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Exploring the less Privileged Population's Knowledge and Awareness about Cancer in Jordan

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Abstract

The purpose of this study was to explore the knowledge and awareness about cancer among the less privileged population' in Jordan. A cross-sectional design with stratified random sampling method was used to select the participants. Jordan is composed from 12 governorates, all of them were included in the study except the capital. A representative sample of 1,717 adults have completed the study interview. The participants' mean age was 37.6 years. The majority of participants in this study belief that cancer care in Jordan is expensive. One-third of the participants perceived the diagnosis of cancer withsocial stigma. The socioeconomic status as reflected by education and income levels revealed lower ratios in the sample of the study in comparison to other studies. In conclusion, the results suggest the need for additional studies tailored to each geographical area to explore its population specific awareness and needs toward cancer.

***Keywords*:** Less privileged; Cancer; Jordan; Knowledge; Awareness

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1. Introduction

Cancer is considered a preventable non-communicable chronic diseases. However, in developed countries, around half of cancer patients die of the cancer disease while in developing countries this percentage could reach up to 80% of cancer patients [1, 2]. Jordan is one of the developing countries located in the Middle East and its population mostly are Arabs. The health sector in Jordan provides care to the population via a network of hospitals and health care centers [3, 4, 5].

Care for cancer patients in Jordan faces many challenges similar to those faced by other countries including the increasing costs and resources required to manage the disease [6, 7]. However, there is evidence that less privileged population in terms of socio economic status and geographical locations are at risk of not being able to reach the necessary and appropriate care [8, 9, 10, 11]. The reason for selecting the less privileged population was that almost 39% of the Jordanian population lives in the capital (Amman), and most of the previous studies on cancer have focused on them [12]. Therefore, it becomes a priority to study the people in less privileged areas. Therefore, the purpose of this study was to explore the less privileged population' knowledge and awareness about cancer in outside the capital.

2. Methods

2.1. Sample and Setting

The study was designed to produce a random sample from the 11 governorate in Jordan (excluding the largest governorate, Amman). Then, the sampling frame was stratified by major cities, and other urban and rural areas within each stratum. The total sample size in this study was 1717 participant. As shown in Table 1, the participants' geographic distributions in the study is very close in its' ration to the registered ratio of the Jordanian population in each governorate [12]. All interviews were conducted in the participants' homes.

2.2. Survey measures

The survey tool was developed by experts in healthcare fields for the purpose of this study. The tool was designed to comprehensively assess the population perceptions and awareness regarding cancer in Jordan. The measures were adapted to the Jordanian context and was validated by 10 experts from different health disciplines. Cronbach's alpha of the awareness level about cancer in this study was 0.84.

2.3. Data collection and processing

The interviewers were all with baccalaureate degrees. All of them attended 10 days' workshop on mastering the interview process and training on the study questionnaire. Before initiating the final data collection, a pilot study to test the clarity of study tool and interviewers' skills was conducted. The completed questionnaires were processed using the Statistical Package for Social Sciences [13].

Table 1. The geographic distribution of participants in the 11 governorate by gender (N=1717)

Governorate	Males N (%)	Females N	% of population in Jordan
Balqa	79 (47.6)	87	6.7
Zarqa	182 (49.6)	185	14.9
Madaba	15 (34.9)	28	2.5
Irbid	284 (50.7)	276	17.8
Mafraq	59 (46.5)	68	4.7
Jarash	46 (51.1)	44	3.0
Ajloun	35 (53.8)	30	2.3
Karak	61 (50.8)	59	3.9
Tafileh	22 (62.9)	13	1.4
Ma'an	37 (49.3)	38	1.9
Aqaba	47 (67.1)	23	2.2
Total	867 (50.5)	851	61.3[+]

[*]According to DOS census data, 2004; [^] Jordan MoH 2010 record; [+] Amman residents excluded

2.4. Ethical considerations

The ethical approval was obtained from the Institutional Review Board (IRB) at the University of Jordan. The interviewers explained to each eligible individual the purpose, risks, and benefits of the study before starting the data collection. Individuals who agreed to participate were interviewed. All participants were assured that the confidentiality of the data and their identity are carefully considered.

3. Results

The participants' mean age was 37.6 years (SD = 14.2; range = 18-95) with almost 82% of the participants being less than 50 years of age. The total number of females was 850 (49.5%). Almost 25% of the participants had education level above high school. Eight participants (0.5%) did not respond to the income question (Table 2).

The survey explored the less privileged populations' knowledge and awareness about cancer in Jordan (Table 3). Almost 82% of the participants' belief that cancer care in Jordan is expensive. Social stigma is associated with the diagnosis of cancer among 31% of the participants. Unfortunately, three-quarters of the participants' believe that people lose hope when they discover they are diagnosed with cancer and they link it to death.

Table 4 presents the correlations between the demographic variables of the participants and their awareness level about cancer signs and symptoms. It is clear the presence of the significant positive relationships between

age, education, and income and the awareness level. Only gender did not show significant relationship with the awareness level.

Table 2. Demographic characteristics of the study sample (N=1,717)

Demographics	Category	N	%
Gender	Male	867	50.5
	Female	850	49.5
Age	18-29	523	30.3
	30-39	528	30.8
	40-49	338	19.7
	50-59	126	7.3
	≥60	201	11.7
Education	Up to 6th grade	421	23.5
	7th to 12 grade	870	50.7
	>12 grade	426	24.8
Income JD	<300	852	49.6
	300-599	640	37.3
[1 JD=1.4 $]	≥600	217	11.6

Table 3. Exploring the less privileged population' knowledge and awareness about cancer in Jordan

Items	Yes	No	Don't know
	N (%)	N (%)	N (%)
Consanguinity increases the possibility that children are born with a genetic defect	1,581 (92.1)	111 (6.5)	25 (1.4)
Cancer can be cured	1,283 (74.7)	390 (22.7)	44 (2.6)
It is better for cancer patient to know about his/her diagnosis	1,375 (80.1)	318 (18.5)	24 (1.4)
Getting checked regularly for cancer helps find cancer when it is easy to be treated	1,639 (95.5)	58 (3.4)	20 (1.1)
In Jordan, there is a social stigma associated with the diagnosis of cancer	526 (30.7)	1,148 (66.8)	43 (2.5)
In Jordan, patients lose hope when they discover that they	1,299 (75.7)	384 (22.4)	33 (1.9)

have cancer			
When I think of cancer, I immediately think of death	1,249 (72.8)	454 (26.4)	14 (0.8)
Psychological needs of cancer patients should be addressed by experts to help them endure cancer (live with cancer)	1,675 (97.5)	27 (1.6)	15 (0.9)
Social needs of cancer patients should be addressed by experts to help them endure cancer (live with cancer)	1,675 (97.6)	28 (1.6)	14 (0.8)
Physicians should deal with the emotional distress of family members of a cancer patient at the end of his / her life	1,634 (95.2)	71 (4.1)	12 (0.7)
Nurses should deal with the emotional distress of family members of cancer patient at the end of his / her life	1,638 (95.4)	68 (4.0)	11 (0.6)
Cancer care in Jordan is expensive	1,400 (81.6)	166 (9.6)	151 (8.8)

Table 4. Correlations between demographic characteristics and awareness about cancer

Demographics	Awareness
Age	.08*
Education level	.12*
Income	.09*
Gender	.02

*P < .01

4. Discussion

In this survey, the level of awareness about the common signs and symptoms of cancer was low to moderate. Lack of awareness about caner is considered a risk factor because it prevents the early diagnosis [14, 15, 16, 17]. The level of knowledge about cancer is important because people can take precautions that may prevent advanced stages of cancer [18, 19]. In a study by [20], participants were only able to recall one or two sings of cancer, although they declared that there are many signs and symptoms for cancer disease.

Examining the association between cancer and the demographic characteristics will enhance public awareness toward understanding the potential health consequences for late diagnosis of cancer, and will inspire them to take risk-reducing measures [21, 22, 23]. Studies were inconsistent when reported about the level of knowledge about cancer and age. However, and consistent with our study findings, older individuals are expected to gain more accurate knowledge of health and illness [24, 25, 26, 27].

An inverse relationship was found between educational level and awareness of cancer risk factors [28, 29]. Indeed,education is expected to increases individuals' knowledge and awareness to deal with health problems

[15, 30, 31, 32]. Consistent with this assumption, our study found that the higher the education level the more the awareness about cancer signs and symptoms. On the other hand, the higher level of income more likely enables people to get access to more educational resources [33]. Consistent with this, our study also demonstrated that the higher the income, the better the awareness about cancer among the participants.

The socioeconomic status as reflected by education and income levels were examined in this study. In comparison to other studies which examined all the population sectors in Jordan, the current study reflects a drop in the highly educated population from 30% to 23.5% [34, 35, 36]. Furthermore, the ratio of participants with high income level in this study was 11.6, which is less than the reported ratio (14.2%) for samples which included population from all governorates in Jordan [37, 38]. These findings reflect the potential negative effects of living in less privileged areas and the levels of awareness about cancer disease.

5. Conclusion and Recommendations

5.1. Conclusion

This study highlights the gap in awareness about cancer signs and symptoms among less privileged people in Jordan. The findings indicate the unfortunate distribution of activities, programs, and facilities in the geographical areas outside the capital. These findings suggest that additional studies tailored to each geographical area to explore its population's specific needs regarding the awareness of cancer are needed.

5.2. Recommendations

The findings showed that knowledge gaps and lack of awareness toward cancer exist among the study sample, and if corrected, it may facilitate proper care, prevention, and early detection of cancer. Enhancing the available facilities in areas outside the capital with more educational programs may lead to less negative consequences of cancer diagnosis.More studies are needed to understand the socioeconomic factors that influence cancer awareness in order to reach better strategies for preventing and reducing the incidence and the fatal consequences of cancer in the country.

Conflicts of interest

There are no conflicts of interest in this manuscript.

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