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**Students' Knowledge Regarding Oral Cancer at The University of Jordan:  
A Preliminary Study**

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**Abstract:**

*Background: The aim of this study was to assess the level of awareness and knowledge about signs and risk factors of oral cancer in the Jordan university student population as a sample from Jordanian population.*

**Materials and Methods:** A web-based questionnaire was administered through e-mails selected randomly from different collages provided by the university administration a 1-month response period given for the questionnaire to be answered by replay with response rate 55% from 1000 email sent.

**Results:** Female to male ration 60% were females and 10% has good knowledge with no gender preferences 10% had a moderate knowledge about oral cancer and 60% has poor knowledge about oral cancer.

**Conclusion:** Overall, the awareness of oral cancer in the Jordan university student population was not satisfactory, pointing to a need for further dissemination of information on this issue and its associated risks.

**Keywords:** oral cancer, awareness and knowledge, signs and symptoms, risk factors.

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### **Introduction**

Oral cancer is a serious disease worldwide, with up to 400000 new cases every year, and almost 130,000 deaths annually<sup>(1)</sup>. Incidence rates are much higher in developing regions like Southeast Asia, where they account for up to 50 % of all malignant tumors<sup>(2)</sup>.

Oral cancer includes a large group of malignant neoplasms, of which squamous cell carcinoma is the most common form accounting for 95% of oral cancers. Risk factors for oral cancers include smoking, alcohol use, smokeless tobacco products, and HPV (human papillomavirus) infections, with smoking and alcohol having synergistic effects<sup>(3)</sup>.

The previously mentioned risk habits are very common in Jordan. Approximately half of the population (45%) had smoked a cigarette in the past month, 40% in the past week, and 36% in past 24 hours<sup>(4)</sup>. This rate is considered one of the highest in the world. Majority of oral cancers have been observed to arise from long-standing premalignant lesions especially in high incidence areas<sup>(5)</sup>. Mouth cancer is largely preventable by avoiding known risk factors. National and international guidelines stress the importance of early detection<sup>(3)</sup>. Delayed presentation of oral cancer is mainly due to lack of public awareness of oral cancer and its associated risk factors, the results of which increasetreatment morbidity and reduces survival rates<sup>(6)</sup>.

Little is known about the awareness regarding oral cancer in Jordanian population. The objective of the present study was to determine the level of awareness of oral cancer, knowledge about early signs and the associated risk factors in a small community like university of Jordan students. The results obtained from this survey will assist to implement an effective health education program thereby helping to reduce the incidence rates of oral cancer.

### **Materials and Methods**

A web-based questionnaire was administered through e-mails selected randomly from different collages provided by the university administration, with a 1-month response period given for the questionnaire to be answered by reply with response rate 55% from 1000 emails sent.

The questionnaire had 10 questions targeted for the age group, the gender, the awareness of oral cancer, the source of information about oral cancer and any signs or symptoms. The 550 replies were collected, exported as Excel File and analyzed.

### **The questionnaire**

The web-based questionnaire has been devolved to be simple and approachable by most of the students, it consisted of 8 questions as follows

- 1- Are you a current Jordan university student?
- 2- Age group.
- 3- Gender.
- 4- Have you ever heard about Oral Cancer?
- 5- If yes, what is your source of information?

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- 6- Choose two risk factors for Oral cancer.
- 7- Choose one of the signs and symptoms of oral cancer.
- 8- Have you ever met any oral cancer patient?

### Results

The response rate was 55% from the emails sent. 95% of the responses were from current students, 5% were not. The female responses were 80% and the males were 20%. This might be due to higher number of female students in University of Jordan according to The Jordanian Department of Statistics National Statistic Book in 2015, females in the University of Jordan were 66.3% compared to male students. See figure 1.

The age groups from the responses were 85% below of 21 years, 10% were between age of 21 and 30 years, 5% were above 30 years. See figure 2.

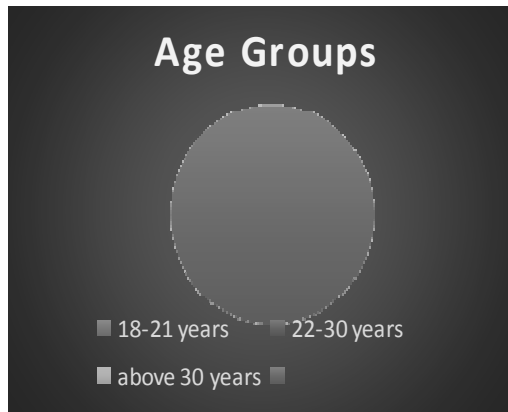


Figure 1

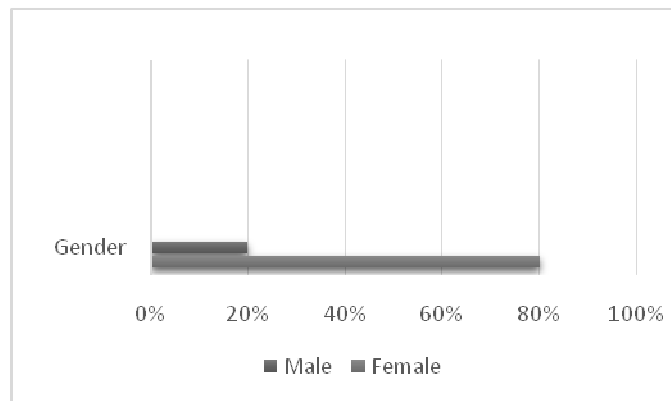


Figure 2

There was a significant high number of students who heard about oral cancer with 90% who knew about oral cancer, of which they knew about it from their treating dentist, and 10% knew about it from other sources like Tv, inter net and press.

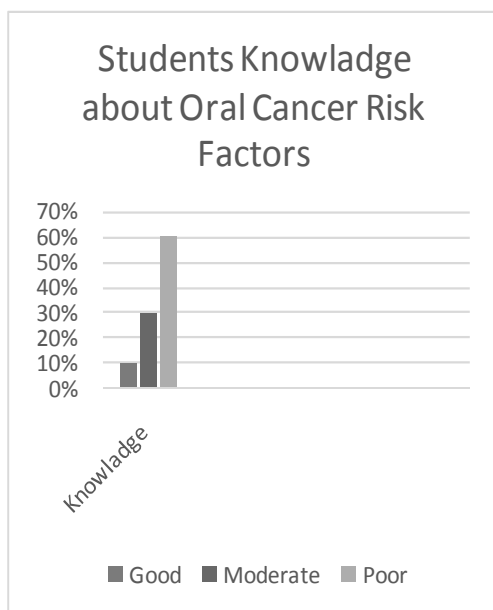


Figure 3

Out of the 80% of students who heard about oral cancer, 60% failed to address any risk factor to oral cancer, 30% had moderate knowledge about it, and only 10% had a good knowledge about oral cancer risk factors. See figure 3The students were asked about several oral cancer signs and symptoms, of which are longstanding oral ulcers, swelling in tongue with induration and redness in sub-lingual mucosa. 82% failed to address one of the signs or symptoms of oral cancer, and 92% of all participants never met any oral cancerpatient.

**Conclusion**

This was a preliminary study about the knowledge about oral cancer in Jordanian population. The sample was selected from the Jordan university student to prepare for a wider study to evaluate the true level of knowledge in Jordanian population and develop methods to increase the awareness about oral cancer and its risk factors. The use of simple form of questionnaire was to help the students to participate in the study, making the collection and analysis of the data more attainable.

The lack of knowledge about oral cancer risk factors was found to be significantly high through this sample. The high number of female subject could affect the overall results, which should be investigated more in farther studies. Early detection of oral cancer is the best prognostic measure for oral cancer patients. Poor knowledge about oral cancer

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signs and symptoms in general population leads to delay seeking medical treatment for such serious medical issue, which in return increases mortality and morbidity amongst oral cancer patients.

For future surveys it is of high importance to calculate sample size, with multi-centric sampling area with a correct distribution among general population to obtain more accurate results, detailed questions to provide the surveyor with more accurate results regarding the level of awareness the paper or interview-based surveys provide better response rates compared with web-based surveys, despite web-based surveys being faster and providing a higher number of participants. The role of public media written or seen is significant in educating the general population about oral cancer risk factors, and the importance of visiting a dentist if there was any change in the oral tissue for more than two weeks, which helps in early diagnosis and providing the proper treatment for such patients.

### **Acknowledgments**

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### **Conflict of Interest**

The authors have declared that no conflict of interest exist.

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