



Research Article

Knowledge, attitude, and practices toward oral health among frontline healthcare workers in India

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ABSTRACT

Objectives: Oral health problems have become one of the most significant public health issues in India. Oral diseases can be controlled only if the services focus on primary healthcare and prevention. The role of frontline healthcare workers is crucial in management of oral health issues specially where there is a shortage of dentists. The Anganwadi Workers (AWWs) are those grassroots-level workers in India. Hence, the study was aimed at evaluating the knowledge, attitude, and practice (KAP) toward oral health among AWW. **Materials and Methods:** A cross-sectional analysis was conducted among 218 AWWs in the Rewari District of Haryana, India. Data were gathered using a self-structured questionnaire. Questions included information related to dental caries, mother's diet during pregnancy, and many other covariables. **Results:** A total of 218 AWW were part of the research. About 31.7% of AWW had an acceptable level of knowledge, whereas 74.3% showed a favorable attitude. The results showed potential for this group to be used to spread primary-level preventive messages related to good oral health. **Conclusion:** Good sensitization of this primary-level health workforce toward oral health can go a long way in transforming the KAPs of the rural population, too.

Keywords: Anganwadi workers, Oral health, Knowledge, Attitude, Practice

INTRODUCTION

Since ages, oral health has been considered a component of general health, and due importance has been given to oral health. With the changing scenario and rising oral health awareness among developed and developing nations, it has become inevitable to consider oral health as a separate entity and to plan a proper oral health program.^[1] India, being a signatory of the Alma Ata Declaration, has implemented a primary healthcare approach to cater to the health requirements of all levels of people. In accordance with the National Policy on Children (1974), the "Integrated Child Development Services" (ICDS) program was introduced on October 2, 1975, in 33 blocks.^[2]

The program provides an integrated approach to providing basic childcare services, promotion and early learning, water and sanitation, health and nutrition for young children, and pregnant women and women in reproductive age groups. These identified groups were reached by 607,387 Anganwadi workers (AWW) working on 5068 ICDS projects.^[2] They form the first level of contact of health services with the people in India.

The primary healthcare method has been promoted to attain "Health for All."^[3] Community health professionals would also need to teach oral hygiene as part of general hygiene training

in integrating dental measures into this strategy.^[4] It was observed that parents and AWW knew very little about oral disorders and how to prevent them. Studies have shown that AWW needs to be empowered with regard to oral health and that educating mothers about the basics of oral health through them might be a workable model for an emerging nation such as India, where oral health is still not prioritized in primary healthcare.^[5]

The first stage in creating an oral health education program is evaluating the knowledge, attitude, and practice (KAP) of AWW to strengthen their abilities and enable them to effectively serve as oral health advisors.^[6] However, there is a lack of studies reporting the KAP of AWW regarding oral health and hygiene. Hence, the present analysis was performed to examine the KAP toward oral health among AWW of Rewari District, Haryana.

MATERIALS AND METHODS

A cross-sectional analytical analysis was performed in AWW in Rewari District, Haryana, from September 2019 to November 2019. The proposed study's protocol was sent to the "Institutional Ethical Committee," and ethical approval was received. The Child Development Project Officer, Rewari, granted permission to carry out the survey. On the scheduled day, the investigator visited Anganwadis, the objective of the present research was described, and a written agreement was acquired from the workers.

A specifically created, pretested, and closed-ended questionnaire with 17 questions was employed; the first ten assessed knowledge, the next four assessed attitudes, and the final three assessed practice. Internal consistency was assessed with Cronbach's alpha, which was observed to be 0.78. A pilot study with 20 AWW was carried out to ensure research viability. "Sample Size" (SS) was computed with the formula $SS = z^2pq/L^2$. Where p = Prevalence of study participants with good knowledge, $q = 1-p$, L = Margin of error, and $Z = 1.96$. Considering the prevalence of knowledge as 65%, 80% power, 95% confidence level, and SS of 218 was obtained.

The English form of the questionnaire was later converted into the local tongue, that is, Hindi, for easy understanding of participants. Cross-cultural validation was done using the back translation method. The workers received the questionnaire and were given enough time to fill it out. The investigator later verified that every question had been attempted. Every question had three options – Yes/No/Don't know for knowledge and similarly agree/disagree/can't say for attitude. The overall score was obtained by adding the individual scores together for analysis purposes. An ordinal scale was created by utilizing the Hamilton and Coulby algorithm, which yielded the mean of the scores: Mean \pm 1 standard deviation (SD).^[7]

Scale

Knowledge/Attitude

- Low/unfavorable (<Mean–1SD)
- Medium/favorable (Mean–1SD to Mean+1SD)
- High/most favorable (>Mean+1SD)

Data were inputted in an Microsoft Excel sheet. Descriptive and inferential statistics were determined with the "Statistical Package for the Social Sciences (SPSS) version 22 software (SPSS Inc., Chicago, IL, USA). The Chi-square test was employed to determine the group variations. $P < 0.05$ was deemed statistically significant.

RESULTS

In the present cross-sectional analysis, a total of 218 AWWs were included, and their KAP regarding oral health practices were assessed. It was observed that the majority of them had a medium (47.7%) or high (31.7%) level of knowledge [Table 1].

The distribution of AWWs as per their attitude toward oral health is indicated in Table 2. A majority, that is, 74.3%, had a favorable attitude, while only 14.2% had the most favorable attitude. Furthermore, an unfavorable attitude was found among 11.5% AWWs.

The distribution of AWW as per dental health practices is shown in Table 3. A majority, 59.5% of workers, never visually examined their teeth, while 40.5% had done that. Furthermore, the majority of them, that is, 81.4%, never visually examined the gums. Almost all the workers, that is, a majority, that is, 88.3% were brushing their teeth two times daily while 11.7% of the workers were brushing only once a day.

Table 1: Distribution of AWWs according to level of knowledge.

Level	Knowledge scores	No. of AWWs(%)
Low	<20	45 (0.6-20.6)
Medium	20–24	104 (47.7)
High	>24	69 (31.7)
Total		218 (100)

AWWs: Anganwadi workers

Table 2: Distribution of AWWs according to level of attitude.

Level	Attitude scores	No. of AWWs (%)
Unfavorable	<10	25 (11.5)
Favorable	10–12	162 (74.3)
Most favorable	>12	31 (14.2)
Total		218 (100)

AWWs: Anganwadi workers

Table 3: Distribution of AWWs according to dental health practices.

S. No.	Practices	No. of AWWs (%)
1.	Visual examination of teeth	
	Yes	89 (40.5)
	No	129 (59.5)
2.	Visual examination of gums	
	Yes	39 (18.6)
	No	179 (81.4)
3.	Number of times teeth brushed by AWW	
	Once	26 (11.7)
	Twice	192 (88.3)
	Never	0

AWWs: Anganwadi workers

DISCUSSION

Early introduction to oral hygiene practices is essential for maintaining good oral health. The primary healthcare strategy is a practical and effective way to promote good oral health in the community by integrating oral healthcare into already-current primary healthcare activities and by providing community-level workers with training. Anganwadi centers can provide the perfect environment for Anganwadi professionals to encourage children to practice proper oral hygiene.^[2]

Dental problems in young children could be severely prevented if AWW is adequately educated and motivated, who, in turn, educate and encourage mothers to give better oral care to their children. Oral health literacy is one of the major variables influencing oral health. The study was conducted in the Rewari district to determine KAP toward the oral health among the AWW.

In the current study, a list of questions was created about oral health to determine the KAP of AWW. The findings of the study indicated that while a considerable number of participants possessed some knowledge of oral healthcare for children, there was still a knowledge gap that could be overcome by attending an awareness class.

The participant's knowledge was evaluated using a questionnaire based on the KAP domains pertaining to oral health. When asked how much they knew about oral health, the most of AWW responded with a medium level of understanding. In our survey, the vast majority of AWWs had positive attitudes toward oral health. These results were the same as an analysis by Shakya *et al.*^[8] The present study found that most AWWs had a medium level of knowledge about the significance of oral health. These findings are in line with analysis by Haloi *et al.*^[9] which found that 54.7% of AWWs had a fair level of oral health knowledge, and Pankaj *et al.*^[2] which found that 59.1% had a medium level of knowledge.

AWW demonstrated a medium level of understanding of the function of milk teeth when responding to the knowledge assessment question. AWW said that impaired milk teeth can negatively impact the eruption of permanent teeth in the future. Conversely, according to research by Poornima *et al.*,^[10] 64.7% of AWW agreed that milk teeth do not require maintenance because they will fall out over time.

Based on the present study, 52.05% of AWWs thought that toffees, sweets, and chocolates were the primary cause of dental caries, while the remaining workers thought that sugar was the diet type that caused tooth decay. The findings ran counter to research by Prathibha *et al.*,^[1] which stated that sweets were only cited as the primary cause of dental caries by 17.3% of the population. However, research by Gangwar *et al.*,^[11] produced comparable findings.

In the present study, responding to the questions assessing the practice of the visual examination of teeth, the majority of AWW never visually examined the teeth. On the visual examination of gums, the majority of the AWW never visually examined the gums. The findings were contradictory to an analysis by Poornima *et al.*^[10] In the current research, the majority of AWW brushed their teeth two times, but in contrast to the results of Pankaj *et al.*,^[2] where it was reported that only 20% of AWW brushed their teeth twice. AWWs need more awareness about the causes of dental diseases and what prevents dental diseases, and they need to be educated. They must be highly motivated and given an incentive to generate interest in participating in the training session.

CONCLUSION

Good sensitization of this primary-level health workforce toward oral health can go a long way in transforming the KAP of the rural population too. AWW can play a crucial role in the healthcare delivery system, given her role in offering women and children a comprehensive range of services. The results of the research propose that knowledge of AWWs on various oral hygiene aids is relatively less, and it becomes imperative that they should be made more aware of this aspect.

It is, therefore, recommended that oral health care training about basic aspects of oral hygiene procedures must be incorporated into general health education for Anganwadi staff. It is important that they know about dental hygiene, dental disease, and prevention. They form an important link in preventing primarily dental problems facing people in general.

Ethical approval

The research/study was approved by the Institutional Review Board at Faculty of Dental Sciences, Shree Guru Gobind

Singh Tricentenary University, Gurugram, number SGTU/FDS/24/1/Public Health Dentistry/Sr.No.3, dated October 22, 2019.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Conflicts of interest

There are no conflicts of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

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