

Awareness of Sudanese Primary Health Care Workers about Oral Cancer

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Abstract: Oral cancer is one of the 10 most frequent cancers worldwide; with about three-quarters of all cases occurring in the developing countries. Oral cancer is one of the major health problems in the Sudan, due to the habit use of Toombak which contain high level of the potent carcinogenic component of the tobacco. This study was aimed to assess the awareness of Sudanese primary health care workers about oral cancer. This descriptive cross sectional study was carried out in Khartoum State (Sudan). Questionnaires were filled with two hundred primary health care workers in Khartoum State, who were randomly selected included doctors, nurses, pharmacists, laboratory technologists, laboratory assistants and counters, assessed their knowledge about oral cancer. Analyses of data were carried out using the SPSS for windows software package. Our results revealed that most of respondents (52%) were at the prime of their youth [20-30 years] and (68.5%) had university education. There was gender differences among respondents, most of them were males constituted 64.5%, the majority (50%) had monthly income between 500-1000 which they were related to middle economic class. Most of respondents (54.5%) were tobacco users, (47%) were cigarette smokers, and among tobacco users majority of them (42%) were used it in between (7-10 years) and (42%) were used it only one time/day. Most of them (82%) were free of alcohol drink and Aragi had been the drink of choice to most of respondents constituted (42%). All respondents (100 %) had heard about oral cancer, Most of them (29%) got their knowledge of oral cancer from television, and majority of them (69%) choice tobacco as the major risk factor for oral cancer. Most of respondents (27%) mentioned that swelling in mouth is the most important signs of oral cancer, and (33%) choice bleeding in mouth as the most important symptoms of oral cancer. Most of respondents (45%) said that histological technique (examination of surgical biopsy) is the best method for diagnosis, and (42%) preferred chemotherapy as the best method for treatment. Majority of respondents (53%) considered stop using of tobacco and early diagnosis as the best method for prevention of oral cancer. In conclusion our results revealed that primary health workers in Khartoum State (Sudan) had a good knowledge about oral cancer risk factors, signs, symptoms, diagnostic techniques and prevention methods but they had poor knowledge about the best treatment methods of oral cancer.

Keywords: Oral cancer, awareness, Sudanese, primary health care, Khartoum State

Introduction

Oral cancer is one of the 10 most frequent cancers worldwide, with about three-quarters of all cases occurring in the developing countries (1).

The term "oral cancer" includes all malignancies arising from the lips, oral cavity, nasopharynx and other ill-defined sites within the lip, oral cavity, and pharynx (2).

The prevalence of oral cancer is particularly high among men; it is one of the most tenth common cancers worldwide. Incidence rates for oral cancer vary in men from 1-10 cases per 100 000 inhabitants in many countries. In south-central Asia, cancer of the oral cavity ranks amongst the three most common types of cancer. However, sharp increases in the incidence rates of oral/pharyngeal cancers have been reported for several countries and regions such as Denmark, Germany, Scotland, central and Eastern Europe and, to a lesser extent, Australia, Japan, New Zealand and the USA (3).

Oral cancer is one of the health problems in the Sudan, due to the habit use of Toombak which contain high level of the potent carcinogenic component of the tobacco (4).

The oral cavity is usually easily accessible for examination and thus offers the potential for opportunistic screening for oral cancer. No previous published studies showed the knowledge of primary health care workers in Sudan about this fatal disease. For opportunistic screening to be effective, it is important that primary health care workers must be aware of symptoms, signs, risk factors and screening, treatment of this disease, because treatment at an early stage improves prognosis.

The study aimed to assess the awareness of Sudanese primary health care workers about oral cancer.

Material and methods

Study Design

This was descriptive cross sectional study.

Study Area

This study was carried out in Khartoum State (Sudan).

Ethical consideration

This study were fully explained to the respondents their consent to participate in this study was obtained verbally and written.

Study Population

Primary health care workers in different health centers in Khartoum State (Sudan).

Sample Size

Questionnaire was filled with 200 primary health care workers, who were randomly selected included doctors, nurses, pharmacists, laboratory technologists, laboratory assistants and counters.

Data collection methods:

Questionnaire:

A structured questionnaire designed to obtained personal information, usage of tobacco, drink of alcohol, knowledge about oral cancer & it's risk factors, symptoms ,signs, diagnostic & treatment method & methods of prevent.

Primary data:

Were collected using questionnaires.

Secondary Data:

Were obtained from books, dissertations, published articles, reports and internet sources.

Data management Analysis:

Analyses of data were carried out using the SPSS for windows software package. Frequency tables were produced and cross tabulations performed where appropriate.

Results

Table (1): Showing the gender of respondents

Gender	Male	Female	Total
Frequency	129	71	200
Percentage	64.5	35.5	100

Most of respondents were males constituted 64.5%, while females were only 35.5%.

There were no gender differences in the knowledge of the existence of oral cancer ($P\text{-value} \geq 0.05$).

Table (2): Showing the age group of respondents

Age group in years	Frequency	percentage
20-30	104	52 %
31-40	54	27%
Above 40	42	21%
Total	200	100%

The majority of respondents (52%) were at the prime of their youth [20-30 years]. Those between [31- 40 years], were 27%, while 21% of them were above 40 years.

The greatest awareness about oral cancer was among younger age [20-30 years] which was significantly more than adult above 30 years ($P\text{-value} \leq 0.05$).

Table (3): Showing level of education of respondents

Level of education	Khalwa	Basic	secondary	Graduate	Post graduate	Total
Frequency	1	7	26	137	29	200
Percentage	0.5%	3.5%	13%	68.5%	14.5%	100%

The majority of respondents (68.5%) were university graduates, 14.5% were post graduated, 13% had secondary education, 7% basic education and only 1% was Khalwa.

Table (4): Showing distribution of jobs of respondents

Job	Frequency	Percentage
Doctor	44	22%
Nurse	47	23.5%
Pharmacist	34	17%
Laboratory technologist	40	20%
Laboratory assistant	30	15%
Counters	5	2.5%
Total	200	100%

Majority of respondents (23.5%) were nurses, 22% were doctors, and 17% were pharmacists. The laboratory technologists and laboratory assistants were constituted 20% and 15% respectively, and only 5% were counters.

There were slightly differences between jobs of respondents which were showed no statistically difference regarding their knowledge of oral cancer ($P\text{-value} \geq 0.05$).

Table (5): Showing the economical status of respondents

Income/month in Sudanese pounds	Frequency	Percentage
Less than 500	60	30%
500 - 1000	100	50%
Above 1000	40	20%
Total	200	100%

The majority of respondents (50%) had monthly income between 500-1000, while 30% of them with income less than 500, and only 20% above 100.

Table (6): Showing use of tobacco by respondents

Use of tobacco	Yes	No	Total
Frequency	109	91	200
Percentage	54.5%	45.5%	100%

Most of respondents (54.5%) were tobacco users, while 45.5% were tobacco free.

Table (7): Showing type of tobacco used by respondents

Type of tobacco used	Cigarette smoking	Toomback dipping	Water pipe(Shisha)	Total
Frequency	51	38	20	109
Percentage	47%	35%	18%	100%

Majority of respondents (47%) were cigarette smokers, 35% were toomback dippers, while only 18% were water pipe (shisha) users.

Table (8): Showing the duration of tobacco use

Duration of tobacco use/years	1-3	4-6	7-10	Above 10	Total
Frequency	6	12	15	3	36
Percentage	17%	33%	42%	8%	18%

Among tobacco users majority (42%) were used it in between (7-10 years). Those used tobacco between (4-6 years) were (33%). Those between (1-3 years) were (17%), while users above 10 years were only (8%).

Table (9): Showing distribution of respondents by usage of tobacco/day

Usage of tobacco/day	Only one	Two	More than two	Total
Frequency	15	10	11	36
Percentage	42%	28%	30%	100%

Among tobacco users majority of respondents (42%) were used it only one time/day, while (30%) of them used tobacco more than two times/day, and only (28%) were used it two times/day.

Table (10): Showing drink of alcohol by respondents

Drink of alcohol	Yes	No	Total
Frequency	36	164	200
Percentage	18%	82%	100%

Most of respondents (82%) were free of alcohol drink, while 36% were alcohol drinkers.

There were statistically significant association between knowledge of oral cancer and both tobacco use and being free from drink of alcohol (P-value < 0.05).

Table (11): Showing type of alcohol drink by respondents

Type of alcohol drink	Aragi	Marissa	Whisky	Bera	Total
Frequency	15	7	8	6	36
Percentage	42%	19%	22%	17%	100%

Aragi had been the drink of choice to most of respondents who take alcohol constituted (42%), Marissa constituted (19%), while Whisky and Bera constituted (22%) and (17%) respectively.

Table (12): Showing knowledge of oral cancer according to the opinion of respondents

Knowledge of oral cancer	Yes	No	Total
Frequency	200	0	200
Percentage	100%	0	100%

All respondents (100%) had heard about oral cancer. None of respondents hadn't heard about it.

Table (13): Showing source of first knowledge about oral cancer according to the opinion of respondents.

Source of knowledge of oral cancer	Frequency	Percentage
Radio	50	28%
Television	51	29%
Newspapers	42	24%
Textbooks	20	11%
School	11	6%
Relatives and friends	3	2%
Total	177	100%

Most of respondents (29%) got their first knowledge about oral cancer from television, (28%) from radio. Those who they got knowledge from newspapers, textbooks and school constituted (24%), (11%) and (6%) respectively, while only (2%) got their knowledge from relatives and friends.

Table (14): People with high risk factors of oral cancer according to the opinion of respondents

Risk factors for oral cancer	Tobacco use	drink of alcohol	Family history with oral cancer	Radiation	Total
Frequency	138	26	20	16	200
Percentage	69%	13%	10%	8%	100

Most of respondents (69%) said that the use of tobacco is the major risk factor for oral cancer. Those who choice drink of alcohol and family history with oral cancer constituted (13%), (10%), while only (8%) of respondents had choice radiation as the most risk factor for this disease.

Table (15): Showing signs of oral cancer according to the opinion of respondents

Sign of oral cancer	Swelling in mouth	Ulceration in mouth	Pain during chewing of food	Pain in teeth	Change in voice	Pain in lips and mouth	Total
Frequency	54	45	34	27	29	11	200
Percentage	27%	22.5%	17%	13.5%	14.5%	5.5%	100%

Most of respondents (27%) mentioned that swelling in mouth is the most important sign of oral cancer. Those who mentioned ulceration in throat, pain during chewing of food, pain in teeth, change in voice were constituted (22.5%), (17%), (13.5%), (14.5%) respectively, while only (5.5%) mentioned pain in lips and mouth as the most important sign in patients diagnosed with oral cancer.

Table (16): Showing symptoms of oral cancer according to the opinion of respondents

Symptom of oral cancer	Bleeding in mouth	Pain in mouth	Bleeding in tonsils	Pain during swallowing	Change in color of teeth	total
Frequency	66	36	42	38	18	200
Percentage	33%	18%	21%	19%	9%	100%

Majority of respondents (33%) mentioned that bleeding in mouth is the most important symptom of oral cancer. Those who mentioned pain in mouth, bleeding in tonsils, pain during swallowing as the most important symptom of this disease were constituted (18%), (21%), (19%), while only (9%) mentioned change in color of teeth as the major symptom in patients with oral cancer.

Table (17): Showing method of diagnosis of oral cancer according to the opinion of respondents

Method of diagnosis of oral cancer	Exofoliative cytology technique	Histological technique	Ultra sound	X-ray	Total
Frequency	60	90	42	8	200
Percentage	30%	45%	21%	4%	100%

Most of respondents (45%) said that histological technique (examination of surgical biopsy) is the best method for diagnosis of oral cancer. Those who preferred exofoliative cytology technique and ultra sound for diagnosis of this disease were constituted (30%), (21%) of them, while only (4%) mentioned X-ray as the best method for diagnosis of oral cancer.

Table (18): Showing method of treatment of oral cancer according to the opinion of respondents.

Method of treatment of oral cancer	Surgery	Chemotherapy	Radiotherapy	Drugs	Total
Frequency	64	84	40	12	200
Percentage	32%	42%	20%	6%	100%

Majority of respondents (42%) mentioned chemotherapy as the best method for treatment of oral cancer. Those who mentioned surgery and radiotherapy constituted (32%), (20%) of respondents, while drugs was choice as best method for treatment of oral cancer by (6%) of respondents.

There were no statistical significant correlation between knowledge of primary health care workers about the best method of diagnosis and treatment of oral cancer & different jobs of respondents (p -value ≥ 0.05 at 95% confidence).

Table (19): Showing method of prevention of oral cancer according to the opinion of respondents.

Method of prevention of oral cancer	Stop using of tobacco and early diagnosis	Stop drinking of alcohol and early diagnosis	Use of screening method	Total
Frequency	106	54	40	200
Percentage	53%	27%	20%	100%

Most of respondents (53%) consider stop using of tobacco and early diagnosis as the best method for prevention of oral cancer, (27%) mentioned stop drinking of alcohol and early diagnosis, while only (20%) said that the use of screening method is better than the two previous methods.

There were a statistical significant association between knowledge of primary health workers about the best method of prevention of oral cancer and different jobs of respondents (P -value < 0.05).

Discussion

Oral cancer is a major public health issue worldwide; it remains a highly lethal and disfiguring disease. It makes the whole health workers with important obligations, challenges, and a real opportunity to save lives.

Being able to routinely detect oral cancer at an early stage and counsel patients in prevention is a continuous challenge for the primary health care workers. Primary health professionals must be familiar with the risk factors and clinical signs and symptoms of oral cancer to be effective in identifying, referring and counseling high-risk patients (5)

A total of 200 hundred health workers participated in this study which amounts to 100% response rate. Most of respondents (52%) were at the prime of their youth [20-30 years] and (68.5%) had university graduates. There was gender differences among respondents, most of them were males constituted 64.5%. The majority of respondents (50%) had monthly income between 500-1000 which they were related to middle economic class.

There were no gender differences in the knowledge of the existence of oral cancer (P -value ≥ 0.05); the greatest awareness was among younger age [20-30 years] which was significantly more than adult above 30 years (P -value < 0.05).

There were slightly differences between jobs of respondents which were showed no statistically difference regarding their knowledge of oral cancer (P -value ≥ 0.05).

Most of respondents (54.5%) were tobacco users, (47%) were cigarette smokers, and among tobacco users majority of them (42%) were used it in between (7-10 years) and (42%) were used it only one time/day.

Most of them (82%) were free of alcohol drink and Aragi had been the drink of choice to most of respondents constituted (42%).

There were statistically significant association between knowledge of oral cancer and both tobacco use and being free from drink of alcohol (P-value < 0.05).

All respondents (100 %) had heard about oral cancer, Most of respondents (29%) got their knowledge of oral cancer from television and (28%) from radio.

This level of awareness among primary health workers was nearly to the previous study conducted by Bhatti, *et al.*, (6), which showed that more than two thirds of respondents knew about oral cancer.

Fowler *et al.*, (7) reported in his book (Prevention in general practice) that several media based campaigns have been conducted in USA and Australia. Mass media advertisements and unpaid publicity on ill health associated smoking appear to have contributed to reduce smoking habit and so, risk of oral cancer.

Most of respondents (69%) said that the use of tobacco is the major risk factor for oral cancer. Those who choice drink of alcohol and family history with oral cancer constituted (13%), (10%) respectively, while only (8%) of respondents had choice radiation as the most risk factor for this disease.

Most of respondents (27%) mentioned that swelling in mouth is the most important sign of oral cancer. Those who mentioned ulceration in the mouth, pain during chewing of food, pain in the teeth, change in voice were constituted (22.5), (17%), (13.5%), (14.5%) respectively, while only (5.5%) mentioned pain in lips and mouth as the most important sign in patients diagnosed with oral cancer.

Al-Rawi and Talabani,(5) reported that ulceration and swelling of mouth were the most complaint of patients with oral cancer at the time of first presentation in the clinic.

Most of respondents (33%) mentioned that bleeding in mouth is the most important symptom of oral cancer. Those who mentioned pain in mouth, bleeding in tonsils, pain during swallowing as the most important symptom of this disease were constituted (18%), (21%), (19%) respectively, while only (9%) mentioned change in color of teeth as the major symptom in patients with oral cancer.

American cancer society, (8) reported that a sore in mouth that bleeds easily and does not heal is the most common symptom of oral cancer.

Most of respondents (45%) said that histological technique (examination of surgical biopsy) is the best method for diagnosis of oral cancer. Those who preferred exfoliative cytology technique and ultra sound for diagnosis of this disease were constituted (30%), (21%) respectively, while only (4%) mentioned X-ray as the best method for diagnosis of oral cancer.

Majority of respondents (42%) mentioned chemotherapy as the best method for treatment of oral cancer. Those who mentioned surgery and radiotherapy constituted (32%), (20%) respectively, while drugs were choice as best method for treatment of oral cancer by (6%) of respondents.

There were no statistical significant correlation between knowledge of primary health care workers about the best method of diagnosis and treatment of oral cancer & different jobs of respondents (p-value ≥ 0.05 at 95% confidence).

Most of respondents (53%) consider stop using of tobacco and early diagnosis as the best method for prevention of oral cancer, (27%) mentioned stop drinking of alcohol and early diagnosis, while only (20%) said that the use of screening method is better than the two previous methods.

There was a statistical significant association between knowledge of primary health workers about the best method of prevention of oral cancer and different jobs of respondents (P-value <0.05).

Al-Rawi and Talabani,(5) reported that oral cancer controls are based on the premise that the stop using of tobacco and earlier diagnosis increased survival and reduced mortality.

Our results revealed that Sudanese primary health care workers in Khartoum state had a good knowledge about oral cancer risk factors, signs, symptoms, diagnostic techniques, prevention methods and treatment methods of oral cancer.

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