor Degree	49	3
Secondary School	771	53
Diploma degree	364	25
Master's - Board degree specialist	133	9
Ph.D	109	7
	30	2
City area		
Riyadh region		
Makkah Province	726	49
Qassim region	292	20
Medina	117	8
Eastern Province	113	7
Jazan region	62	4
Tabuk region	60	4
Hail Region	27	1
Al-Baha area	21	1
Najran region	15	1
Al-Jouf Region	8	0
Northern Borders Region	7	0
	5	0

Knowledge about cancer

About 1000 (72%) feels that cancer can be cured depending upon the case and stage of cancer, while 250 (17%) feels that it can be cured completely. 1000 (77%) participants thinks that cancer can be treated by chemotherapy/ radiation therapy/surgical treatment/by medication.



1000 (91%) of the participants would like to know the news if they are diagnosed with cancer.

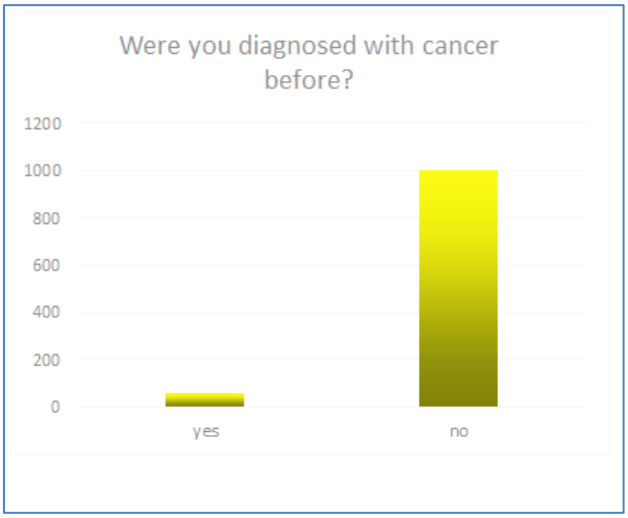


788 (54%) would like their family members to know if they are diagnosed by cancer, 811 (55%) don't have idea about the difference between malignant and benign tumor, about 688 (47%) have no family member affected by cancer, 387 (265%) have one family member suffered with cancer, 209 (14%) have more than two affected with cancer while 172 (11%) have two family members suffered with cancer.

Table-2: Table showing data of the participants residing in Saudi Arabia about cancer

KNOWLEDGE ABOUT CANCER	FREQUENCY	PERCENTAGE
According to your information can cancer be cured completely?		
Depend on the case	1000	72
yes, it can be treated completely	250	17
No can be cured completely	85	5
I don't know	69	4
What according to you is the best way to treat cancer?		
All of these	1000	77
by chemotherapy	221	15
I don't know	73	5
Radiation therapy	20	1
Surgical treatment	13	0
by medication	5	0
If you visit a doctor and have been diagnosed with cancer, .Do you want to know your diagnosis?		
Yes, I would like to know the diagnosis	1000	91
No, I do not wish to know the diagnosis	122	8
Would you like to have your family and friends know when you are diagnosed with cancer?		
Yes, I would like to	788	54
No, I don't like it	668	45
Do you have any idea about the difference between malignant and benign tumours?		
I don't know the difference between them	811	55
Yes, yes, I can differentiate them	645	44
If someone from your family was diagnosed with cancer, how many people are infected?		
No one	688	47
One	387	26
More than two	209	14
Two	172	11

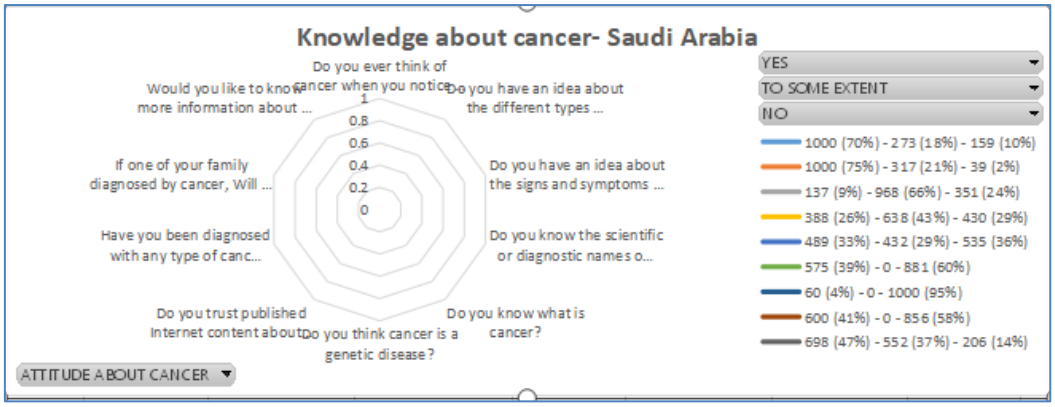
Around 1000 (75%) of the participants have an idea about cancer, while 39 (2%) have no idea what is cancer. 698(47%) know about the different types of cancers, while 206 (14%) don't have idea about various types of cancers, 600 (41%) know the scientific names for cancers whereas 856 (58%) don't know about the different scientific names of cancers. 388 (26%) have an idea about signs and symptoms of cancers, 137 (9%) trusts on the published internet content about the cancers, 489 (33%) fears of getting cancers from other family members. 1000 (70%) would like to have more knowledge about cancers, 788 (54%) thinks about cancer on seeing lesion, tumor or bleeding from any part of the body. 575 (39%) thinks that cancer is a genetic disease.



About 1000 (95%) were not diagnosed with any type of cancer before and 60 (5%) were diagnosed by cancer previously.

Table-3: Table showing data about opinion of the participants about cancer

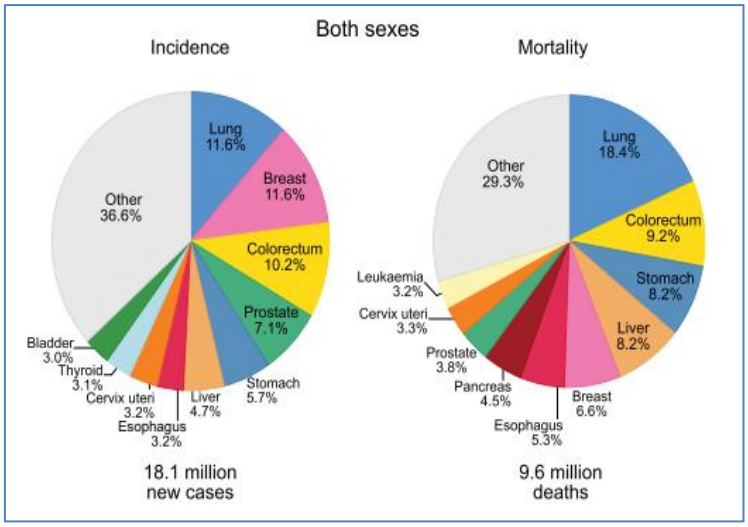
OPINION ABOUT CANCER	YES	TO SOME EXTENT	NO
Do you know what is cancer?	1000 (75%)	317 (21%)	39 (2%)
Do you have an idea about the different types of cancers?	698 (47%)	552 (37%)	206 (14%)
Do you know the scientific or diagnostic names of cancer?	600 (41%)	0	856 (58%)
Do you have an idea about the signs and symptoms of cancer?	388 (26%)	638 (43%)	430 (29%)
Do you trust published Internet content about cancer?	137 (9%)	968 (66%)	351 (24%)
If one of your family diagnosed by cancer, Will you have fears of getting the same disease?	489 (33%)	432 (29%)	535 (36%)
Would you like to know more information about cancer?	1000 (70%)	273 (18%)	159 (10%)
Do you ever think of cancer when you notice any lesion, tumour, or bleeding from your body?	788 (54%)	0	668 (45%)
Do you think cancer is a genetic disease?	575 (39%)	0	881 (60%)
Have you been diagnosed with any type of cancer before?	60 (4%)	0	1000 (95%)



Graph-2: Analysis of the knowledge of the Saudi Population about cancer.

DISCUSSION

According to the World Health Organization, in 2017, cancer is the leading cause of death worldwide [2,3]. The incidence of cancer is increasing globally. The incidence and mortality reported by the International Agency for Research on Cancer (IARC) are based on the estimates of GLOBOCAN [6,10]. About 18.1 million cases of cancer were registered globally and 9.6 million death rates due to cancer were reported in the year 2018 [5]. Upon literature review, it was found that malignant lymphomas of the head and neck are found to be common in Saudi Arabia when it is compared to the Western world, where it is rarely seen. Unlike the study carried out by Nasser Et. Al, in the Riyadh region, the survey for the knowledge and attitude of the cancer patients and their escorts, this study surveyed the general population that resides in Saudi Arabia. Several earlier studies reported from Saudi Arabia listed television or radio as the best source of information about cancer.



The main aim of this study was to carry out a survey to determine and evaluate the opinion of the people residing in Saudi Arabia about Cancer. The rationale behind choosing this topic was the lack of knowledge related to Cancer among the people of Saudi Arabia, especially about the early detection of Cancer and about the prevention of cancers by involving people in the cancer control activities in Saudi Arabia.

The total mean score of this study was that 75% of the population residing in Saudi Arabia knows what Cancer is. Most of the participants had poor knowledge about the signs and symptoms of the Cancer. About 9% of the participants trusted the contents published on the Internet about cancer awareness, 66% of the participants believe in the Internet content to some extent. In contrast, 24% do not trust the published internet content about Cancer.

The results of the survey indicated that there is a strong need for a knowledge program related to Cancer among the general public residing in Saudi Arabia. This could be done by educating students and the general public about Cancer and signs and symptoms of Cancer and the prevention of Cancer. The level of education was found to be a decisive factor in other studies in Saudi Arabia and Kuwait by Amarin *et al.*, 2008;

Ravichandren *et al*. 2011 [12]. Good knowledge about the Cancer would encourage the people to adopt things that can prevent Cancer like exposure to harmful radiations and Chemicals and exposure to UV rays of sunlight [13].

Most of the authors reported before in the previous studies that giving good knowledge about the Cancer to the people affects the attitude of the people towards Cancer [8-10]. After carrying out the survey, we would like to increase other people's knowledge about Cancer and then motivate them to participate in cancer preventive activities [14-16]. Diet and nutrition should be maintained appropriately to avoid any Cancer [17, 18]. Other previous studies showed that men and women with a higher level of education, and those with medical backgrounds or other professional careers were more likely willing to have Pap smear tests compared to those with less education, no education, or different educational backgrounds. An approach should be made educating the people about the harmful side effects of smoking [19,20]. The involvement of private and charitable organizations should help to create awareness about Cancer in Saudi Arabia [21].

CONCLUSION

This study was carried out to assess the opinion of the people residing in Saudi Arabia about Cancer. It was found that the majority of the people know about the Cancer, only in terms of signs and symptoms of the Cancer, most of the people have poor knowledge. Around 1000 (75%) of the participants have an idea about Cancer. About 1000 (72%) feels that Cancer can be cured depending upon the case and stage of Cancer. Approximately only 4% of the participants of this survey had been diagnosed with Cancer, whereas 95% of the participants were never diagnosed with any Cancer before. 70% of the participants are interested in having more knowledge about Cancer, while 10% don't want any information about Cancer. The majority of the participants that answered the survey were females. Most of the participants in the study belong to the educated class. The total mean score of this study was that 75% of the population residing in Saudi Arabia knows what Cancer is. To increase the knowledge of the people about signs and symptoms of Cancer and the cause of the Cancer and the preventions that can be taken at many cancer control activities need to be performed in Saudi Arabia. After carrying out the survey, we would like to increase other people's knowledge about Cancer and then motivate them to participate in cancer preventive activities. Also, the cancer-preventive programs need to be practised in various cities of Saudi Arabia to inform the people about the Cancer and help them to learn about the signs and symptoms of Cancer which could help them with early detection of Cancer and follow up the treatment to save a life. Most of the screening tools are readily available to screen the different types of cancers in Saudi Arabia. However, there is a lack of active cancer control educational programs, campaigns and workshops need to be carried out at the Health Care Centres.

LIMITATIONS

The limitation of this study is that this is a generalized study only for the people residing in Saudi Arabia. Also, this study is just a descriptive survey study, and no objective tool is used to access the knowledge and attitude of the people in Saudi Arabia.

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ETHICAL CONSIDERATIONS

Compliance with ethical standards

Ethical approval: This article contains survey with human participants performed by all the participants of this research.

Conflict of interest: The authors do not have any commercial associations that might pose or create a conflict of interest with information presented in this communication. No intramural or extramural funding supported any aspect of this work.

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