Comparative Study Assessing Oral Cancer Awareness Among Undergraduate Students of Krishna Institute of Medical Sciences University, Karad

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ABSTRACT

Introduction: Oral cancer has been implicated as a major cause of morbidity and mortality in developing countries like India. The health care professionals should be competent enough to correctly diagnose the condition and make intelligent referrals as and when required. This survey was carried out with the aim of assessing the knowledge about oral cancer among the medical and dental students.

Material and methods: Total one hundred BDS and one hundred MBBS students each from School Of Dental Sciences and Krishna Institute of Medical Sciences University, Karad respectively were invited to participate in this survey using self-administered structured questionnaire in English comprising 13 questions, which was designed to evaluate oral cancer awareness. The obtained data was analyzed using the statistical package for social sciences 20.0 version software.

Result: Dental students were found to be more aware about the oral cancer diagnosis methods and made more referrals to specialists as compared to the medical students.

Conclusion: The importance on oral cancer is requisite/mandatory in fresher clinician`s training to upgrade awareness among discrete and a group of people at large.

Keywords: Knowledge, Awareness, Dental, Medical, Students, Questionnaire

INTRODUCTION

Oral cancer is considered to be the leading cause of mortality in developing countries like India[1]. Under such scenario prompt detection and treatment of this devastating disease is a must[1]. This responsibility lies in the hands of the practitioners to detect early oral changes and make referrals to specialists as and when required[2]. For this the budding medical and dental professionals should be trained properly to carry out routine diagnostic procedures without missing out the suspicious cases[3]. Also the health care professional should be competent enough to judge the patients at high risk from their history and make intelligent referrals as and when needed[4]. This survey was carried out with the aim of assessing the knowledge about oral cancer among the medical and dental students of Krishna Institute Of Medical sciences and School Of Dental Sciences with the aim of improving the level of competency of the student in diagnosing and preventing the disease.

MATERIAL AND METHODS

BDSand MBBS students were invited from School of Dental Sciences and Krishna Institute of Medical Sciences, Karad, respectively, employed in this survey using a self-administered structured questionnaire written in English and validated through a pilot study. It was voluntary participation, and informed consent was obtained from those who participatedin the study. All the students were supplied with information sheet regarding the nature and purpose of the study. Permission to conduct the survey was obtained from the Institutional ethics Committee.

The questionnaire consisted of 13 questions designed to evaluate the oral cancer awareness, towards dental treatment among the BDS and MBBS students.

The questionnaire was organized into two parts: The first part elicited information on the demographic attributes of students including age, gender, and year of study.

The second part assessed the participant's oral cancer awareness and included 13 questions on performing oral checkup, etiology for oral cancer, oral cancer metastasize, risk factors of oral cancer, biopsy procedure in high risk patients, knowledge to detect and prevent oral cancer, treatment options for oral cancer, prevention and detection of oral cancer, teaching on oral cancer, teaching formats, metastasize to other parts of body, promote early screening for oral cancer, network to promote early screening for oral cancer. The students were asked to respond to each item according to the response provided in the questionnaire. Responses included yes-no type questions and question 2 and question 10 were optional type questions in which students were instructed to choose only one appropriate response from a provided list of options. 100 completely filled questionnaires from dental and 100 from medical students were collected and analyzed.

STATISTICAL ANALYSIS

The obtained data were analyzed using the Statistical Package for the Social Sciences (SPSS) software for windows version 20.0. The Mann–Whitney U test was used to compare the awareness related to oral cancer in both groups. The *t*-test was

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used to compare the mean percentage scores for knowledge among dental and medical students. Correlation between knowledge of BDS and MBBS students were examined by Karl Pearson's correlation coefficient method. A *P* value of 0.05 was used as a cut-off level for statistical significance.

RESULTS

In this study male percentage of participants in both the groups was higher side. In BDS out of 100(100%) participants 56(56%) were males and 44(44%) were females whereas in MBBS out of 100(100%) participants 64(64%) were males

and 36(36%) were females. Here the male percentage was slightly increased in medical students as compare with dental students. According to age group in oral cancer study among participants out of 100(100%) dental students maximum 63(63%) were in age group of 20-21 years, 24(24%) were in age group of 18-19 years, 18(18%) were in age group of 22-23 years and remaining 5(5%) were in age group of 24[+] years. Whereas out of 100(100%) medical students maximum 69(69%) were in age group of 20-21 years,16 (16%) were in age group of 22-23 years, 11(11%) were in age group of 18-19 years and remaining 4(4%) were in age group of 24[+] years. The average age of dental students participated in oral cancer study was 20.47±1.46. On the other hand the average age of medical students participated in oral cancer study was 20.00±1.82. Here out of 100 dental students 50 were third year and 50 were fourth year students respectively. Same here out of 100 medical students 50 were third and 50 were fourth year students respectively (table-1).

After obtaining details of self-administered questionnaire mean score was calculated and mean score of dental students was 8.57±1.844, whereas the mean score of medical students was 6.48±2.359. The higher mean score of dental students regarding oral cancer indicates better awareness as compared to medical students. The unpaired t-test was used to comparing significant difference, here t-value was 6.981 and P-value was 0.0001. P<0.05 shows awareness was

Study Variables	BDS	Percentage	MBBS	Percentage
Sex				
Male	56	56%	64	64%
Female	44	44%	36	36%
Age Group (in yrs.)				
18-19	24	24%	11	11%
20-21	63	63%	69	69%
22-23	18	18%	16	16%
24[+] Years	5	5%	4	4%
Mean Age	20.47		20.00	
SD Age	1.46		1.82	
Total	100		100	

Table-1: Age and Gender distribution of participants in oral cancer study

Variable	Group	N	Mean	SD	t-value	P-value
Awareness	Dental	100	8.57	1.844	6.981	0.0001*
	MBBS	100	6.48	2.359		
*significant when p<0.05						

Table-2: Shows the comparison of awareness of dental and medical students in oral cancer study by unpaired t test.

Awareness Questions	Positive Response				Mann-Whitney U-Statistics	P-value
	BDS	%	MBBS	%		
Oral checkup	80	80	64	64	4200	0.0456*
Etiology	46	46	29	29	4100	0.03*
Metastasize in oral cavity	94	94	66	66	3600	0.0004*
Educate the patient	92	92	67	67	3666.5	0.0012*
Biopsy	32	32	15	15	4092	0.0293*
Detection capacity	42	42	26	26	4137	0.0408*
Treatment knowledge	83	83	46	46	7090	0.0001*
Prevention	58	58	42	42	4129	0.024*
More information required	96	96	90	90	4605	0.3711**
Metastasize to other parts of body	89	89	59	59	3420	0.0001*
Referral to dentist	69	69	44	44	3678	0.0015*
Participate in teaching programme	93	93	91	91	4804	0.7067**
*significant when P<0.05, **not significant when P>0.05						

Table-3: Shows the comparison of dental and medical students in each question of knowledge (numbers are only correct answers) by Mann–Whitney U test

Education Format	BDS	MBBS	Chi-square	P-value	Inference
Information Pack	7(7%)	24(24%)	75.988	<0.0001*	Significant
Lectures	33(33%)	73(73%)			
Seminar	60(60%)	3(3%)			
*significant when p<0.05					

Table-4: Shows association between BDS and MBBS students with educational formats regarding oral cancer study

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Awareness Questions	Positive Response				Spearman Correlation Coefficient
	BDS	**%**	**MBBS**	**%**	
Oral checkup	80	80	64	64	-0.01042*
Etiology	46	46	29	29	-0.0004542*
Metastasize in oral cavity	94	94	66	66	0.08533**
Educate the patient	92	92	67	67	-0.05017*
Biopsy	32	32	15	15	-0.009126*
Detection capacity	42	42	26	26	-0.2336*
Treatment knowledge	83	83	46	46	-0.0421*
Prevention	58	58	42	42	0.01635**
More information required	96	96	90	90	-0.05926*
Metastasize to other parts of body	89	89	59	59	-0.00276*
Referral to dentist	69	69	44	44	0.01474**
Participate in teaching program	93	93	91	91	0.2142**
*negative correlation, **positive correlation					
Table-5: Correlation between BDS and MBBS students regarding oral cancer study					

statistically significant in both the groups (table-2).

Out of 200 dental and medical students (80% dental and 64% medical) knew that the purpose of oral checkup regular as part of general examination, and the difference was statistically significant (P =0.0456). 46% of the dental students were aware about main etiology for oral cancer whereas only 29% of the medical students were aware about the fact; the values were statistically significant (P =0.03). In terms of knowledge regarding oral cancer metastasize, 94% dental and 66% medical students aware about the concept, and the difference was highly significant (P =0.0004). Awareness regarding patients education regarding risk factors of oral cancer showed statistically significant difference (P =0.0012), among (92%) dental and (67%) medical students. Although 32% dental and 15% medical students confident enough to carry out biopsy procedures in high risk patient, and the difference was statistical significant (p=0.0293) (table-3). Also 42% dental and 26% medical students think they have sufficient knowledge to detect and prevent oral cancer the difference was statistical significant (p=0.0408). Then 83% dental and 46% medical students aware about the treatment options for oral cancer, difference was statistically highly significant (P =0.0001). 58% dental and 42% medical students have sufficient knowledge concerning prevention and detection of oral cancer and difference was statistically significant (P =0.024). Almost all dental (96%) and medical (90%) students were like more information or teaching on oral cancer with different educational format which was shown in Table-4 and difference was not statistically significant (P =0.3711). Also 89% dental and 59% medical students aware about oral cancer metastasize to other parts of the body and difference was statistically highly significant (P =0.0001). In the past six months 69% dental and 44% medical students advised patients to go to a dentist or a surgeon to promote early screening for oral cancer, difference was statistically significant (P =0.0015). Almost same 93% dental and 91% medical students willing to participate in a network to promote early screening of oral cancer.

Out of 100 dental students maximum 60(60%) students in oral cancer study wants educational format in terms of seminar, 33(33%) wants lectures and remaining 7(7%) wants information pack. On the other hand out of 100 medical students maximum 73(73%) students wants educational format in terms of lecturers, 24(24%) wants information pack and remaining 3(3%) wants seminar. The chi-square value was 75.988 with 198 degrees of freedom and P-value was <0.0001 shows there was statistically highly significant association between dental and medical students.

The positive correlation coefficient indicates that the response from BDS and MBBS students was effective. Vice-versa the negative correlation coefficient indicates that the response from BDS and MBBS students was not effective means negative correlation shows that if awareness of BDS students were increased the awareness of MBBS students going decreased, and here positive correlation shows if BDS students awareness score was increased then MBBS students awareness score also increased (table-5).

DISCUSSION

Oral cancer is considered to be the one of the ten leading causes of death worldwide. Oral cancer starts presenting itself in the form of premalignant changes early enough to be detected clinically[1]. Therefore the student should be trained well enough to make the note of these changes and make early referrals which can be life saving for the patients also[2]. The study was conducted with the aim of assessing the level of competency of the upcoming health care professionals in regard to diagnosing, preventing and referring patients with a risk of oral cancer[3-7]. The survey included 100 dental and medical undergraduates from third and final year. The questionnaire consisted of various questions to assess the knowledge of the student.

The higher mean score of dental students regarding oral cancer indicates better awareness as compared to medical students.

Out of 200 dental and medical students, more of dental students (80% dental and 64% medical) knew that the purpose of oral checkup regular as part of general examination. 46% of the dental students were aware about main etiology for oral cancer whereas only 29% of the medical students were

aware about the fact. In terms of knowledge regarding oral cancer metastasize, 94% dental and 66% medical students aware about the concept. Awareness regarding patient`s education regarding risk factors of oral cancer showed statistically significant difference, among (92%) dental and (67%) medical students. Although 32% dental and 15% medical students confident enough to carry out biopsy procedures in high risk patient. Also 42% dental and 26% medical students think they have sufficient knowledge to detect and prevent oral cancer. Then 83% dental and 46% medical students aware about the treatment options for oral cancer. 58% dental and 42% medical students have sufficient knowledge concerning prevention and detection of oral cancer. Almost all dental (96%) and medical (90%) students were like more information or teaching on oral cancer with different educational format which was shown in Table-4. Also 89% dental and 59% medical students aware about oral cancer metastasize to other parts of the body. In the past six months 69% dental and 44% medical students advised patients to go to a dentist or a surgeon to promote early screening. Almost same 93% dental and 91% medical students willing to participate in a network to promote early screening of oral cancer.

Out of 100 dental students maximum 60(60%) students in oral cancer study wants educational format in terms of seminar, 33(33%) wants lectures and remaining 7(7%) wants information pack. On the other hand out of 100 medical students maximum 73(73%) students wants educational format in terms of lecturers, 24(24%) wants information pack and remaining 3(3%) wants seminar.

CONCLUSION

Although dentists are the one concerned with the overall well -being of the patient`s oral hygiene, it is frequently noted that more of the patients approach general medical practitioners for their oral problems too. Looking at this scenario it is an urgent demand for the medical as well as dental students to be competent enough to make prompt diagnosis and intelligent referrals to specialists. This can be achieved through advocating changes like making oral health checkup an inevitable part of general medical checkup, educating the personnel in form of seminars, information packs and lectures, and educating the patient regarding the etiology and preventive measures for the same.

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