

Knowledge, awareness and recommendations of cancer among the healthcare professionals in Najran region, Saudi Arabia: A cross-sectional study.

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Abstract

Cancer is a group of diseases considered by uncontrollable growth and spread of abnormal cells. There were an estimated 18.1 million new cases of cancer worldwide in 2018. An inadequate awareness of cancer disease among healthcare professionals (HCPs) may put patient lives at risk. This study aimed to evaluate the knowledge, awareness and beliefs of HCPs towards cancer at Najran Hospitals in Southwest Saudi. A cross-sectional survey among 156 randomly selected HCPs working at Najran hospitals from September-November, 2019. A validated online questionnaire was used to collect the data and descriptive statistics was calculated with $p < 0.05$ being statistically significant. Of the 156 participants 54 (35%) completed the study. More than half of respondents (59%) were male, pharmacists and have 11-15 years of experience. The majority had awareness about cancer disease (78%) and more than 500 cancer cases were reported in Najran in the last five years. Results also showed that breast cancer were the most popular cancer type (42%) followed by liver (22%) and leukemia (17%) among cancer cases in Najran region. The most common barrier for cancer treatment in Najran was lack of resources, staff and equipment. The study also revealed that smoking and changing lifestyle are the most popular cancer risk factors. 78% of respondents strongly agreed that early detection of cancer may greatly increases the chances for successful treatment. The results support that the vast majority of respondents recommended that early detection through regular screening should be mandatory implemented.

Keywords: Cancer, Healthcare Professionals, Survey, Leukemia.

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Introduction

Cancer is a generic term for a large group of diseases considered by the growth of abnormal cells outside their usual limits that can then invade adjoining parts of the body and/or spread to other organs [1]. Other common terms used are malignant tumour and neoplasms, cancer can disturb almost any part of the body and has many anatomic and molecular subtypes that each requires specific management strategies [2]. A biopsy is the preferred method to confirm the diagnosis of cancer. It can deliver information about histological type, classification, grade, potential antagonism and other information that may help determine the best treatment [3]. Cancer remains to be a main cause of morbidity and mortality throughout the world [4]. Its treatment demands extremely sophisticated expertise and utilisation of huge resources. Cancer also has a great influence on the social and economic lives of exaggerated individuals [5]. Saudi Cancer Registry (SCR) was reported more than 16000 diagnosed cancer cases during 2015 more than 50% were female [6].

It seems that no study has yet assessed the knowledge and opinions of cancer disease among healthcare professionals in

Najran region, Saudi Arabia. Therefore, the objective of this present study was to assess the level of knowledge, perceptions and recommendations of cancer disease and its characteristics among HCPs in Najran region.

Materials and Methods

Participants and Ethical Approval

A cross-sectional design was adopted for this study, with the following target groups: (1) general medical practitioners, (2) Consultants, (3) Pharmacists and (4) nurses in Najran, southern region of Saudi Arabia. Participants in the professional groups were excluded if they were students or on training. In keeping with Lwanga and Lemeshow [7], the minimum required sample size was determined to be 20 for each group, supposing a significance level of 5% and a test power of 90%, by testing the hypothesis that any two populations are equal against the alternative hypothesis that they are not equal, assuming an anticipated absolute difference of 0.20 in the values of the population proportions. The participants were selected randomly from all area of Najran based on the determined

minimum sample size per group. From September to November 2019 a links to the online survey were sent via e-mail and WhatsApp to reach out to all groups in Najran. Ethical approval was obtained from School of life & health sciences ethics committee at Najran University. No study activity commenced until all approvals were granted. Data was accessed by the study team only who all hold contracts with the study sites and possess up to date information governance certificates. All responses were fully anonymised prior to analysis and all reports accommodated confidentiality requirements.

Questionnaire

The online cross-sectional questionnaire was developed using Bristol online survey (BOS). The questionnaire consisted of three main sections: (1) demographic data, (2) cancer incidence and prevalence, and (3) risk factors and recommendations. The first part of the questionnaire included selected characteristics of the participants: gender, profession, and years of experience. All participants were given a brief description of the research project and instructions for accessing the online survey, they were also notified that their participation was voluntary. Managing of this survey using purpose designed electronic survey software was consequently considered to be both deliverable, well-organized and suitable to save researcher time, effort and offers cost saving advantages [8]. A draft survey was created on 20th August 2019 using Bristol online survey software (BOS). Several comments were received leading to changes in the survey instrument. The resulting second draft was sent to a small number of HCPs for comments and further changes were made.

Participants were advised that all data were held confidentially, and anonymity was assured. Responses were exported from Bristol survey into MS Excel 2013 and IBM SPSS version 23 for analysis and production of descriptive statistics.

Statistical analysis

Results were transferred to SPSS version 23 and NVivo version 11 software for analysis to simplify descriptive statistical analysis and framework analysis, respectively. Differences in variables were compared using Chi-square or Student's t-test as appropriate. Statistical significance was defined as $p < 0.05$.

Results

The present study evaluates HCPs knowledge and awareness to the cancer diseases. The HCPs selected to participate in this study were medical doctors, pharmacists and nurses. The rationale for selection of HCPs was to validate the leading relationship among the medicine prescriber (doctors) through the dispenser (pharmacists) and lastly to the administrator (nurses).

Demographic data of the survey respondents

Of 156 online surveys, a total of 54 (35%) responses were completed. The survey contained of three sections. These were: Demographic data including participant gender and years of experience of working, opinions and awareness of the participant for various cancer diseases, their recommendations concerning risk factors of cancer and the importance of establishing early detection of cancer and the participants' feedback about the survey.

Table 1 showed that the classification of the participants according to their professions across the Najran region the pharmacists had the highest percentage of participants (41%) followed by junior medical staff (22%) and consultants (17%), respectively. Data analysis shows that the difference is significant as the p-value is < 0.05 .

Table 1. Details of healthcare professional's respondents at Najran Hospitals, including number and percentages of gender, current profession and years of experience with statistical significance also detailed in the final column.

Characteristics	Number (%)	p-value
Gender		
Male	32 (59.3)	
Female	22(40.7)	< 0.05
Current Profession		
Consultant (medical staff)	9 (16.7)	
Junior medical staff	12 (22.2)	
Pharmacists	22(40.7)	
Others	11 (20.4)	< 0.05
Others		
Dentists	2 (18.18)	
Nurses	9 (81.8)	< 0.05
Years of Experience		
< 1 year	1 (1.85)	
5-Jan	11 (20.4)	
10-Jun	13 (24.1)	
15-Nov	18 (33.33)	
16-20	8 (14.82)	
>20	3 (5.56)	< 0.05

The results also showed a significant difference ($p < 0.05$) among the different HCPs gender and years of experience. Most of the respondents were males (59%) compared to females (41%). Approximately more than one-third (33.33%) of the respondents have 11-15 years of experience (Table.1).

Healthcare providers awareness and knowledge of cancer disease

This section involves the analysis of the responses of the participants according to awareness of cancer disease, cases in the last five years types, diagnosis of cancer based on gender. Table 2 illustrated that majority of respondents were more awareness (88%) regarding cancer disease. Results showed that 401-500 cases of diagnosed cancer were more recorded (26%) during the last five years compared to 301-400 cases (22%), 100-200 (19%), and 201-300 (15%). There was a significant difference among distribution of cancer cases, diagnosed cancer based on gender and age ($p < 0.05$). In this study female were the most diagnosed with cancer (63%) compared with male (22%), possibly due to the spread of breast cancer in Najran.

Table 2. Details of healthcare professional's respondents, including number and percentages of awareness, cases, and diagnoses based on gender and age regarding cancer disease with statistical significance also detailed in the final column.

Parameter	Number (%)	p-value
Awareness of Cancer disease in Najran region		
Yes	42 (77.8)	
No	7(13)	
I do not know	5 (9.3)	< 0.05
Cancer cases occurring during the last five years		
< 100	4 (7.4)	
100-200	10 (18.5)	
201-300	8(14.8)	
301-400	12(22.2)	
401-500	14 (25.9)	
> 500	6 (11.1)	< 0.05
Diagnosed cancer based on Gender		
Male	12 (22.2)	
Female	34 (63)	
I do not know	8 (14.8)	< 0.05
Diagnosed cancer based on age group (Years)		
0-15	0 (0)	
16-35	0 (0)	
36-45	5 (9.3)	
46-55	25 (46.3)	
56-65	19 (35.2)	
>65	5(9.3)	< 0.05

Furthermore, with regard to diagnosed cancer based on age group results show that 45-55 years were the most popular age (46%) followed by 56-65 (35%), 36-45 and > 65 were (9%) .

Data analysis shows that the difference is significant as the p-value is < 0.05 . In our study, when respondents were asked to rank the most common cancer types in Najran, results showed that breast cancer were the most popular cancer type (42%) followed by liver (22%), leukemia (17%), thyroid (11%) and colorectal (4%) (Figure 1).

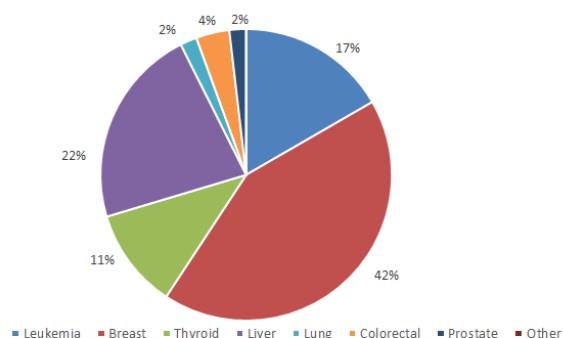


Figure 1. Distribution of most common types of cancer by all respondents clearly showing that breast cancer would be highest among all types of cancer in Najran.

HCPs responses regarding causes of cancer

According to main causes of cancer, results in this study revealed that smoking and changing life style were the most popular causes of cancer (28%) and (24%) respectively followed by genetics (12%), industrial pollution (11%), chemical exposure (9%) and lastly radiation exposure and viruses were recorded the same percentage(8%) (Figure 2).The cancer causes data showed a statistically significant differences between smoking and genetics (one-way ANOVA, $p < 0.05$).

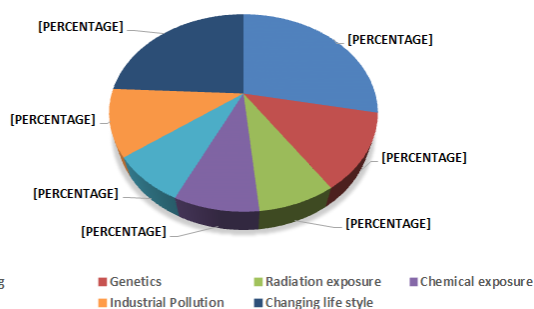


Figure 2. Percentage Distribution of most important causes of cancer. Smoking, changing life style, genetics and pollution appeared as the most common causes by healthcare professionals.

HCPs responses regarding prevention or reduce cancer risks

In Figure 3 the classification of the characteristics to prevent or reduce risk factors of cancer. Regular screening had the highest percentage of factors that may reduce or prevent cancer in early stage (52%) followed by healthy diet (22.2%), avoiding tobacco (20.4) and avoid exposure to radiation (5.6%)

respectively. Data analysis shows that the difference is significant as the p-value is <0.05 .

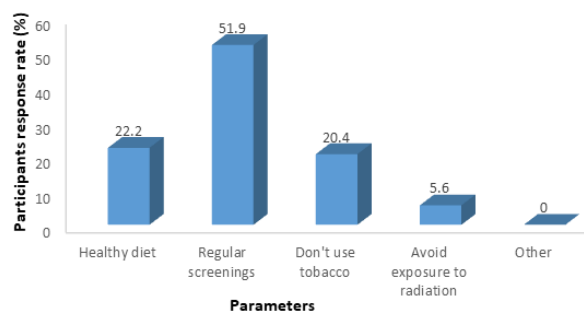


Figure 3. Percentage Distribution of most important characteristics to prevent or reduce risk factors of cancer. Regular screening, healthy diet, and avoiding tobacco appeared as the most common preventive parameters by healthcare professionals.

Furthermore, healthcare professionals were asked to rank their opinions regarding that early detection of cancer may greatly increases the chances for successful treatment, results showed that strongly agree was the most popular opinion (78%), agree (18.5%), neither agree or disagree (3.7%) with no opinion of disagree (0%) respectively (Figure 4).

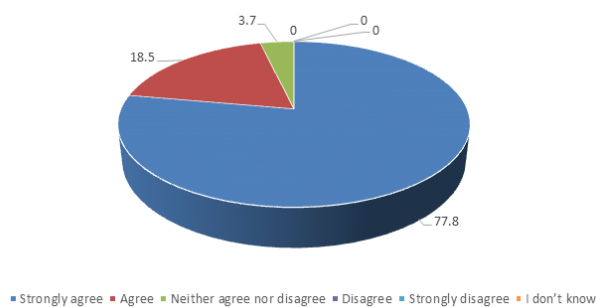


Figure 4. Percentage Distribution of healthcare professional's opinions regarding that early detection of cancer may greatly increases the chances for successful treatment.

Barriers and further recommendations

Although, the presence of barriers to treat cancer cases in Najran hospitals was based on participants' perception which may not precisely reproduce how problematic barrier is. In this study, the most common barrier for cancer treatment were lack of resources and facilities followed by shortage of well qualified staff and lack of education of cancer patient.

Participants also mentioned that the lack of regular screening may increase risk factors of cancer. Therefore, good counselling for patients and their relatives regarding awareness of regular screening conditions through media or attending workshops may provide better treatment plan. In the last section of the study, the HCPs were asked to give their further opinions, recommendations regarding cancer disease in Najran, the vast majority of respondents recommended that early detection through regular screening should be mandatory

implemented. In addition, some participants also suggested that there were important subject concerns on education, families' special mothers and female teenagers regarding cancer and early detection. Some participants mentioned that there is a need to start radiotherapy at oncology centre in King Khalid Hospital.

Discussion

This comprehensive analysis of HCPs in Najran regarding cancer incidence demonstrated significant differences with respect to gender, age and number of cases. These findings can contribute to allocate the resources purposefully for cancer incidence control in Najran. According to International Agency for Research Cancer (IARC), the overall cancer incidence in Saudi in 2012 was found to be lower than global cancer prevalence. However, it should be noted that the IARC data were based on incidence projection rather than exact number of cases within 2012 [9]. When looking at the countries in the region surrounding Saudi Arabia, a number were found to have similar overall incidence, including Kuwait, Yemen, United Arab Emirates and Oman. On the other hand, Iraq and Jordan had much higher rates [10]. While incidence rates fluctuated from 2012 to 2015, there was a general increasing trend concerning all types. This is the first study on the knowledge, awareness and perceptions among HCPs about cancer disease in Najran city. Our study revealed that healthcare professionals at Najran hospitals have sufficient knowledge and awareness regarding cancer disease but showed negative attitude to advise or educate cancer patient. Overall, the majority of HCPs working in Najran hospitals aware about cancer disease, however, 60% were asked to obtain an education training courses and attending lectures/discussion about cancer diseases ($p<0.05$). Similar knowledge was also reported in Jordan (58%) [11]. Based on HCPs opinions, the incidence rate of breast cancer was sharply increased indicating that this type of cancer is an ongoing problem. Therefore, screening programs promotion is recommended again for early detection [12]. The younger age of 20-30 years started to increase for breast cancer, but mammography screening is routinely available for women over the age of 50 years. Although, knowledge of early detection is very poor in Saudi due to cultural reasons, breast self-examination is an important practice for women of all ages [13]. The second most common types of cancer for cancer patient was leukemia and that was consistently among the most diagnosed cancer in most Saudi regions, including Riyadh, Tabuk and Hail [6,14]. With respect to main causes of cancer, smoking was the highest percentage, similarly smoking alone was evaluated to have caused a high rate of cancer worldwide. Smoking was responsible for a higher ratio of deaths from cancer because of the shorter history of smoking and lower prevalence among women [15].

Finally, a majority of respondents' highly recommended early detection if made available in all Najran hospitals and strongly expressed that making scanning mandatory for patients above 30 years. Our respondents also advised that

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education of cancer is very important, which implies a positive attitude to cancer risk factors.

Conclusion

In conclusion, the incidence of cancer in Najran has risen significantly over the last five years and the most commonly diagnosed cancer were breast followed by liver cancer. HCPs recommended that improving the use of such tests could greatly reduce the morbidity and mortality associated with cancer by enabling earlier diagnosis and initiation of treatment. There are risk factors which are increasing in Najran including smoking, poor diet, changing life style and obesity. Initiatives to educate public on these risks and the providing of support for making the necessary lifestyle changes could have a significant impact on cancer incidence. Despite this was a cross-sectional survey conducted on a single region of Saudi Arabia and results might not be generalizable to HCPs working in other hospitals in Saudi and data were self-reported depending on respondents' honesty and ability to recall, our findings provide a valuable vision provided that some important information regarding the knowledge and awareness of HCPs about cancer incidence and cancer types in Saudi Arabia compared to other relevant studies.

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Competing interests

The authors declare that there are no conflicts of interest.

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