



Investigating The Awareness Of Kajal (Kohl) Application Among Primary Caregivers

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ABSTRACT

Background Kajal (also known as kohl) application among children is widespread in many Asian and African countries for various traditional beliefs and beautification practices. The use of kajal has various ocular and systemic effects.

Aim This study aims to understand the perceptions of Primary Care Givers on the awareness and practices of kajal application amongst children. This information will aid the planning of various intervention, training modalities and educational programs for governmental and non-governmental policies.

Methodology Quantitative primary research was followed using a validated structured questionnaire. The study was a hospital based, cross-sectional, descriptive, study. The target respondents were mothers or primary caregivers of children less than 10 years of age, visiting paediatric the out-patient department of an eye hospital in Mastichak, Bihar. Using simple random sampling, the responses were collected by the help of KAP (Knowledge, Awareness, and Practice) questionnaire. Statistical Package for the Social Sciences (SPSS version 25.0) was used for data analysis.

Result A total of 222 participants were recruited in the survey. All the respondents are found to have used kajal on their children, which was largely of the homemade variety. The majority of respondents (75.2%) stated that they used kajal in children within the last month, and around 20% of them used it on the day of the birth of their child. Most of the respondents (78.4%) had no idea about the problems that can occur due to the use of kajal in the eyes. Nearly half (43.2%) of the respondents reported having some kind of eye health issues in their children directly due to kajal application.

Conclusion The awareness of eye health problems among children related to the application of kajal on children's eyes was found to be low. People have been using kajal without knowing much about the ocular side effects that can occur. There is need to educate the general public as a whole on the eye health issues of applying kajal, especially amongst children.

Keywords: Kohl, Kajal, Knowledge, Awareness, Practices, Mothers, Primary Caregivers

Introduction

Under the global health initiative, childhood eye care was considered to be a major concern globally. Where the childhood blindness was highlighted to be a major concern, a major attention was also brought about the primary eye care and various myths and misconceptions (1). Kajal is an ancient cosmetic product widely used in the Indian subcontinent, Middle East, and African countries to darken the eyelid margins. Kohl, also referred to as "Kajal" is a type of black soot which is directly applied on the eyelid margins as a dry powder or can be created into a paste material. It can either be a homemade or a commercial product which is commonly used in all socioeconomic groups, age groups, and genders in India (2).

Using eye cosmetics may cause tear film contamination, reduced tear film stability, and severe ocular discomfort (3). It has been reported that the usage of eye cosmetics leads to an increase in the deposition of debris on the lipid layer of the tear film causing meibomian gland blockage.(4) Tear film contamination and meibomian gland blockage leading to various grades of ocular surface disorder have been reported in available studies across the globe (3,4,5,6). Kajal can cause various ocular complications like infections in the ocular surface among children (6,7). Its usage among children has various ocular and systemic effects that can lead to blindness and visual impairment, in addition to various ocular discomforts.

Kajal is commonly used among various communities in India carrying different beliefs and conceptions especially among children by parents for different reasons ranging from cosmetic purposes to being a barrier to the evil eye. Research studies show that parents have relatively low awareness and knowledge related to children's eye problems (8,9), and the mother is the primary caregiver of children; therefore, there is a need to enhance their knowledge and awareness, which can have a positive impact on children's eye health. Since India is a traditionally and culturally rich country with several faiths and beliefs. It becomes an even tougher and more tedious job to understand the level of ignorance and lack of knowledge among people regarding kajal applications among children.

Thus, this study aims to understand the perceptions of primary caregivers regarding knowledge, awareness, and practices on kajal application among children to plan various interventions, training modalities, educational programs, and governmental and non-governmental public health awareness policies.

Methods and Materials

This was a cross-sectional study conducted among primary caregivers of children in Saran district of Punjab. This study was conducted following the Declaration of Helsinki and was approved by the Institutional Review Board (IRB) and the Institutional Human Ethics Committee. Written informed consent was obtained from the study participants. The study included primary caregivers attending the paediatric outpatient department of a tertiary eye care centre in eastern India. The primary caregivers of the children aged between 1 to 10 years with a history of Kajal application were included in the study.

A questionnaire tool was administered among the primary caregivers to investigate the knowledge, awareness, and practice of kajal application among children. The questionnaire tool was developed after an intensive literature review and focus group discussion carried out among experts from the fields of optometry, ophthalmology, and hospital management. The questionnaire was translated to the local language and was approved for the language.

The questionnaire was divided into two sections. The first section comprised of the demographic information, the socio-economic background of the family, and the parent's educational background. The second section of the questionnaire consisted of the current knowledge awareness and practice patterns about kajal application in children among the primary caregivers and its effects on the eye. The participants were asked to complete the knowledge awareness and practices questionnaire and were assisted in comprehending the questionnaires in their local language. Each item of the questionnaire was assessed for internal consistency and reliability. The reliability analysis showed that the Cronbach alpha value was 0.810, a 'good level' of reliability. A detailed study flow is represented in figure 1.

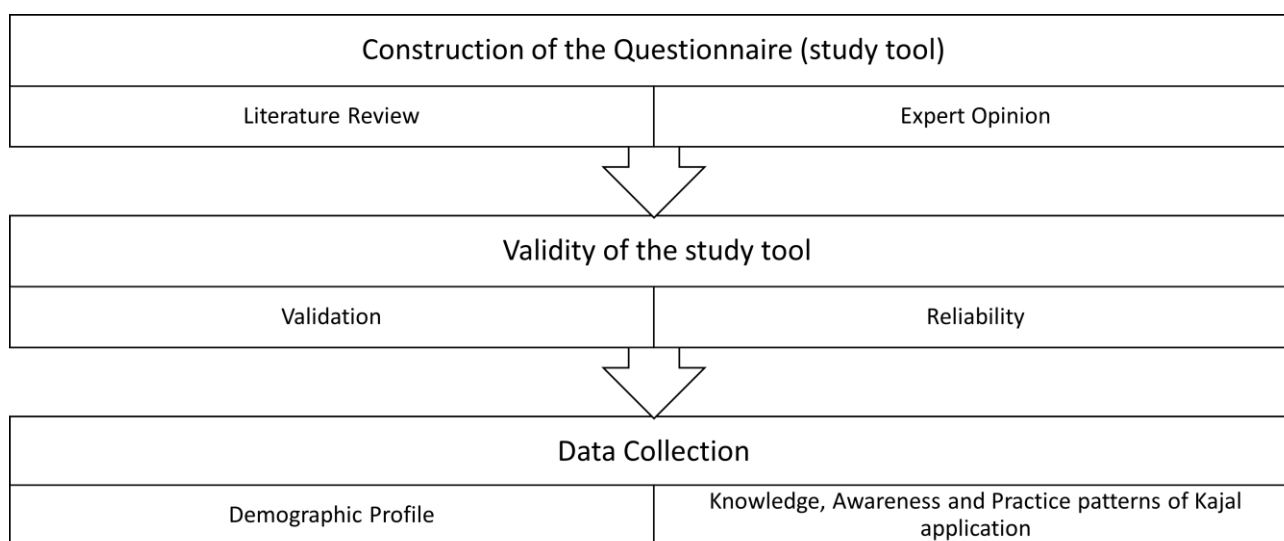


Figure1. Study Follow

The study data was analysed using Microsoft Excel and Statistical Package for the Social Sciences (SPSS version 25.0). Descriptive statistics was performed to analyse the knowledge, awareness and practice patterns among primary caregivers.

Results

Out of 287 primary caregivers visiting the paediatric outpatient department of a tertiary eye care hospital, a total of 222 (76.6%) primary care-givers met the inclusion criteria and agreed to participate in the study. The study included 120 (54.1%) females and 45.9% males. The mean \pm SD age of the primary care givers was 33.9 ± 5.0 years. The demographic profile of the study participants is presented in table 1.

| Demographic Characteristics (n=222) | | No. of Respondents (%) |
|-------------------------------------|----------------------------|------------------------|
| Gender | Male | 102 (45.9%) |
| | Female | 120 (54.1%) |
| Education | Illiterate | 62 (27.9%) |
| | Up to primary school | 124 (55.8) |
| | Higher than primary school | 36 (16.2) |
| Monthly family income (in INR) | <20,000 | 198 (89.1%) |
| | 20,001 to 75,000 | 24 (10.8%) |
| | >75,000 | 0 (0%) |
| Religion | Hindu | 199 (89.6%) |
| | Muslim | 22 (9.9%) |
| | Christian | 1 (0.50%) |
| Community | General Caste | 105 (47.3%) |
| | Backward class (BC) | 75 (33.8%) |
| | Most Backward class (MBC) | 24 (10.8%) |
| | SC/ST | 18 (8.1%) |

Table 1. Demographic profile of the primary care givers

The majority population of caregivers (75.2%) applied Kajal within one of birth. The application of handmade Kajal amongst children's eyes are applied even after 6 years of life (69.4%). The Kajal is applied among children with a believe to make eyes look bigger (41.9%), however 35.1% of the caregivers believe that Kajal protects from evil eye. Major Findings of KAP Questionnaire responses by caregivers is shown in Table 2

Table 2: KAP Questionnaire responses by the care givers

| Details | Frequency (n) | Percentage (%) |
|-------------------------------------------------------------------------------|---------------|----------------|
| 1. After how many days of birth have you applied kajal in your child's eyes? | | |
| On the day of birth | 43 | 19.4% |
| Within one month | 167 | 75.2% |
| Within six months | 12 | 5.4% |
| 2. From birth till how many years do you apply Kajal in your children's eyes? | | |
| Up to one year | 8 | 3.6% |

| | | |
|--------------------------------------------------------------------|-----|--------|
| Up to six years | 60 | 27.0% |
| Even after six years | 154 | 69.4% |
| 3. Where does the kajal that you apply to your children come from? | | |
| Home made | 222 | 100.0% |
| 4. Why do you apply kajal in your children's eyes? | | |
| To make the eyes look bigger | 93 | 41.9% |
| To protect the child from evil eye | 78 | 35.1% |
| To make the eyes look more beautiful | 51 | 23.0% |
| 5. Do your neighbours also apply kajal to their children? | | |
| Yes | 217 | 97.7% |
| No | 5 | 2.3% |
| 6. Since when you have seen children wearing kajal? | | |
| From my childhood | 211 | 95.0% |
| After growing up | 11 | 5.0% |
| 7. Did you apply Kajal even in your childhood? | 207 | 93.2% |
| 8. Do you apply Kajal on your children's body other than the eyes? | 194 | 87.4% |
| 9. If you answered yes, then where? | | |
| Apply on the head of children | 93 | 47.4% |
| On the face of children | 71 | 36.6% |
| In the palate of children | 33 | 17.0% |

In the present study, only 11.3% of the caregivers were aware about the effects of Kajal, however 10.4% were not aware and the majority 78.4% had no idea. Different eye problems were observed because of Kajal application by 43.2% of the caregivers, however 19.4% caregivers observed no problems and 37.4% individuals had no idea. Figure 3 represents the eye problems after Kajal application.

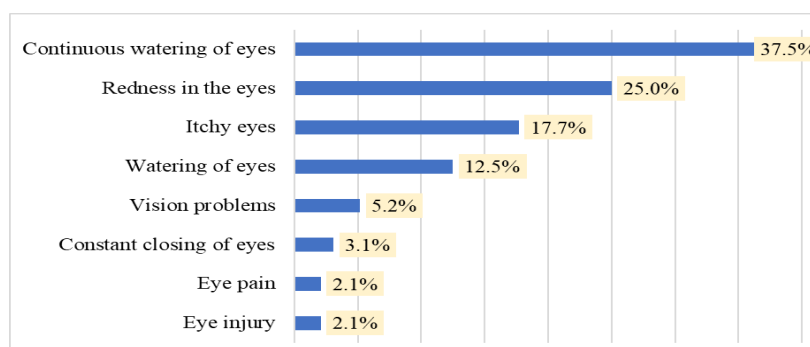


Fig. 3 Eye problems Happened to Child after Kajal Application (n=96)

The 32.3% caregivers provided no consultation on ocular problems resulting for Kajal application, however 32.2% used medicine. The data of activities after finding eye problems is represented in graph 4.

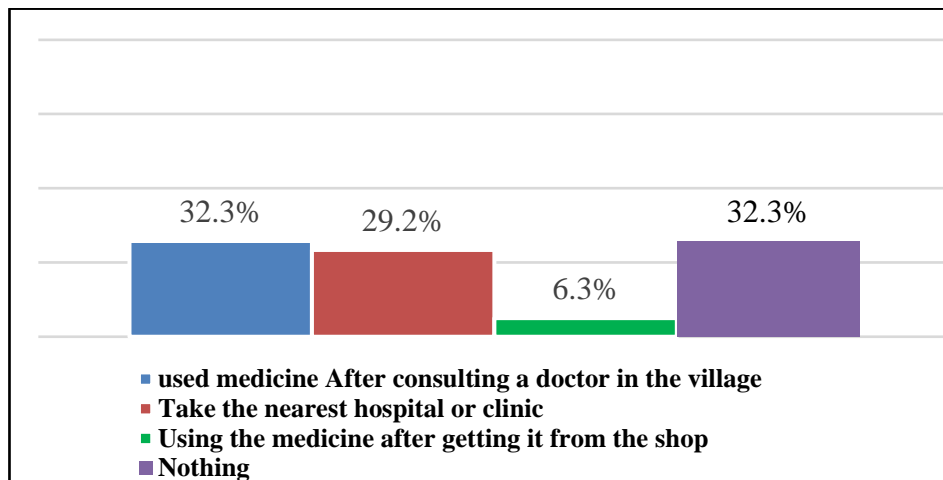


Chart 4. Activities after finding eye disease in children's eyes (n=96)

The majority of the complaints reported by the individuals post Kajal application was redness (49.5%) and watering discharge (47.7%). The details of the complaints by the caregivers are represented in Table 3.

Table 3. Complaints reported by care-givers post application of Kajal

| Complaints | No. of respondents | Percent (%) |
|-----------------------------|--------------------|-------------|
| Redness | 110 | 49.5% |
| Watering Discharge | 106 | 47.7% |
| Itching | 76 | 34.2% |
| Blurring Vision | 47 | 21.2% |
| Burning | 26 | 11.7% |
| Ocular Pain | 24 | 10.8% |
| Trauma | 6 | 2.7% |
| Headache | 3 | 1.4% |
| Others | 6 | 2.7% |
| No complaints | 8 | 3.6% |
| Total number of respondents | 222 | 100.0% |

Discussion

The main purpose of this study was to understand the existing level of knowledge, awareness, and practices about kajal application in children's eyes and its related effects among their primary caregivers. All participants were found to have used homemade kajal in their children's eyes. The main reason for use was cosmetic to either make the eyes look bigger or more beautiful. Over one-third of the caregivers used to protect the children from the evil eye.

Most respondents (93.2%) had themselves used kajal during their childhood. Even though presenting with the usage at such a large scale, the majority of respondents (78.4%) did not know about eye disorders and health problems that can occur because of the application of kajal in children's eyes. However, there was a large proportion that reported ocular problems in their children such as watery eyes, red eyes, and itchy eyes.

This study showed different eye problems that are faced by children due to the kajal application. It also highlighted the fairly low knowledge and awareness about Kajal application and children's eye health among the primary caregivers. Though the previous studies showed similar findings about the use of kajal and eye health, yet there was an evident lack of studies specifically related to the knowledge and awareness about kajal application in children (3-6,8-11).

This study also brought to light, a major lack of attitude and practices among the caregivers. They were not aware of the eye-related problems commonly observed among the children. There was also a major lack of practices on how to deal with the common eye-related issues one may face during the application of kajal. There was significant ignorance and no practice on kajal removal process and eye-cleaning. Such ill practices have been known to cause serious implications on the meibomian glands and their functions thus affecting the normal functions of the eye. The most commonly observed conditions are infections and ill practices related to dry eyes, which in the more severe forms can also lead to irreversible vision loss.

Also, this study could only include a limited population. Therefore, this study will act as a pilot study, and a comprehensive study can be planned for a longer population in this area. Training can be provided using a standard training module to enhance the knowledge and awareness about kajal application in children and about different aspects of children's eye health to primary caregivers and to health care workers who have a working relation with children or mothers.

Conclusion

The awareness of eye health problems among children because of the application of kajal on children's eyes is found to be low. People have been using kajal traditionally without knowing much about the side effects, and children are facing ocular discomfort and problems due to kajal application. There is a need to educate these primary caregivers on the eye health issues of applying kajal among children so that they can spread awareness among children, young mothers, and pregnant women.

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