

Knowledge and Perceptions of ICDS Anganwadi Workers Regarding Oral Health Practices in a Rural Village of Kashmir

Iram Jan¹, Saimah Yousuf², Vinay Sharma³, Asif Yousuf⁴, Mohsin Sidiq⁵, Mir Mohammed Shafee⁶

ABSTRACT

Introduction: Oral health is an integral part of general health. Early interventions in the form of oral health education can prevent early onset of oral diseases. Incorporation of oral health training to Anganwadi worker could become an important link in bridging the gap between the rural community and health care delivery systems and help in developing healthy oral habits among children. The present study was conducted to assess the level of oral health knowledge and perceptions among Anganwadi workers of a rural village of Kashmir.

Material and Methods: This study was undertaken with the help of a pretested self-administered questionnaire consisting of 16 questions among 146 Anganwadi workers who were randomly selected from 2 blocks of Kupwara District. Completed questionnaires were collected back and subjected to data analysis. Oral health related knowledge was compared using Chi-Square test and two way Kruskal wallis test. Statistical significance was set at $p \leq 0.05$.

Results: It was observed that maximum numbers of study subjects across all the age groups were having a moderate level of knowledge and attitude towards oral health. Significantly higher knowledge ($p \leq 0.05$) were observed between respondents who were educated till secondary school or more compared to the subjects who were educated till primary level.

Conclusion: Incorporation of oral health education in training programs of Anganwadi workers who act as first contact point between community and health-care delivery system may prove to be a significant step in improving oral health of rural communities. The study suggests the need of community oriented oral health promotion programs to improve the oral health knowledge, attitude and practices of Anganwadi workers.

Keywords: Knowledge, Attitude, Practice, Oral Health, Anganwadi Workers.

They are aware of the language of the people, their social and cultural backgrounds which makes it easy for them to identify the problems faced by the people.² The functions of the Anganwadi workers include health check-ups, health education about diet and nutrition to nursing mothers and children below 6 years of age.⁶ They help in organizing immunization sessions, monitor the growth of children, organize supplementary feeding and refer the cases to medical facilities.²

In rural areas, they can impart a positive health related knowledge and behaviour in the society.⁷ Empowering anganwadi workers in oral health can create oral awareness to the mothers and their children in developing countries like India, where oral health is not a priority.⁸ Monthly meeting of mothers at anganwadi centers can provide a platform for providing health education and will improve the knowledge among the mothers in the community who can instill the knowledge to the entire family.⁹ AWW's can play an important role as oral health guides and improve the oral health of children.¹⁰ Therefore AWW's should have adequate scientific knowledge about oral health so that they can impart that knowledge and inculcate healthy oral health related habits in both mothers and their children. Training Anganwadi workers in oral health care has resulted in improvement in health related knowledge of the community.^{6,11,12} Thus, the present study was conducted to assess the level of oral health knowledge and perceptions among Anganwadi workers in a rural village of Kashmir.

MATERIAL AND METHODS

This study was conducted in District Kupwara in the state of Jammu and Kashmir from 10th January to 5th February, 2017. Kupwara district is having three tehsils namely Handwara, Karnah and Kupwara. This district consists of 11 blocks which include Sogam, Tangdar, Teetwal, Ramhal, Kupwara, Rajwar, Kralpora, Langate, Wavoora, Trehgam and Kalaroos. Out of 11 blocks only two blocks namely Trehgam and Kralpora were randomly selected by lottery method. The total number of Anganwadi workers were found to be 278 and 199 respectively

INTRODUCTION

To achieve health for all, the adoption of the strategy of Primary Health Care approach is needed to counter predominant social and health related problems in India, where there is a grave scarcity of healthcare infrastructure.¹ Thus, through Anganwadi system, the goal of affordable and accessible health facilities using local population can be achieved. Anganwadi worker (AWW) is community based voluntary grass root level frontline worker under the Integrated Child Development Services (ICDS) program.² In India, till the year 2011, about 6779 ICDS projects and 12.41 lakh Anganwadi centers/mini-Anganwadi centers were functional.³ The population ratio of Anganwadi Worker is 1:1000 in rural and urban areas and 1:700 in tribal areas.⁴ Services at Anganwadi center (AWC) are delivered by an Anganwadi Worker (AWW), who is a part-time honorary employee. She/he is a person of same vicinity/ community, selected by the people, having educational qualification of middle school or Matric or even primary level in some areas.⁵

¹Intern, ²Dental Surgeon, Government Dental College and Hospital, Srinagar, ³Dental Surgeon, Complete Dental Solution Dental Clinic, Reasi, Jammu, J&K, ⁴Registrar, Department of Public Health Dentistry, ⁵Registrar, Department of Pedodontics, Government Dental College and Hospital, Shireen Bagh, Srinagar, ⁶Block Medical Officer, Trehgam and Kralpora, District Kupwara, Jammu and Kashmir, India

Corresponding author: Dr. Asif Yousuf, Registrar, Dept. of Public Health Dentistry, Government Dental College and Hospital, Shireen Bagh, Srinagar, Jammu and Kashmir, India

How to cite this article: Iram Jan, Saimah Yousuf, Vinay Sharma, Asif Yousuf, Mohsin Sidiq, Mir Mohammed Shafee. Knowledge and perceptions of ICDS anganwadi workers regarding oral health practices in a rural village of Kashmir. International Journal of Contemporary Medical Research 2017;4(2):459-463.

in both these blocks. Based upon a pilot study, sample size was estimated to be 130. A slightly higher sample size of 160 was randomly selected from these two blocks to compensate for any permissible error and sampling attrition. Permission for conducting the study was obtained from Block Medical Officer, Trehgam and Kralpora. Informed consent was obtained from each participant before the start of the study. Anganwadi worker, who willfully agreed to participate in the study and who had an experience of minimum 1 year were included in this study. Those having less than one year of working experience were excluded from the study. For data collection, the AWC's were visited and anganwadi workers (AWW) were explained about the nature and purpose of the survey and were requested to fill the questionnaire. After obtaining informed verbal consent, the questionnaire was distributed amongst all the participants who were instructed to fill and return the questionnaire on the same day.

The survey instrument was a pretested structured close ended questionnaire including 16 questions. The questionnaire was drafted in English language and translated to Urdu language for the convenience of the participants. The Kappa co-efficient with respect to the contents of the questionnaire was found to be 0.83. The values reflected high degree of conformity in observation. The first section of the questionnaire was based on questions regarding Knowledge related to Oral Health. The second section of the questionnaire was based on questions related to Oral Health Practices. Most of the questions were bipolar questions, having options as Yes/No and the remaining questions were multiple choice questions. Among 160 Anganwadi workers, only 146 had responded to the questionnaire (Response rate 91.25%). Incompletely filled questionnaires were rejected and not included for the analysis.

STATISTICAL ANALYSIS

The data collected was entered in Microsoft excel sheet and analyzed for simple statistics as percentage. Data obtained with the help of questionnaires were compiled and subjected to statistical analysis using *chi square*-test and two-way Kruskal–Wallis test using MedCalc version 12.2.1.0 (MedCalc Software Mariakerke, Belgium). Statistical significance was set at $p \leq 0.05$.

RESULTS

The results of the study have been depicted in Tables 1 and 2. The age of the Anganwadi workers ranged from 25-50 years, with mean age of 36 ± 8 years. 52% of the respondents were <35 years of age while as 47.94% of the respondents were >35 years of age. 43.83% subjects were educated till primary level while as remaining 56.16% had attained education till secondary level or more.

The questions related to knowledge whether oral health was important in maintaining general health, the diet involved in tooth decay, importance of milk teeth, microorganisms, the timing of consumption of sweet items and the effect of liquid sugar medications on teeth, significantly higher knowledge ($p \leq 0.05$) were observed between respondents who were educated till secondary school or more. However, when compared between respondents of different age groups, significant differences were observed only for few questions on knowledge.

DISCUSSION

Primary health care approach is an efficient and a feasible method of achieving good oral health in the community through integration of oral healthcare in the existing primary healthcare activities, through training of community level workers.¹³ Anganwadi centers can form an ideal setting where Anganwadi workers can incorporate good oral health behavior among children.

The present study revealed that most of the AWW's were educated, majority of them (56%) had completed education till secondary level or more and the remaining 43.83% subjects had completed their education till primary level. These results were consistent with the findings of various studies conducted by Thakare et al., 2011⁵ but conflicting with the studies conducted by Vasundhara and Harish, 1993¹⁴ and Kapil et al., 1991¹⁵ where majority (88%) of Anganwadi Workers had completed primary school. The present study showed that majority 75.34% had knowledge about the importance of oral health in maintaining general health. The results were similar to a study by Haloi R et al., 2014¹⁶ where it was observed that 54.7% of AWW's had a fair level of knowledge regarding oral health. The findings were similar to the study conducted by Pankaj et al., 2005¹⁷ according to which 59.1% had medium level of knowledge.

According to the present study, 67.12% of AWW's believed that Sugar was the main type of diet involved in tooth decay out of which 52.05% Anganwadi workers were of the opinion that Sweets / Chocolates/ Toffees were the main cause of dental caries. The results were contradictory to a study by Prathibha et al., 2010¹⁸ where it was reported that only 17.3% population expressed sweets to be the main cause of dental caries. However, similar results were observed from a study conducted by Gangwar C et al., 2014.¹³ Less than half of the respondents in the present study believed that microorganism caused dental decay which was similar to the study of Nair et al., 2009⁸ where only 12% respondents had knowledge about the cause of caries. However, in a study conducted by Shakya A et al., 2013¹⁹ and Mwangosi IEAT et al., 2002²⁰ majority of the participants considered bacteria as a cause of tooth decay. This could be attributed to the prevalent myths and misconceptions and lack of awareness regarding the causes of oral diseases, worldwide particularly in rural areas. The present study also showed that only 38.35% of the respondents considered milk teeth as important. This was contradictory to a similar study done by Nair et al., 2009⁸ where majority of respondents believed that milk teeth were important.

In the present study, 49.31% of the participants believed that regular cleaning of the teeth using toothpaste and tooth brush could prevent cavities. These findings are in contrast to another study by Haloi R et al., 2014¹⁶ However, a study conducted by Prathibha et al., 2010¹⁸ reported that only 31.7% of the participants were of the same opinion. Nearly, one fourth of the respondents believed that sweet items should be taken along with meals. However, according to another study, a higher proportion (57.2%) of participants knew about the correct time to eat sweets.²¹ According to the present study, AWW's reported tooth decay to be the most common type of dental problem. The results were similar to previous studies conducted by Bhambal A et al., 2015²² and Sequeria and Anup, 2000.¹¹ This study also indicates that most of Anganwadi Workers had knowledge

| S.NO | Questions | Responses | No of respondents (n=146) (%) | Age | | P value* | Educational qualification | | P value* |
|------|---|------------------------------|-------------------------------|--------------|--------------|----------|---------------------------|---------------------|----------|
| | | | | <35 yrs % | >35 yrs % | | Pry school % | Sec school or more% | |
| 1 | Do you know about the importance of Oral health in maintaining general health | Yes | 110 75.34% | 56 50.90% | 54 49.09% | 0.062 | 35 31.81% | 75 68.18% | <0.05 |
| | | No | 36 24.65% | 20 55.55% | 16 44.44% | | 29 80.55% | 7 19.44% | |
| 2 | Main type of diet involved in tooth decay | Sugar | 98 67.12% | 51 52.04% | 47 47.95% | 0.069 | 38 38.77% | 60 61.22% | <0.05 |
| | | Proteins | 32 21.91% | 12 37.50% | 20 62.5% | | 12 37.5% | 20 62.5% | |
| | | Fats | 16 10.95% | 13 81.25% | 3 18.75% | | 14 87.5% | 2 12.5% | |
| 3 | Foods causing of tooth decay | Sweets / Chocolates/ Toffees | 76 52.05% | 43 56.57% | 33 43.42% | 0.097 | 30 39.47% | 46 60.52% | 0.065 |
| | | Milk | 22 15.06% | 11 50% | 11 50% | | 10 45.45% | 12 54.54% | |
| | | Biscuit | 27 18.49% | 11 40.74% | 16 59.25% | | 12 44.44% | 15 55.55% | |
| | | Tea | 21 14.38% | 11 52.38% | 10 47.61% | | 12 57.14% | 9 42.85% | |
| 4 | Importance of milk teeth | Yes | 56 38.35% | 33 58.92% | 23 41.07% | 0.088 | 12 21.42% | 44 78.57% | <0.05 |
| | | No | 90 61.64% | 43 47.77% | 47 52.22% | | 52 57.77% | 38 42.22% | |
| 5 | Microorganism cause dental decay? | Yes | 63 43.15% | 35 55.55% | 28 44.44% | | 22 34.92% | 41 65.07% | <0.05 |
| | | No | 83 56.84% | 41 49.39% | 42 50.60% | | 42 50.60% | 41 49.39% | |
| 6 | Sweet items should be taken | With meals | 35 23.97% | 12 34.28% | 23 65.71% | <0.05 | 11 31.42% | 24 68.57% | <0.05 |
| | | In between meals | 50 34.24% | 38 76% | 12 24.00% | | 20 40% | 30 60% | |
| | | Don't know | 61 41.78% | 26 42.62% | 35 57.37% | | 33 54.09% | 30 49.18% | |
| 7 | Do you know effect of liquid sugar medications on teeth? | Yes | 41 28.08% | 25 60.97% | 16 39.02% | <0.05 | 15 36.58% | 26 63.41% | <0.05 |
| | | No | 105 71.91% | 51 48.57% | 54 51.42% | | 49 46.66% | 56 53.33% | |
| 8 | Importance of rinsing after taking medicines in syrup form | Yes | 55 37.67% | 28 50.90% | 27 49.09% | 0.065 | 25 45.45% | 30 54.54% | 0.075 |
| | | No | 91 62.32% | 48 52.74% | 43 47.25% | | 39 42.85% | 52 57.14% | |

*chi square-test and two-way Kruskal–Wallis test (p<0.05)

Table-1: Distribution of responses of AWW's according to knowledge on oral health

about the cause of tooth decay and most of them could detect dental decay.⁸ However, only one third of the respondents knew about the effect of liquid sugar medications on teeth and the importance of rinsing after taking medicines in syrup form. The reason might be attributed to lack of awareness and knowledge regarding the contents of liquid sugar medications and its effect on teeth.

According to 39.72% of the respondents, there were no dental care facilities available in their area. Majority of the AWW's reported that they would refer the patient to a general hospital in case of dental emergency while only one fourth of AWW's

would refer the patient to a dentist. Thus, there is a need of creating awareness and to integrate oral healthcare in the present primary healthcare activities, through training of community level workers like AWW's to identify and promote oral healthcare practices, in areas where there are lack of facilities, health related infrastructure and manpower. AWW's can play an important role in imparting oral health education to the children and their parents and facilitate early intervention.⁸

According to the present study, 55.47% of the participants, advised patients to go regular dental visits. Study conducted by Haloi R et al. 2014,¹⁶ revealed that 31.9% of the workers

| S. No | Questions | Responses | No of respondents (n=146) (%) | Age | | Educational qualification | |
|-------|--|---|-------------------------------|--------------|--------------|---------------------------|---------------------|
| | | | | <35 yrs % | >35 yrs % | Pry school % | Sec school or more% |
| 9 | How will you detect tooth decay? | Tiny black spot | 42 28.76% | 26 61.90% | 16 38.09% | 20 47.61% | 22 52.38% |
| | | Tooth pain | 60 41.09% | 30 50% | 30 50% | 25 41.66% | 35 58.33% |
| | | Large hole | 34 23.28% | 14 41.17% | 20 58.82% | 14 41.17% | 20 58.82% |
| | | Swelling | 10 6.84% | 6 60% | 4 40% | 5 50% | 5 50% |
| 10 | If tooth decay is not treated in time? | Decay deepens with pain | 57 39.04% | 27 47.36% | 30 52.63% | 27 47.36% | 30 52.63% |
| | | Results in swelling | 36 24.65% | 20 55.55% | 16 44.44% | 16 44.44% | 20 55.55% |
| | | loss of tooth/ teeth | 53 36.3% | 29 54.71% | 24 45.28% | 21 39.62% | 32 60.37% |
| 11 | Most common type of dental problem you come across | Tooth decay | 88 60.27% | 45 51.13% | 43 48.86% | 41 46.59% | 47 53.40% |
| | | Bleeding gums | 44 30.13% | 20 45.45% | 24 54.54% | 15 34.09% | 29 65.90% |
| | | Deposits | 14 9.58% | 11 78.57% | 3 21.42% | 8 57.14% | 6 42.85% |
| 12 | Vigorous tooth brushing leads to | Gum problems | 44 30.13% | 21 47.72% | 23 52.27% | 20 45.45% | 24 54.54% |
| | | Abrasion | 22 15.06% | 10 45.45% | 12 54.54% | 10 45.45% | 12 54.54% |
| | | sensitivity | 18 12.32% | 10 55.55% | 8 44.44% | 9 50% | 9 50.00% |
| | | Don't know | 62 42.46% | 35 56.45% | 27 43.54% | 25 40.32% | 37 59.67% |
| 13 | Do you advise patients to go for frequent dental visits | Yes | 81 55.47% | 39 48.14% | 42 51.85% | 25 30.86% | 56 69.13% |
| | | No | 65 44.52% | 37 56.92% | 28 43.07% | 39 60.00% | 26 40.00% |
| 14 | Availability of dental treatment facilities in your area? | Government Hospital | 75 51.36% | 50 66.66% | 25 33.33% | 35 46.66% | 40 53.33% |
| | | Private Hospital / Clinic | 8 5.47% | 4 50% | 4 50.00% | 4 50.00% | 4 50.00% |
| | | unregistered practioners | 5 3.42% | 3 60% | 2 40.00% | 3 60.00% | 2 40.00% |
| | | None | 58 39.72% | 19 32.75% | 39 67.24% | 22 37.93% | 36 62.06% |
| 15 | What cleaning method can prevent the onset of dental cavities? | Tooth brush and tooth paste | 72 49.31% | 31 43.05% | 41 56.94% | 22 30.55% | 50 69.44% |
| | | Miswak | 49 33.56% | 26 53.06% | 23 46.93% | 36 73.46% | 13 26.53% |
| | | Rinsing with water | 7 4.79% | 3 42.85% | 4 57.14% | 4 57.14% | 3 42.85% |
| | | Saline gargles | 18 12.32% | 16 88.88% | 2 11.11% | 2 11.11% | 16 88.88% |
| 16 | In case of dental emergency how would you manage a patient | Prescribing medication | 31 21.23% | 13 41.93% | 18 58.06% | 14 45.16% | 17 54.83% |
| | | Referring the patient to a general hospital | 78 53.42% | 40 51.28% | 38 48.71% | 41 52.56% | 37 47.43% |
| | | Referring the patient to a dentist | 37 25.34% | 23 62.16% | 14 37.83% | 9 24.32% | 28 75.67% |

Table-2: Distribution of responses of AWW's according to practices on oral health

themselves had never visited a dentist while only 39.6% had gone for dental consultation whenever they had dental problems. This figure was found to be much higher in the study conducted by Pankaj et al., 2005.¹⁷

CONCLUSION

The study concluded that oral health knowledge, attitude and practice of Anganwadi workers of Kupwara district were moderate. There is an immense need of in service training of the Anganwadi Workers regarding oral health awareness and incorporating Oral health related curriculum in their training programme and by acquiring necessary skills to make decisions and can play an efficient and significant role in health promotion and disease prevention.

An Anganwadi worker could become an important link in bridging the gap between the rural community and health care delivery systems and help in developing healthy oral habits and preventing caries as the children visiting AWC. The findings of the study suggest that it is important to adopt the strategy of early intervention to minimize the burden of oral related diseases. This study was conducted on a very small population, the results of which cannot be extrapolated the general anganwadi population. Studies involving a larger sample size are warranted in order to yield a much more sensitive result.

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Source of Support: Nil; **Conflict of Interest:** None

Submitted: 31-01-2017; **Published online:** 11-03-2017