Is Accredited Social Health Activists' Basic Oral Health Knowledge Appropriate in Educating Rural Indian Population?

Abstract

Introduction: Accredited social health activists (ASHAs) are the grassroot level health activists in the community who are involved in health education and community mobilization toward utilizing the health services. Materials and Methods: A descriptive cross-sectional study was carried out to assess the oral health knowledge among ASHAs working in Guntur district of Andhra Pradesh, India. Five Primary Health Centers were randomly selected, and the total sample was 275. Categorical data were analyzed using Chi-square test. Results: The mean age was 32 ± 5.11 years and mean education was 9 ± 1.329 years of schooling. ASHAs were categorized into two groups based on their education levels, i.e., Group I whose education qualification is <10th class and Group II whose education qualification is above 10th class to observe any difference in knowledge based on their education. Overall knowledge among ASHAs was poor and also it was observed that both the groups were having poor knowledge regarding dental caries, calculus, dental plaque, oral cancer, and change of tooth brush. About 69.5% of the ASHAs were approached by public with dental problems, but only a few, i.e., 15.8% have referred the patients to the nearby dentist. Conclusion: As we know that most of the dental diseases are preventable, there is a dire need that ASHAs should be thoroughly educated in the aspects of oral health and diseases during their training period. This not only helps in creating awareness among them but also serves the ultimate purpose of improving the oral health of rural population.

Keywords: Accredited social health activist, health education, knowledge, National Rural Health Mission, oral health

Introduction

Health is a fundamental basic human need that everyone tries to achieve, and it is a worldwide social goal to improve the quality of life.[1,2] Health is also more important in the process of economic and social development of the country. Considering this, the government of India had resolved to launch National Rural Health Mission (NRHM) on April 5, 2005, for a period of 7 years, i.e., till 2012. The main aim of the NRHM is to improve the availability of basic health-care services and access to quality health care for those residing in the rural areas.[3]

Accredited social health activists (ASHAs) are the grassroot level health activists in the community who are involved in health education and community mobilization toward utilization of the health services. They help the community in accessing health and health-related services available at the Anganwadi, subcenter, and Primary Health Centres (PHCs). ASHA acts as a bridge between the community and the available health-care system.[4]

Dental caries and periodontal diseases are the most common oral health problems of the Indian population. According to national oral health survey and fluoride mapping, 2002–2003, the prevalence of dental caries 50%, 52.5%, 61.4%, 79.2%, and 84.7% among 5, 12, 15, 35–44, and 65–74 years old, respectively, and periodontal diseases 55.4%, 89.2%, and 79.4% among 12, 35–44, and 65–74 years old, respectively.[5] These diseases have been neglected over the years especially in rural areas because of lack of adequate knowledge on oral health problems and their consequences. National Oral Health Care Programme suggested integrating oral health care with existing primary health-care system.[6] ASHAs have a promising scope to that effect. Keeping this in view, the present study has been carried out to assess the oral health knowledge appropriate in educating rural Indian population?

How to cite this article: Vinnakota NR, Sanikommu S, Ahmed Z, Kamal Sha SK, Boppana NK, Pachava S. Is accredited social health activists' basic oral health knowledge appropriate in educating rural Indian population?. Indian J Dent Res 2017;28:503-6.

Access this article online

Website: www.ijdr.in

DOI: 10.4103/ijdr.IJDR_692_16

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Original Research

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knowledge among ASHAs working in Guntur district of Andhra Pradesh, India.

Materials and Methods

A descriptive cross-sectional study was done to assess the oral health knowledge among ASHAs working in Guntur district of Andhra Pradesh, India. There are about 82 PHCs serving in Guntur district according to March 2015 (National Rural Health) Statistics, 2015–16. Among them, five PHCs were randomly selected. Usually, on every first Tuesday of a month, the ASHAs meet at their respective PHCs and get instructions from the medical officer for future programs. The investigators visited selected PHCs on such first Tuesday to administer the questionnaire to ASHAs, whoever was present on that day. A total of 275 ASHA workers took part in the study. The study was done over a period of 5 months from September 2013 to January 2014. Ethical clearance was obtained from Institutional review board of SIBAR Institute of Dental Sciences, and prior permission has been obtained from District Medical and Health Officer, Guntur. The purpose of the study was explained to the ASHAs, and then, individual consents were taken from them before the start of the study.

Data collection

A pretested pro forma containing structured close ended questions was prepared in the local language. The questions were framed from the contents of their training manual. Validity of the questionnaire was checked using Cronbach’s alpha. All the questions were framed to enable the investigators identify the level of knowledge of ASHAs on oral health issues. The questionnaire was distributed to the ASHA workers and sufficient time was given to complete the self-administered schedule. Cross verification was done by the investigator to confirm that all the questions were answered.

Statistical analysis

The collected data were analyzed using the SPSS, Version 20.0 (IBM, USA). Categorical data were analyzed using Chi-square test. \( P \leq 0.05 \) was considered to be statistically significant.

Results

The present study was done on 275 ASHAs. The mean age of the study participants was 32 ± 5.11 years, and the mean education was 9 ± 1.32 study years. ASHAs were dichotomized based on their level of education. Completion of secondary school certificate or its equivalent was considered as the criterion for this dichotomization. Group I included those whose education qualification was <10\(^{th}\) standard and Group II are those whose education qualification was above 10\(^{th}\) standard.

Table 1 show the percentages of correct responses for a broad range of knowledge questions relating to oral health. It was observed that majority of them know about the number of permanent teeth and possess considerably good knowledge on the causative agent for caries and ill effect of excess fluoride in water. However, the knowledge on dental plaque, calculus, frequency of changing tooth brush, oral cancer, and identification of carious tooth was found to be poor.

Table 2 show oral health knowledge of the ASHA workers based on their education levels. The study participants from both the groups significantly differed in their responses for causative agent of tooth decay. While 84.1% and 8.7% of ASHAs from Group I opined that tooth decay is caused by bacteria and worms, respectively, the figures were 80.3% and 19%, respectively, in Group II (\( \chi^2 = 12.678, P = 0.002 \)). Significant difference was also noticed in the knowledge on dental plaque (\( \chi^2 = 12.677, P = 0.002 \)) and calculus (\( \chi^2 = 17.392, P = 0.001 \)) between the two groups. It was identified that the knowledge regarding recommended frequency for change of toothbrush is poor in both the groups. Only 9.4% from Group I and 5.1% from Group II have correct knowledge on the recommended frequency for change of toothbrush (\( \chi^2 = 0.540, P = 0.471 \)). It was observed that the knowledge regarding effects of excess fluoride consumption on teeth was good in both the groups. Nevertheless, significant difference was found between the groups in this regard (\( \chi^2 = 13.540, P = 0.021 \)).

The study population has poor knowledge on the signs of oral cancer. Only 32.6% from Group I and 22.6% from Group II gave correct responses for the question pertaining to signs of oral cancer. The difference observed was not statistically significant (\( \chi^2 = 3.879, P = 0.169 \)). The majority of study participants in both the groups acknowledged oral health as an important and integral part of general health. Half of the study participants in Group I and 54.7% in Group II were found to have knowledge
Table 2: Knowledge regarding oral health among accredited social health activist workers according to their level of education

| Questions pertaining to knowledge | Correct responses | Group I (%) | Group II (%) | $\chi^2$ | $P$ |
|-----------------------------------|------------------|-------------|--------------|--------|-----|
| 1. Number of permanent teeth present | 127 (92) | 126 (92) | $\chi^2=1.684$, $P=0.64$ (not significant) |
| 2. Causative agent for dental caries | 116 (84.1) | 110 (80.3) | $\chi^2=12.677$, $P=0.0017$ (significant) |
| 3. Dental calculus means | 85 (61.6) | 105 (76.6) | $\chi^2=7.388$, $P=0.605$ (not significant) |
| 4. Dental plaque means | 54 (39.1) | 29 (21.2) | $\chi^2=17.392$, $P=0.001$ (significant) |
| 5. Dental plaque causes | 14 (10.1) | 13 (9.5) | $\chi^2=3.129$, $P=0.372$ (not significant) |
| 6. When to change tooth brush | 13 (9.4) | 7 (5.1) | $\chi^2=0.540$, $P=0.471$ (not significant) |
| 7. Does excess consumption of fluoride will affect teeth? | 124 (89.9) | 114 (83.2) | $\chi^2=3.679$, $P=0.159$ (not significant) |
| 8. Which of the following is not a sign of oral cancer | 45 (32.6) | 31 (22.6) | $\chi^2=3.879$, $P=0.169$ (not significant) |
| 9. Is oral health important for general health | 110 (79.7) | 123 (89.7) | $\chi^2=4.586$, $P=0.172$ (not significant) |
| 10. Black discoloration is the feature of dental caries | 69 (50) | 75 (54.7) | $\chi^2=3.879$, $P=0.169$ (not significant) |

Group I: Education level below 10th class, Group II: Education level above 10th class

It was observed that 84.2% of ASHA workers were confident that they had given satisfactory responses to the public regarding dental health and a meagre 15.8% referred the patients to the nearby dentist.

Figure 1 shows that the most common dental problems faced by public as reported to ASHAs were pain due to dental caries, halitosis, bleeding gums, and sensitivity accounting for 60%, 17.5%, 12.5%, and 10% of all the problems reported, respectively.

Discussion

The greater focus on prevention and early management of health problems are likely to reduce the need for complicated specialist care and the costs of curative care.

A proper coordination of primary health-care units can, in reality, promote health equity by improving social interrelation, diminish discrimination, and permitting communities to improve health conditions. The present study has been done to assess the basic oral health knowledge of ASHAs as they play a key role in health education to prevent oral diseases and community mobilization toward utilizing the health services if they have appropriate knowledge on oral health problems. ASHAs with appropriate knowledge on oral health problems could bring a positive change in the oral health status of the rural population.

It was observed that both the groups of ASHA workers had fair knowledge regarding number of permanent teeth present and effect of consumption of excess fluoride on dental health. An interesting finding observed in the study was that some of the ASHAs believe that dental caries is caused by worms, which will carry a wrong notion to rural people. This also emphasizes the fact that myths still prevail despite all the scientific and technological advancements in the recent past. The fact that ASHAs who assume a considerably crucial role in the improvement of rural health also are unaware of the scientific facts is unexpected and may not help to the cause. These kinds of beliefs also act as gateways for quackery.

It was observed in the present study that more than 50% of the ASHA workers in both the groups know what was a plaque, but very few know that plaque causes gum diseases, which is not in accordance with the study conducted by Mohanty and Parkash. More than 50% of respondents thought that calculus refers to a color or stain on teeth which is an indicator of their poor knowledge. It was observed that only 7.3% know that tooth brush should be changed when the bristles fray off, which was due to lack of proper training in their training program or lack of comprehension.

Although the ASHAs have fair knowledge on the causative factors for oral cancer, they had poor knowledge on signs of oral cancer. Knowledge on signs and symptoms is a crucial element as this helps in identifying the disease in early stages and thereby curtailing the costs to be incurred.
and discomfort to be endured besides improving the health of public. Only 6.2% of the ASHAs were of the opinion that poor oral health might have adverse effects on the health of new born which was in accordance with the study conducted by Mohanty and Parkash. It was observed that only half of the ASHAs in both the groups were aware of identifying a black discolored tooth as carious; this observation was similar to study conducted by Mohanty and Parkash. Despite their poor oral health knowledge, most of the ASHAs were confident that they had given correct responses to the questions asked by public related to oral health problems.

Only 15% of the respondents referred patients having oral health problem to the nearby dental surgeons. It is similar to the study conducted by Mohanty and Parkash. Lack of dentists in most of the PHCs might be the reason for poor referral of public to dentist. It was observed in the present study that the most common problems faced by public were pain due to dental caries, halitosis, gum diseases, and sensitivity of teeth. All these problems were consequences of lack of appropriate knowledge and awareness on dental diseases and correct method of prevention.

**Conclusion**

It is a known fact that most of the dental diseases are preventable, provided the people are aware of preventive measures and motivated to follow them. It is precisely the role that ASHAs can play as community health educators and mobilizers. Hence, there is a dire need that ASHAs should be thoroughly educated in the aspects of oral health and oral diseases as part of training. This not only helps in creating awareness among them but also serves the ultimate purpose of improving the oral health of rural population. The present study was done only in five PHCs and on a limited sample. Studies involving rural health-care delivery systems from different parts of the country should be carried out to get a complete picture on the existing scenario and to formulate appropriate measures to bridge the gaps in their training.

**Recommendations**

1. Oral health training program should be carried out to field health workers by a dentist preferably by a specialist in public health dentistry
2. There should be a dentist in all PHCs so that cases can be referred to them
3. Information, education, and communication materials should be given to ASHAs to educate the public.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

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