

Knowledge, Attitude & Practice (KAP) & associated factors of parents/guardians on Childhood eye care, Sidama Zone, Southern Ethiopia



Medical Science

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Asressie Molla	MPH in Epidemiology, Lecturer, School of Public & Environmental Health
Berhan Meshesha	MPH in Health Education & Promotion, Lecturer, School of Public & Environmental Health
Demoze Delelegn	MD. Ophthalmologist, Asst. Professor, School of Medicine
Dr. P. Surender Reddy	BHMS, M.H.Sc in Public health, PhD in Reproductive Health & Population Studies, Associate Professor, School of Public & Environmental Health

ABSTRACT

Background: KAP Study tells what people know about certain things, how they feel and how they behave.

Objective: To assess KAP & factors related to childhood eye diseases of Dale district. Method: Cross- sectional (quantitative & qualitative) methods. Hierarchal logistic regression (quantitative), multistage sampling (quantitative) design was employed. Result: Three-fourth of the respondents diagnose childhood eye disease by other individuals than health professionals, 52.92% of them either don't know or misunderstand the mode of transmission. Nearly half & 41.0% of mothers/caregivers misperceive that the risk is higher in poorer families & can be completely cured by praying. Two-third of children either received nothing or inappropriate medication. Conclusion: There were misunderstanding, misperception, malpractice and poor health seeking behavior of mothers/caregivers about childhood eye diseases. Marital & occupational status, source & time to fetch water, presence of animals in the near vicinity and waste disposal system are reasons. Awareness creation, tailored behavior change interventions are recommended.

Introduction

Childhood blindness affects school performance, productivity of the nation. There are about 1.5 million blind children worldwide with an additional 5 million visually disabled. Among those, 90% live in the developing countries, about 1.3 million living in Asia and Africa. The main purpose of this KAP study is to explore the level of Knowledge, Attitude and Practices of the parents/guardians on childhood blindness and its management choices. This study will provide baseline information about KAP of guardians/parents on childhood blindness and helps policymakers/project implementers to see changes in knowledge, attitudes towards childhood eye care, as well as changes in the kinds of practices that are followed after implementation of the proposed project. The aim of this study is assessing the knowledge, attitude & practice of guardian/parents of Dale district (Sidama zone) of Southern Ethiopia on childhood sickness and blindness.

Objectives:

General

To assess knowledge, attitude, practice and associated factors of parents/guardians on childhood eye care, Dale district

Specific

1. To assess knowledge of Dale district parents/guardians on childhood eye care.
2. To assess attitude of Dale district parents/guardians on childhood eye care
3. To assess practice of Dale district parents/guardians on childhood eye care
4. To determine factors associated with childhood eye disease of parents/guardians of Dale district.

Methods

Study design

A cross-sectional study design involving both quantitative & qualitative techniques was conducted. The quantitative study was preceded by qualitative one for the exploration of unknown variables to measure.

Area & Period

Due to the fact that Dale district is one of the university's technology village, having both urban and rural residents and encompasses all the weather conditions of the season, the Study was conducted in Dale district of Sidama Zone, Southern Ethiopia, from October 1/2011 to March 30/2012.

Population

Source

The source population for this study was all parents/care givers with under fifteen year's old children of Dale district Kebeles, Sidama Zone.

Study

The study population for this survey was all parents/care givers in the selected kebeles of the district having under fifteen years' old children.

Inclusion & exclusion criteria

House Hold heads that have under fifteen years old children were included.

Sample size and Sampling technique

- For the quantitative design
- Sample size determination

Since this study aimed to estimate the level of knowledge, attitude and practice of the sampled population, the sample size for the quantitative study was determined by using the formula for estimating a single population proportion.

$$n = \frac{Z^2 \cdot p \cdot q}{d^2} \quad (1) \text{ Where}$$

- n is the minimum required sample size
- Z is the confidence coefficient for 95% confidence level = 1.96
- α is the level of significance (type-I error=5%)
- P is estimated proportion of the outcome variable (i.e. Knowledge, attitude or practice) = assumed to be 50% of guardians/parents are knowledgeable about childhood eye care for maximum sample size.
- D is margin of error= 4% for this study. Since this study is for immediate health intervention measure, the estimated outcome should be as precise as possible: Measure for increasing the precision of an estimate is increasing the sample size. Therefore, this is the reason why margin of error is manipulated to be 4%. By substituting all the values in the above formula for this particular study the sample size Considered was 600 parents/guardians.

$$\frac{1.96^2 \cdot 0.5(1-0.5)}{0.04^2} = 600$$

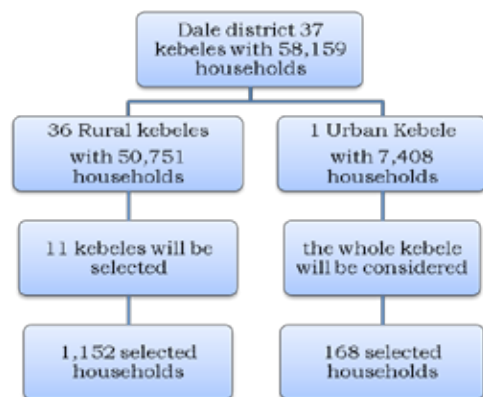
Sample size is multiplied by design effect of 2, due to the sam-

pling technique is different from simple random sampling, which yielded a sample size of 1200 and considering a 10% non-response rate (120). Hence the final sample size of this study was 1320.

Sampling techniques

It was multistage. In Dale district, there are 36 rural and one (Yirgalem town) urban kebeles. Respondents were stratified as urban and rural. 11 kebele's from rural were randomly selected with the assumption of residents of these kebeles are homogeneous in terms of knowledge, attitude and practice (fig. 1). After that, the number of households having less than 15 years old children were proportionally allocated to each kebele and households were selected systematically. Finally the parents/guardians in the selected households were interviewed.

Fig.1: Schematic presentation of sampling technique.



➤ for the qualitative design

The sample size considered was 04 Focus Group Discussions (FGDs) containing 6-8 participants' homogeneous groups (These include parents/caregivers, elementary school teachers, community leaders as participants) and 06 In-depth interviews (IDIs) which include parents/caregivers, elementary school teachers, community leaders as key informants. The minimum number of FGDs & IDIs was determined based on SATURATION of INFORMATION.

Data collection tools and techniques

- **FOR THE QUANTITATIVE DESIGN:**
- **Data Collection Tools**

Data was collected using Sidamigna and Amharic-version structured interview administered questionnaire containing socioeconomic/demographic information, treatment seeking behavior/perception and solution seeking practices of parents/guardians for childhood eye problems in the last one month preceding to the survey by 10 trained health workers. Ethical clearance was obtained from Hawassa University and participants were assured for confidentiality.

- **FOR THE QUALITATIVE DESIGN:**

Data was collected using FGD and IDI guides by 10 trained data collectors. The FGD and IDIs were audio - taped (recorded). The data was collected using guides which are translated to Sidamigna and Amharic language. An audio-tape recorder was also used throughout the data collection process for subsequent transcription of responses.

Data analysis

- **FOR THE QUANTITATIVE DESIGN:**

Data was entered in to EPI-INFO software version 3.5.2, cleaned and analyzed using SPSS version 20 statistical software. Appropriate summary statistics (means, standard deviations, proportions) were determined. Crude and adjusted odds ratios were calculated using logistic regression analysis. P-value of 0.05 was used for the cut off point for the statistical significant of predictor variables in multiple and P-value of 0.2 was used for binary logistic regression. Besides, hierarchal logistic regression was

used to control multicollinearity.

- **FOR THE QUALITATIVE DESIGN:**

+Manual analysis of the data was made after a thematic framework is developed using responses, which was transcribed, coded & compiled in logbook earlier. Pre- test of the instruments was conducted on 5% of sample.

- **Study Variables:**

- Independent variables: Socioeconomic/demographic characteristics, environmental factors like source of water, waste disposal system, latrine availability
- Dependent Variables: Knowledge, attitude, practice and childhood eye diseases

Results

Quantitative Report

The response rate was 98.86%. Of all respondents 52% were female, 85.2% married, 67.1% attended formal education, with the majority (39.3%) of housewife in occupation and 76% Christianity in religion. The mean age of respondents was 35 ± 10 years and 75% of them were below the age of 40 years. 59% had piped water source, 63.8% had animals within 20 meter distance, 48.6% had animals within home (figure2), and 59% dispose waste in open field and 69.4% without proper latrine.

Figure 2. The presence of animals inside the living room in study subjects of Dale district, 2012.



knowledge towards childhood eye diseases: 90.3% of them heard about it, 5.9% of them had different understanding about cause than the reality, 76.23% of the respondents said that eye problem can be diagnosed by other individuals than health professionals in the health institution, 52.92% of them either don't know or do understand in the wrong way of transmission from one person to the other, 75.7% of them don't know the proper solution child with eye problem and 83% of mothers/caregivers do understand that the complication of childhood eye diseases is blindness.

Concerning attitude, 88.5% of respondents believed that childhood eye diseases can be cured completely, 47.2% perceive that eye problem can be transmitted to the child if there is affected family member, one third 33.3% believe that child's eye will be sick if the child born from affected family, 96.9% believe that eye diseased child should go to health institution, 96.2% believes that eye diseased child needs follow up after start of treatment and 86.7% perceive that the complication of childhood eye problem is blindness. 48.3%, 41.0%, 83.6% of mothers/caregivers misperceive that the risk of childhood eye diseases is higher in poorer families, can be completely cured by praying, can be completely prevented by face & eye hygiene respectively.

18% of respondents had child with eye problem at the time of data collection, 35.7% of them had the same problem one month prior to the survey and 44.6% of them had the child with eye problem at some time in his life. Respondents had different perceptions about the cause of this problem thereby attempt different malpractices for the possible diagnosis and solution.

In 86.56% of eye diseased children the diagnosis was made by other individuals than the health professionals, 40.65% of the sick child with eye diseases was either received nothing or inappropriate medication for their sick eye, 23.26% of mothers/care givers attempt malpractices for the prevention of childhood eye diseases and 87.06% of mothers/caregivers was getting health information from radio or health extension workers.

Table 1: Factors that significantly associated:

Variable	Eye diseased child		Bivariate analysis P- value	Multiple logistic regression	
	No	Yes		P-value	AOR
Marital status			.001	0.036	
Married	719	382			1
Single	72	30		0.331	0.780
Widowed	28	36		0.014	2.105
Divorce	13	13		0.233	1.741
Occupation			<0.001	0.006	
Farmer	230	227			1
Merchant	148	72		0.043	0.671
Employed	90	19		0.017	0.486
Housewife	364	143		0.002	0.620
Time to fetch water			<0.001	0.002	
Inside the compound	362	80			1
Less than 30 minute	301	247		<0.001	2.082
30-59 minute	153	108		0.061	1.514
60-89 minute (1-1.5 hrs)	11	16		0.013	3.039
90-119 minute (1.5-2hrs)	2	6		0.048	5.456
2-4hrs	3	4		0.385	2.032
Animals live inside the home			<0.001	<0.001	
No they are outside	283	143			1
Yes for night only	111	51		0.131	0.685
Yes for day only	13	11		0.510	1.355
Yes for day and night	209	236		0.151	1.311
No animal	216	20		<0.001	0.332
Animals/20 meter distance			<0.001	0.003	
No	390	78			1
Yes 1-3 animals	309	254		0.031	1.628
Yes 4-6 animals	92	96		<0.001	2.562
Yes greater than seven	41	33		0.331	1.391
Dispose house waste			<0.001	0.001	
Open field	435	329			1
Covered pit	47	31		0.049	1.758
Uncovered pit	350	101		0.003	0.623

Marital, occupational status, time for bringing water, animals live with humans, presence of animals near to human residence and waste disposal site are the contributing factors with respective magnitude and direction. These variables (Table 1) indirectly tells us the child care practices in the household level with different socio-economic understanding and environmental hygiene that affects the health status of children including eye diseases.

Qualitative Report

Findings from Focus Group Discussions (FGDs)

Factors which contribute to good eye care practices, explored from FGD Sessions, include: Good Personal hygiene, undertaking Child Vaccination & Provision of Health Education

Factors which contribute to poor eye care practices, explored from most FGD Sessions, include: Poor Environmental sanitation, Lack of Health education, Poor Personal hygiene, Lack of Vaccination, presence of mal nutrition and harmful traditional practices. Preference of parents/caretakers, as to where to take children when they get eye problem, was rated as "Health Institutions", while "traditional Healers" are stated in some FGD sessions. Financial Problems & Lack of awareness about risks of eye care are the most frequently explored reasons, in many FGDs with consensus of discussants, for parents or care takers, for not taking their children to health institutions when they get eye problem.

Findings from In-Depth Interviews (IDIs)

Six key informants interviews (planned 15), were undertaken because saturation of information. The key informants were mothers, teachers & community leaders. Factors which contribute to good eye care practices, explored from most Key informants, include: good environmental sanitation, good personal hygiene & seeking medical treatment. Factors which contribute to poor eye care practices, explored from most Key informants, include: Poor Personal hygiene & Harmful traditional practices. Preference of parents/care takers, as to where to take children when they get eye problem, was rated as "Health Institutions" by key informants. Financial Problems & Lack of awareness about risks of eye care are the verified reasons, by key informants, respondents, for not taking children to health institutions for eye problem.

Discussion

The quantitative approach identified that the water source and its accessibility of the residents of the study area, though the majority have pipe water as water source, non-negligible number of mothers walks more than half to four hour to fetch water that can have an impact in the face hygiene of the family at large and children in particular thereby affecting the magnitude of eye diseases. Nearly two third of mothers/caregivers were having animals in the near vicinity and nearly half of the respondents was keeping their animals inside the living room. About 60% of the caregivers dispose their household wastes in open field. These presences of animals and open field disposal of waste creates a favorable condition for the breeding of vectors thereby provides an important media for the transmission of vector born diseased like trachoma and others. Almost 70% of the mothers/caregivers were either not having functional latrine or having uncovered pit latrine that fuels the multiplication of vector and transmission of childhood eye diseases across the community. This might be related to either lack of awareness or low socioeconomic status of individuals as evidenced by 74.5% of respondents were farmers and housewives.

More than 4/5th of respondents were not aware of the primary cause of childhood eye diseases but misperceive that other risk factors or non related things as a cause. More than half of respondents were either do not know or misunderstand the mode of transmission of childhood eye diseases and greater than 4/5th of the study subjects' belief that the complication is blindness. Most of the respondents were having positive attitude towards the curability, seeking treatment in the health institution, need for follow up after starting eye diseased treatment, the ultimate complication of childhood diseases is blindness and around half of them positively believes about the transmission of childhood eye diseases. This attitudinal change might be due to the effort of extension health workers. On the other hand, one third of the study subjects were having misperception that believes child will be diseased if born from eye diseased mother and 2/5th of them believed that childhood eye diseases can be completely cured by praying. More than 4/5th of the mothers/care givers perceive that face hygiene is the absolute method of prevention of childhood eye diseases.

More than 3/4th of the problem was diagnosed/identified by non-health professional elders or family members in their community and nearly 2/5th of the children's diseased eye did not receive properly prescribed medication from the health institution; meaning either receiving nothing or plant leaves and non prescribed medication. These are the dangerous malpractices for the complication or dissemination of eye diseases that endangers the control effort of the problem.

The odds of childhood eye diseases in divorced individuals is twice higher than married ones (OR=2.105, P-value=0.014). The reason might be due to the fact that the divorced individuals may not have enough time to take care of children because the whole responsibility of the family. The other significant factor for the childhood eye disease is occupational status of mothers/care givers. The odds of childhood eye diseases is lower in merchant, employed and housewife mothers than farmers with 32.9%, 51.4% and 38% respectively (OR=0.671, p-value=0.043,

OR=0.486, p-value=0.017, OR=0.620, p-value=0.002). This reduction of the problem in these groups might be related to the economic gain from their occupation, information share or awareness creation about the problem. The odds of childhood eye diseases is twice in less than half an hour (OR=2.082, p-value=<0.001), three times in 1-1.5 hour (OR=3.039, p-value=0.013) and five times higher in 1.5-2 hours (OR=5.456, p-value=0.048) to fetch water than the water source found inside the compound. This is true that if water is available and accessible in the households' compound, the mothers will not waste time to collect water and have time for child care or there will no need to think about the energy to be wasted for fetching water therefore, hygiene of the children will be maintained. The odds of childhood eye diseases are lower by 66.8% in the absence of animals in the household than the presence of it (OR=0.332, p-value<0.001). But there is no statistically significant difference between presence of animals inside the compound and living inside the living room. The odds of childhood eye diseases increases when the number of animals present within 20 meter distance increases by 1.6 times in 1-3 animals (OR=1.628, p-value=0.031) and 2.5 times in 4-6 animals (OR=2.562, p-value<0.001) than the odds of eye diseases in the absence of animals. Presence of animals inside the compound will serve as a breeding site for the vector thereby facilitate the transmission of childhood eye diseases from one child to the other or adult to children. The odds of childhood eye diseases is higher by 1.7 times in covered pit (OR=1.758, p-value=0.049) and lower by 37.7% in uncovered pit (OR=0.623, p-value=0.003) than disposing it in an open field. This might be due to the burning of the waste in uncovered pit will totally eliminate it from the surrounding and in the case of covered pit there could be improper disposal of waste.

The qualitative approach also explored and verified that factors which contribute to good eye care practices include: good environmental sanitation, personal hygiene & seeking medical treatment. Factors which contribute to poor eye care practices include: Poor Personal hygiene & Harmful traditional practices.

Preference of parents/caretakers, where to take children when they get eye problem, was rated as "Health Institutions" (explored in FGDs and verified by key informants. Factors for not taking the eye sick children to the health institutions, financial Problems & Lack of awareness about risks of eye care are most frequently verified reasons.

Conclusion

Study revealed that there were misunderstanding, misperception, malpractice and poor health seeking behavior of mothers/caregivers about childhood eye diseases in the study area though there were positive attitudes in some of them. Moreover, marital status, occupational status, source of water, time to fetch water, presence of animals in the near vicinity of the living house and waste disposal system of the mothers/care givers are found to be statistically significant factors with childhood eye care status.

Recommendation

- 1) Awareness creation on the cause, mode of transmission and complication of childhood eye problem should be given.
- 2) Tailored behavior change intervention on misperceptions and treatment seeking behavior for mothers/care givers should be addressed.
- 3) Further study on the contribution of waste disposal systems of the mothers/care givers on childhood eye care should be undertaken.

REFERENCE

1. WHO. Blindness: Vision 2020 - The Global Initiative for the Elimination of Avoidable Blindness. Fact sheet No. 214, reviewed February 2000. <http://www.who.int/mediacentre/factsheets/fs214/en/> | 2. The Center for Health and Health Care in Schools The George Washington University www.healthinschools.org. | 3. (VISION 2020 THE RIGHT TO SIGHT GLOBAL INITIATIVE FOR THE ELIMINATION OF AVOIDABLE BLINDNESS: ACTION PLAN 2006-2011) | 4. Are there inequities in the utilization of childhood eye-care services in relation to socio-economic status? Evidence from the ALSPAC cohort M Majeed, 1 C Williams, 2 K Northstone, 3 Y Ben-Shlomo 1)- Br J Ophthalmol 2008;92:965-969. doi:10.1136/bjo.2007.134841 | 5. National Commission on Vision and Health 1505 Prince Street, Suite 300 Alexandria, VA 22314 (800) 365-2219 X 4284. | 6. Rakhi Dandona, Lalit Dandona, Rajesh K. John, Catherine A. McCarty, & Gullapalli N. Rao. Awareness of eye diseases in an urban population in southern India Bulletin of the World Health Organization, 2001, 79 (2) | 7. Yewubnesh Hailu, Abeba Tekilegiorgis, Assegid Aga. Know-how of primary eye care among Health Extension Workers (HEWs) in southern Ethiopia. Ethiop. J. Health Dev. 2009; 23(2). | 8. Aday LA. Designing and Conducting Health Surveys: A Comprehensive Guide. 2nd ed. San Francisco: Jossey-Bass Publishers; 1996. | 9. Mulugeta B and Dereje H; Baseline community/stake holder KAP survey; Elimination of blinding trachoma project in Gamo Gofa, Konso & Derashie, March, 2000. |