

A CROSS SECTIONAL STUDY OF THE KNOWLEDGE AND AWARENESS OF KOHL APPLICATION IN CHILDREN'S EYES AMONG ANGANWADI WORKERS

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ABSTRACT

Background: Eye problems in children are a significant public health concern in India, and the application of kohl, a traditional practice, has been linked to a variety of eye problems. Anganwadi personnel require knowledge and awareness about kohl application and children's eye health, which can be a catalyst for change in rural areas. Aim: This study intended to determine the current level of knowledge and awareness among Anganwadi personnel regarding kohl application and associated ocular problems in children. Methodology: The authorities in the fields of ophthalmology and public health have endorsed and validated the survey questionnaire. Knowledge and consciousness Each Anganwadi worker are given a questionnaire pertaining to the use of Kohl in children's eyes. Anganwadi employees are requested to complete the questionnaires. Face-to-face data collection with respondents has been implemented. Data were gathered and the gathered information was input into a Microsoft Excel database. Using Statistical Package for the Social Sciences (SPSS version 25.0), the necessary data analysis was performed. Results: All respondents (100%) specified that Kohl is administered to children from infancy to the age of six. It has been determined that the majority of respondents (70.8%) are unaware of the effect of applying Kohl to children's eyes, and that the majority of respondents (56.2%) are unaware of the problems that arise after applying Kohl. Nearly 90% of them mentioned that children who attend Anganwadi wear Kohl. According to 80% of respondents, children who arrive to Anganwadi with kohl in their eyes exhibit symptoms of eye diseases such as inflamed eyes, moist eyes, stinging eyes, etc. Conclusion: The findings plainly demonstrate a lack of knowledge and cognizance regarding the effects of kohl application on children's eyes.

Key words: Awareness Knowledge Kohl Children Anganwadi workers

Introduction

Kohl, in its different forms, is a commonly used cosmetic across all socioeconomic groups, age groups, and genders in India. The eye cosmetics' use causes contamination in tear film, reduced stability of tear film, and several ocular discomforts (1). Studies have shown that the use of eye cosmetics affects the lipid layer of the tear film as increases the debris on it, which ultimately can cause blockage in meibomian gland (2). Kohl use in children can cause ocular complications. Its use in children also prompts external eye infections (3). Kohl application leads to asymptomatic lead poisoning in children (4). There is need to strictly stop the use of Kohl.

Anganwadi workers are persons or women who are selected for ensuring antenatal and postnatal care specifically for pregnant women; they work as nursing mothers, and they care for newborn

children and timely recognize and identify the patient needing urgent care. Anganwadi workers are from the local community; they work for women, children, and girls as they provide them with nutritional and health-related education and facilities for the better care of children, girls, and women (5). That's why they seem to be working like social change agents. Anganwadi workers also help in identifying children with eye and health problems. Working with Anganwadi workers as key informants helps in early treatment of the problem and disease, and this practice has been found to be cost-effective, reliable, and affordable. As in India, the prevalence of childhood blindness is five times higher than in the developed world. In every minute, a child goes blind. Most childhood blindness is preventable or treatable. Anganwadi workers' role is important for the betterment of society. For spreading awareness in rural areas, there is a positive impact of educating the Anganwadi workers (6). Concerning the eye health of children, proper awareness needs to be provided, especially about the side effects of kohl. The awareness and knowledge level about ocular health in this part of the country is also not reported as of now.

Methodology

After getting permission from different government authorities, 274 Anganwadi workers participated in the study. It is a cross-sectional, qualitative, and descriptive study done on the Anganwadi workers to assess their knowledge and awareness about Kohl's application in children's eyes. The Institutional ethical committee of the parent organization approved the study proposal. An informed written consent was obtained from each participant, and the description of the study was clearly explained to them. The target group covered for this research study is the registered Anganwadi workers of Amnour and Dighwara blocks from Saran district of Bihar.

The study questionnaire was prepared considering the research objectives. The questionnaire consisted of three sections: general and demographic questions; knowledge about kohl application in children; and awareness about kohl application in children. A systemic process was followed while developing and administering the questionnaire. Proper care and diligence were given while framing the questions. The questionnaire's reliability was checked by applying Cronbach's alpha test. The reliability analysis indicated a value greater than 0.80, which is a 'good level' of reliability.

This study was done by following the different stages:

Stage 1: The catchment areas were identified, and identification of government offices has been done to get permission from the heads of community volunteers.

Stage 2: A proposal or request note has been forwarded as an application for permission to conduct the research.

Stage 3: After getting permission, a detailed review of the literature was done.

Stage 4: A survey questionnaire has been developed and validated by the experts.

Stage 5: Discussions with the participants and data collection were done through the questionnaire. The collected data was entered into the MS Excel database by the researcher. Using the software Statistical Package for Social Science (SPSS), the required data analysis was carried out.

Results

Table 1. Demographic details

Demographic Characteristics		No. Of Respondents (%)	Total (%)
Block	Amnour	169(61.7%)	274(100%)
	Dighwara	105(38.3%)	
Education	Up to Primary School	121(44.2%)	274(100%)
	Higher than Primary School	153(55.8%)	
Gender	Female	274(100%)	274(100%)
Religion	Hindu	262(95.6%)	274(100%)
	Muslims	12(4.4%)	
Community	General Caste	74(27%)	274(100%)
	Backward class	100(36.5%)	
	Most Backward class	100(36.5%)	

A total of 274 Anganwadi workers from Amnour and Dighwara blocks participated in the study (Table 1). Approximately 46% of the respondents' education was up to primary school. Hinduism is predominant, with 95.6% of respondents, followed by Muslims with 4.4%. The community spread shows that the respondents from the general caste category are 27%, the backward caste category is 36.5%, and the most backward caste category is 36.5%.

Table 2: Knowledge of anganwadi workers

Details	Frequency	%
Can a child become blind due to an eye disease?		
Yes	77	28.1%
No	66	24.1%
No idea	131	47.8%
Do you know that it is necessary to check the eyes of children regularly?		
Yes	49	17.9%
No	131	47.8%
No idea	94	34.3%
Do you think children needs to apply Kajal?		
Yes	143	52.2%
No	28	10.2%
No idea	103	37.6%
At what age do children start applying Kajal?		
0 to 6 years	274	100.0%
Above 6 years	0	0
Where does the Kajal applied in the eyes of children come from in your area?		

From the Market	14	5.1%
Made in house	264	96.4%
Do you think parents of children are aware of the side effects of applying Kajal?		
Yes	8	2.9%
No	205	74.8%
No idea	61	22.3%
Do you know that applying Kajal in the eyes of children also harms their health and can cause problems like anemia, abdominal pain etc.?		
Yes	8	2.9%
No	222	81.0%
No idea	44	16.1%

Nearly 28% of the Anganwadi workers have the idea that a child can become blind due to an eye disease, and only a few of them (approximately 18%) are aware of the necessity of regular eye checkups for children. More than half of the respondents (52%) think that children need to apply kajal to their eyes. All the respondents have mentioned that kajal is being applied to children from birth to six years old. The majority of the respondents (approximately 96%) mentioned that the home-made kajal has been used for children in their area. Nearly 75% of the Anganwadi workers have stated that the parents are not aware of the side effects of applying kajal to children. The majority of the respondents (81%) are not aware that applying kajal to the eyes of the children would harm their health as well.

Figure 1: Kajal Application on Children, it shows that about 95% of respondents have mentioned that Kajal is being applied to children in their locations.

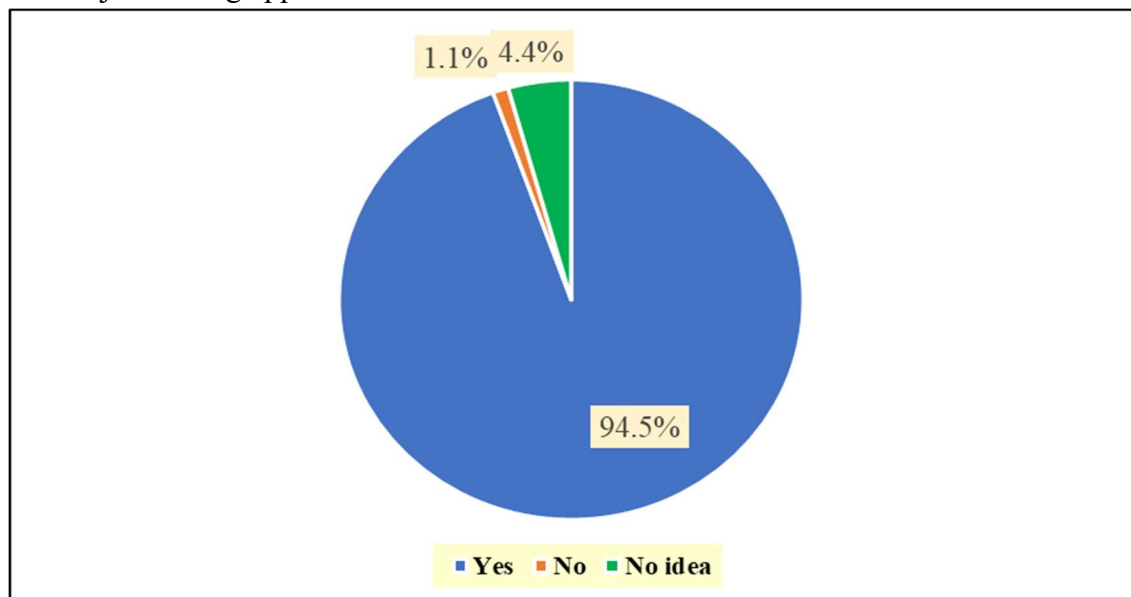
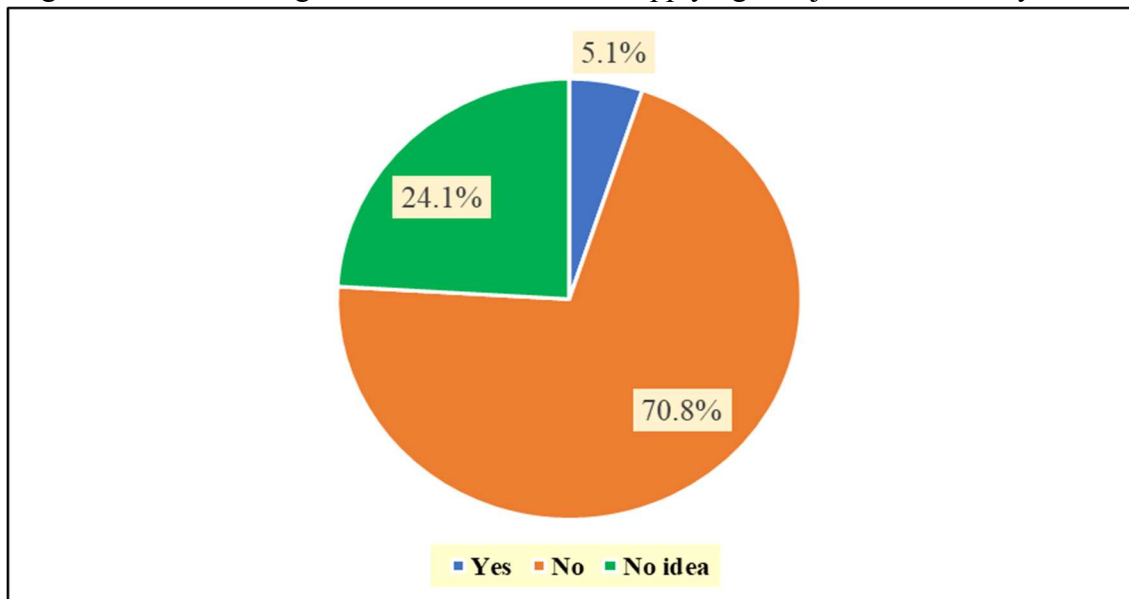
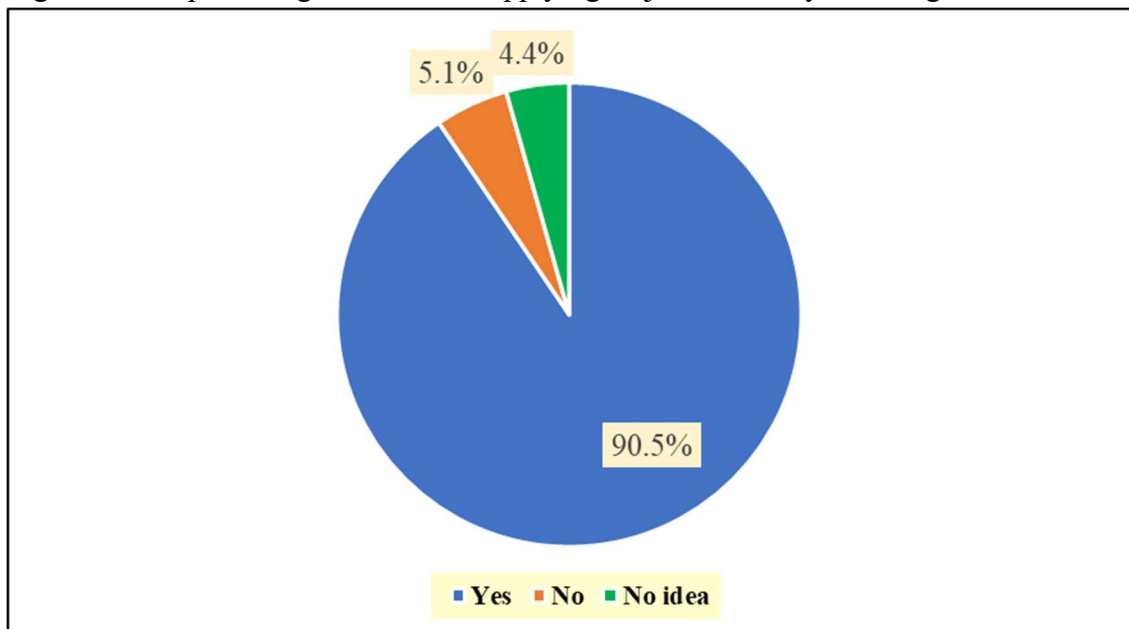


Figure 2: Knowledge of the effect of Applying Kajal on the Eyes of Children



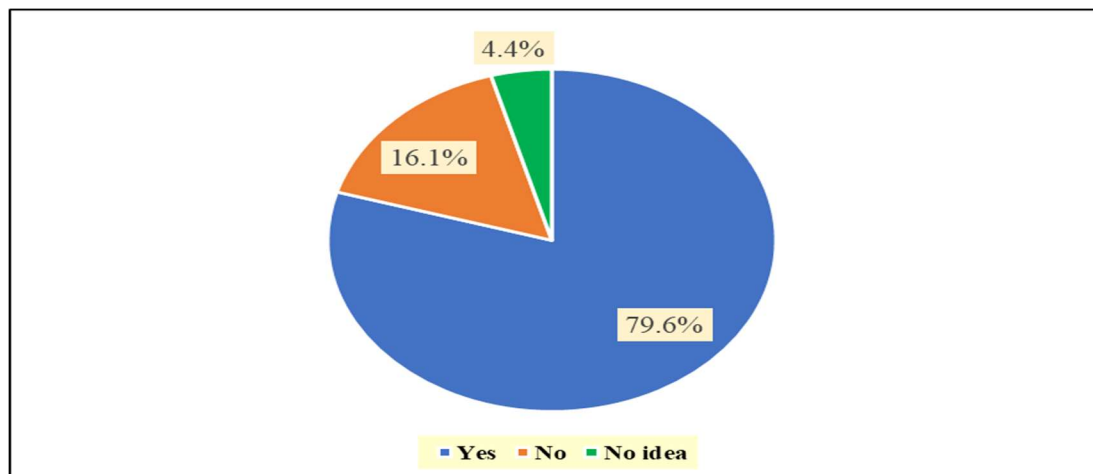
As shown in figure 2, it has been learned that the majority (70.8%) of the respondents are not aware of the effect of applying kajal on the eyes of children. Only 24% of them are aware of the effect, while 5% have stated they have no idea about it.

Figure 3: The percentage of Children applying Kajal in their Eyes at Anganwadi



Respondents were further asked if the children who come to Anganwadi wear kajal in their eyes. Nearly 90% of them mentioned that the children wear kajal while coming to Anganwadi. Only some have mentioned that the children don't wear kajal. The details are given in figure 3.

Figure 4: Children having symptoms of Eye diseases due to Kajal application in their Eyes



Closer to 80% of the respondents have stated that the children who come to Anganwadi wearing kajal in their eyes get symptoms of eye diseases like redness in the eyes, watery eyes, itching in the eyes, etc. However, 16% have disagreed with it as per figure 4.

Discussion

The main purpose of this study was to determine the existing level of knowledge and awareness about kajal application in children's eyes and about its related effects among Anganwadi workers in Amnour and Dighwara blocks. Most of the participants have mentioned that kajal is being applied to children's eyes in their areas after birth, which is home-made only. Unfortunately, most of the respondents (70.8%) were not aware of the various eye disorders and various health problems in children that occur due to kajal application. It has been observed that the majority (82.1%) did not have awareness about regular eye checkups needs in children. It has been observed that the children do visit Anganwadi centers with kajal applied to their eyes and with various ocular problems due to kajal application, and it has also been seen that the comprehensive knowledge and awareness of the kajal application among children and its effects on the eyes and health is low among Anganwadi workers, which needs to be improved. Because this study is restricted to the application of kajal and its side effects on Anganwadi workers, it can be further expanded to the female population. In addition, training sessions need to be planned for Anganwadi workers about the kajal application in children and its effects on children's eyes and health so that Anganwadi workers can spread knowledge and awareness about kajal application in mothers because it has been observed from different studies that the Anganwadi workers can be an effective medium for spreading knowledge and awareness in the community (6). And training sessions can be planned for mothers of middle-aged children who still use kajal to create more awareness among them about the different health issues of kajal application.

Among Anganwadi workers, fairly low awareness and knowledge about kajal application in children are seen here in this study. Similarly, about children's eye health and nutritional needs for

healthy development, fairly low knowledge and awareness were found in mothers, as seen from several studies done previously (7, 8).

In a study, it was found that, despite of the training provided to Anganwadi workers about health perspectives, only 30% of Anganwadi workers are accurately focusing on the nutritional status of the child and assessing it. They were just maintaining the register and chart records. Therefore, it is necessary to make them aware of the importance of focusing on different aspects of child health (9). Knowing the Anganwadi workers' practices and attitude in different areas of children health, it has been observed that attitude, knowledge, and practice of Anganwadi workers are low in almost all health areas of children. It has also been observed from a study regarding the children's oral health that approximately 50% of the Anganwadi workers are not aware of the need and importance of cleaning a baby's mouth before the eruption of their first milk tooth. And the majority of them were also not aware of the role of fluoride in preventing caries (10). Even related to ICDS (Integrated Child Development Scheme) services, approximately 55% of Anganwadi workers are not aware, as seen from a study conducted in Sitamarhi district of Bihar (11). Despite all the studies showing low knowledge and awareness among Anganwadi workers about children's health, Anganwadi workers are working very closely with children and mothers, they need to be trained so that they can help prevent children from several health-related problems and diseases. Because in some health areas, mothers from rural areas are also active, as it has been seen from a study that mothers have good knowledge about the oral health and dental hygiene of children (12) but the mothers or primary caregivers also have to face different types of challenges in managing a child with any severe disease. A similar example has been seen in a study where the primary caregiver has to face different types of challenges while taking care of a child with autism. They had a bad effect on their psychological well-being, physical well-being, and financial balance (13). Therefore, educating Anganwadi workers and primary caregivers will help in preventing different eye problems in children, which eventually helps in preventing childhood blindness. As it is seen in several studies, many parents even don't know anything about the eye conditions of their children (14) and it has also been seen from a study that parents have a wrong perception of the causes of different eye problems in children's eyes (15). As it has been reported that the overall practices and knowledge are found low about child eye health care among parents (16), therefore, the parents need to be aware of kajal application and about the detailed care of children's eye health. Some studies also show (17, 18) that the parents of some specific region have some basic idea about different children's eye problems like refractive error, cataract, strabismus, etc. But no such specific studies related to knowledge and awareness about Kajal application in children among mothers have been found.

The current study can act like a pilot study, and for a larger population in this area, a comprehensive study about kajal application and children's eye health can be planned, a training module can be made, and a comprehensive training can be planned and provided to different health care workers who work with children and mothers. And also to the mothers for enhancing their knowledge and awareness about kajal application in children and about different aspects of children's eye health.

Conclusion

Kajal is being used traditionally by people all over the country without knowing its harmful effects on the eye and on the health of children, and children are facing various ocular discomforts and several problems due to kajal application. Because of the kajal application in children's eyes, awareness of eye health is found to be low. Therefore, it is necessary to educate the primary caregivers and also different health care workers on eye health issues when applying kajal to children so that they can spread awareness among mothers and pregnant women.

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