Oral Health Related Knowledge and Practices amongst Health Care Workers – A follow-up Study

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Abstract

Health workers have been said to be co-educators of their patients on ideal dental care. They are able to carry out the role because they may be the first to come in contact with patients with dental issues. Aim: The present follow-up study was carried out to assess the oral health related knowledge and practices of health care workers of community health center before and after oral health education. This study was conducted among 52 health care workers of Community Health Center. A pre-tested proforma containing structured close ended questionnaire including 20 questions from Hiroshima University - Dental Behavioral Inventory (HU-DBI) was used to collect the data. This instrument was administered to the health workers to assess the oral health related knowledge and practices. A training session on oral health education was taken to health care workers who consented to participate. After 3 months the same questionnaire was used to assess the knowledge and practices among these workers. Result showed that there was statistical difference in the oral health related knowledge after the oral health education. There was also improvement in the oral health practices among health care workers. When free dental checkup camp was organized to the participants the response rate was found to be 47.5%. There was improvement in oral health related knowledge and practices among health care workers after the training session on oral health education.

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Introduction

Health is one of the most valuable assets one can possess. Oral health affects general quality of life therefore dental care is fundamental to general human health and its importance should not be neglected. Oral health is now recognized as equally important in relation to general health. [1, 2]Oral health may be defined as a standard of health of the oral and related tissues which enables an individual to eat, speak and socialize without active disease, discomfort or embarrassment and which contributes to general well-being.[3, 4, 5] Oral diseases can be considered a public health problem due to their high prevalence and significant social impact.[6]

Dental care is the practice of preventing and treating diseases of the teeth, gingiva and other tissues of the mouth. Appropriately, adequate and regular dental care can afford the human persona healthy set of teeth. Unlike other human tissue, such as skin, that continuously grows and self-rejuvenates, dental structures generally cannot repair themselves and require regular care to retain their health and vitality.[1,7]

Dental care can sometimes be the forgotten part of a healthy life-style, as its importance is often underestimated. The need for

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regular dental care however cannot be overstated. Dental care involves scaling and polishing, which should be done once or twice a year, efficient daily brushing (twice daily) and dental flossing.[6] It also includes being observant to know when there are presence of holes, stains and malodor from the mouth and checking with the dentist for appropriate intervention.[7] Poor dental care can cause, exacerbate or presence of disease, both in the mouth and elsewhere in the body. A growing body of research now links periodontal disease with increased risk of heart attack, stroke, diabetes, ulcers, respiratory problems and preterm, low birth-weight babies and other serious systemic problems. Many disease and conditions have oral warning signs, which may be the first clue to clinical disease.[1,3,8,9]

Being a dental public professionals we need to develop a simple program but effective and also sustainable to control dental diseases. One simple way is by targeting health workers. Health workers have been said to be co-educators of their patients on ideal dental care.[7,10]They are able to carry out the role because they may be the first to come in contact with patients with dental issues.[6,7] Educating the health care workers will have added advantage not only at individual level also at community level. Their knowledge and practice of dental care will make it possible for them to impact proper knowledge on their patients and make appropriate referrals to the oral health practitioners.[6,7] However, there are very few studies assessing the knowledge and practices health workers to dental care in developing countries. Therefore this questionnaire based study is an attempt to assess the knowledge and practice of health care workers before and after oral health education. The study hypothesis states that there is improvement in knowledge and practices of health care workers after oral health education.

Materials and methods

This follow-up study was carried out to assess the knowledge and practice towards oral health among 51 health care workers (Anganwadi workers, ASHA workers and Nursing staff) of Community Health Centre at costal Karnataka, South India. This centre serves around 1,20,000 population with the capacity of 65 health workers. The invitation sent to all the health workers, out of 65 health workers only 51 consented to participate. Without disturbing to their regular work, different time intervals were tabulated for their training session on oral health education. This training session was of one hour duration focused on oral hygiene maintenance by brushing techniques, methods to maintain gingival health, dental caries and how often to visit a dentist. Ethics clearance was obtained from the Institutional Ethics Committee MCODS, Mangalore (protocol no: 16085). Permission for the study has been obtained from the Chief Medical Officer, Community Health Centre. Informed consent was taken from the participants prior to their recruitment for the study. A questionnaire was used to assess the knowledge and practices among the health care workers through an interview format. A pre-tested proforma containing structured close ended questionnaire including 20 questions from Hiroshima University - Dental Behavioral Inventory (HU-DBI) [10,11] was used. The reliability and validity of the questionnaire had already been checked by administering to the ten health care workers working in different Community Health Centre. The questionnaire was then handed over to the health workers and sufficient time was given to them to complete the form. After 3 months of training session on oral health education same questionnaire were administered and their knowledge and practices were compared with the baseline data. The collected data was entered in the Microsoft Excel Sheet and analyzed using the Statistical Package for Social Sciences (SPSS) Version 17.0 statistical package. Descriptive analysis was calculated with $p<0.05$ and confidence interval 95%. Paired t test and chi-square test were applied to compare the pre and post knowledge and practices. The total duration of the study was 4 months. At the end of the study, the health care workers were invited to Community Health Centre for free dental check-up and treatment camp.

Results

A total of 51 health care workers were consented to participate in this follow-up study. The mean age of the participants included in the study was 41.8±8.52 years. Their experience in the health field ranged from 3 months to 23 years.

The detailed demographic characteristics of the study participants was depicted in Table 1. The oral hygiene practices of the study practices shown in Table 2. The response rate of the participants after 3 months was 84.69%. Mean knowledge score of the participants at the baseline was 69.08±21.29 and the knowledge score after the oral health education was 73.69±19.57. (Table 3). The responses to each question before and after the health education compared using chi-square test and tabulated in Table 4.The questions 2, 8 and 17 showed statistical significance difference before and after the oral health education.

Mean age		41.98 ±8.52
Mean experience		14.62±8.34
Educational qualification	9 th std	2 (5%)
	10th std	24 (52.5%)
	12th std	15 (30%)
	Bachelor's degree	8 (10%)
	Master's degree	2 (2.5 %)

Table 1: Demographic Characteristics of Health Care Workers.

Oral Practices	Yes	No
Toothpaste	46 (88.2)	5 (9.8)
Toothbrush	46 (88.2)	5 (9.8)
Fluoride in toothpaste	11 (21.6)	40 (80.4)
Method (Modified Bass)	15 (29.4)	20 *(39.2)

Table 2: Oral Health Practices among Health Care Workers

% in parenthesis

*(Five participants changed the brushing technique after oral health education)

	Mean	Std. Deviation	Std. Error Mean	
Before Health Education	69.08	21.29215	4.43972	t value=0.018 p value=0.04
After Health Education	73.69	19.57950	2.99746	

Table 3: Showing Knowledge scores of Health Care Workers Before And After the oral health education

Thus there was improvement in the practices and it showed statistically significant change. (Table 5) The free dental check-up and treatment camp were arranged for the participants at the end of the study. Response rate for the free dental checkup and the treatment was 36.5%. A detailed history, thorough clinical examination and treatment plan was documented for every participant during the camp. Out of 19 health workers, 17 (89.5%) had calculus. The mean decayed teeth of the participants was 2.78±2.01, 9 (47.4%) participants presented with no missing teeth and only 6 (31.9%) participants had filled components.

Sl. no	Questions	Chi-square value, df , p value
Q1	I won't worry much about visiting the dentist	13.12,16,0.66
Q2	My gums tend to bleed when I brush my teeth	***26.74,16,0.04***
Q3	I worry about the color of my teeth	16.86,12,0.15
Q4	I have noticed some white sticky deposits on my teeth	13.81,12,0.31
Q5	I use a child sized toothbrush	3.46,12,0.99
Q6	I think that I cannot help having false tooth when I am old	23.43,16,0.10
Q7	I am bothered by the color of gums	10.76,16,0.82
Q8	I think my teeth are getting worse despite my daily brushing	***23.31,12,0.02***
Q9	I brush each of my teeth carefully	25.20,6,0.00
Q10	I have never been taught professionally how to brush	16.25,12,0.18
Q11	I think I can clean my teeth well without using toothpaste	16.69,12,0.16
Q12	I often check my teeth in a mirror after brushing	7.33, 8,0.50
Q13	I worry about having bad breath	12.84,16,0.68
Q14	It is impossible to prevent gum disease with tooth brushing alone	16.09,16,0.44
Q15	I put off going to the dentist until I have a toothache	16.28,12,0.17
Q16	I have used a dye to see how clean my teeth are	17.28,16,0.36
Q17	I use a toothbrush which has hard bristles	***53,16,0.00***
Q18	I don't feel I've brushed well unless I brush with strong bristles	8.55,12,0.74
Q19	I feel I sometimes take too much time to brush my teeth	20.75,16,0.18
Q20	I have had my dentist tell me that I brush well	10.24,16,0.85

Table 4: Showing statistical significance between the responses of Health Care Workers to each question before and after the oral health education

Sugar exposure of the participants	Before	After	
0	7(13.7)	14(27.4)	Chi square value 13.44 p=0.039
5	24(47.0)	27(52.9)	
10	18(35.2)	8(15.60)	
15	2(3.9)	2 (3.9)	

Table 5: Sugar Exposure of the Health Care Workers Before and After the oral health education

% in parenthesis

Discussion

This study was designed with the sole purpose of decoding the knowledge and

practices of the health care workers belonging community health center. The reason for choosing the community health care workers was mainly because these health care workers have a relatively easy access to a vast majority of the rural population and can educate the anganwadi workers which will produce a ripple effect where the knowledge gets disseminated to the mother and to her family and then to the entire community. In the present study oral health related knowledge and practices were improved after the training session on oral health education. The results were based on realistic approach and could be implemented easily in the present health care set up.

In this study the pattern of distribution of knowledge and practice of dental care observed is not significantly affected by age, gender and working experience. The results of the present study were not in accordance with the results of the study conducted in Benin City, Nigeria and Ambala, India.[7,12] It has been said that although oral health knowledge does not necessarily translate to oral health behavior, people who have assimilated this knowledge have a certain control of their oral health and are likely to adopt good self-care practices. The results of this study showed good improvement in the knowledge and the practices of the health care workers.

In the present study there was overall improvement in the knowledge after oral health education. But when analysis done for each questions , few did not show change in the scores. This may be attributed to the lack of repeated reinforcing of the importance of oral health education periodically. This may be also the reason which showed a wide gap between knowledge and practices in this study which is supported by the study conducted in Israel. [2,13,14] Health care workers are the once who provide a package of services to mothers and children which can be a vital link in the health care delivery system.[6] Since the topic of oral health is given a low priority in anganwadi workers training curriculum, there is a need to educate them on oral health in order to reach children at an early and receptive age.[15,16]

The response rate of the present study participants when free dental checkup and practices were given was assessed to be 47.5%. Oral prophylaxis, restorations and extraction as the basic treatment modality which was provided and awareness for maintaining the oral health was insisted. The observation of study conducted by Aggnur et al (2014) showed the attitude of the health workers toward oral health was poor as they had significantly higher treatment needs. [12] Government health agencies should take more steps to consider oral health as a very important aspect of one's health. Health care workers should be provided with minimal oral health services through the primary health care system, thereby giving an opportunity for these workers to convert their knowledge, attitudes and practices into ground realities. [17,18]

The few limitations of the study were shorter follow-up period and reinforcement on oral health education was not carried out. Furthermore, the findings of the study suggest that it becomes imperative on the part of the health department to carry out effective programs on oral health for health care workers. More such studies are needed across the country in the near future, so that an amalgamation of the above literature could be used to plan out oral health educational programs for the primary health care workers.

Conclusions

From the assessed data of studied sample population of aged, the following conclusions were drawn.

- There was statically significant improvement in the knowledge and practice between at baseline and 3 months after the oral health education.
- The response rate of the participants for the free dental checkup at the end of the study was found to be 36.5%.

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Declaration of Interest

The authors report no conflict of interest.

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