



Awareness of Common Eye Conditions among the ASHA (Accredited Social Health Activist) Workers in the Rural Communities of Udupi District- A Pilot Study

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ABSTRACT

Purpose: To develop and validate the questionnaire and to translate it to the local vernacular language, Kannada. To assess the level of awareness and knowledge about common eye conditions among the ASHA workers in the rural communities of Udupi district.

Materials & Methods: A cross-sectional observational study was conducted on 32 ASHA (Accredited Social Health Care Activists) workers of age ranging from 32-48 years (SD + 3 years) from January 2019 to April 2019. This study was presented and approved by the Institutional Research Board, (Manipal College of Health Professions) and written consents were taken from the subjects. A validated questionnaire was used in this process. Beforehand this questionnaire was developed from the conclusion of a structured focus group discussion comprised of vision science experts. The phase and content validation proceeded. This validated questionnaire was used to elicit the responses from the ASHA workers of Udupi district, India. This structured questionnaire consisted of questions from refractive errors, cataract, diabetic retinopathy, glaucoma, pink eye or madras eye, common sty and retinopathy of prematurity. Responses were analysed by calculating the percentage. Having heard of the eye disease in question was defined as "awareness" and having some understanding of the eye disease was defined as "knowledge".

Results: A total of 32 ASHA workers from Udupi district were included in the study with the mean age of 40±5 years. The awareness about myopia was 100% (32), hyperopia 87.50% (28), presbyopia 28.12% (9), cataract 96.87% (31), diabetic retinopathy 100% (32), glaucoma 71.87% (23), pink eye or madras eye 71.87% (23), common sty 18.75% (6) and retinopathy of prematurity 40.62% (13).

Conclusion: The results indicate that the study population had a high level of awareness about eye diseases, but their knowledge of the diseases was still limited. Very less awareness about common sty, presbyopia, and retinopathy of prematurity. ASHA workers require a lot more awareness and knowledge about common eye diseases which can be improved by conducting health care programs and giving them training.

Key Words: Refractive errors, Diabetic retinopathy, Glaucoma, Presbyopia

INTRODUCTION

Globally one billion people are estimated to have a moderate or severe visual impairment or blindness due to unaddressed eye diseases, which could have been prevented by proper interventions¹. National Programme for control of blindness and visual impairment 2020, focused on designing awareness posters, on various eye diseases, for the benefit of the community at the rural set-up. The need for eye care services globally would increase drastically in the coming years, posing a challenge to health systems. The world report on vision pursues an action plan to address

the challenges by offering integrated people-centered eye care². In adults' refractive error is the most common eye disorder present, followed by presbyopia and allergic conjunctivitis³. The prevalence of refractive error is higher in the paediatric population of the older age group, especially for myopia⁴. High participant's acceptable knowledge score was observed in eye diseases such as diabetes, ocular trauma, and general eye diseases, but low scorings for refractive errors, paediatric eye problems, and glaucoma⁵. Lack of awareness and knowledge about common eye diseases were found in the community, which suggests enhancing awareness about various eye diseases to prevent,

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provide early treatment, and to access eye care⁶. Individuals residing in the rural region are less aware and less informed about the common eye diseases compared to the semi-urban population⁷. Association between government organization, NGOs and private organizations, would promote wider approach of awareness and effective eye care services, leading to enhancement of community outreach programs⁸.

National Rural Health Mission, appointed an Accredited Social Health Activist (ASHA) along with Anganwadi workers (AWWs) to conduct outreach health services in rural areas. ASHA workers are responsible to create awareness about health among the community and for maximum utilization of existing health services⁹. ASHA workers have high knowledge of Ante Natal Check-up (ANC), Post Natal Check-up (PNC) 82%, compared to family planning 71%, general health 67%, and child health 65%. Suggested the need to incorporating other key aspects of health for better health outcomes¹⁰.

The prevalence of eye diseases causing vision impairment and blindness is increasing day by day. Most of the vision loss is preventable with early detection of the disease and with proper interventions^{11,12}. There is a lack of awareness and knowledge about common eye diseases among the community. This barrier is depriving people in obtaining better eye care services. Health activists can play a vital role in the spread of awareness on various eye conditions of that specific region. However, foremost there is a need to assess the awareness and knowledge about eye conditions among ASHA workers. This study tries to investigate the level of awareness at the grass root level workers i.e. ASHA workers and present the importance of these personals in diagnosing a few common eye conditions at the place of their supervision.

METHODS

A cross-sectional observational study was approved by the Institutional Research Board, (Manipal College of Health Professions). A total number of 32 ASHA workers aged 32-48 years ($SD \pm 3$ years) were included in the study from all the Health care centres of Udupi district. Written consents were taken from the subjects. This study was conducted in the health care centre, Brahmavar, Udupi district for the period of 4 months from January 2019 to April 2019. Included subjects were ASHA workers in selected rural communities of Udupi district (Udyavar, Alevoor, and Kapu) and those who had attended any awareness program related to visual impairment within 12 months were included in the study. Those who are unwilling to participate in the study were excluded from the study.

A self-reporting questionnaire on different types of eye conditions have been developed by conducting focused group

discussions (FGD's) with the subject experts in vision sciences and the whole session was recorded. The verbatim transcriptions were performed and divided into themes and sub-themes. Questions were pertaining to the common eye condition were discussed and finalized. Questions were further categorized based on "awareness" and "knowledge". Having heard of the eye condition in question was defined as "awareness" and having some understanding of the eye condition was defined as "knowledge".

The questionnaire was first developed in English. This questionnaire comprises about demographic data, work experience, locality of practice, year of experience in eye care and questions pertaining to Refractive errors, Cataract, Glaucoma, Diabetic retinopathy, Pink eye or Madras eye, Common style and Retinopathy of prematurity. Phase and content validation were done.

The same questionnaire has been translated to Kannada, the local vernacular language. Again, phase and content validation performed. Finally, this questionnaire was administered to ASHA workers of selected rural communities of Udupi district. Consent was obtained by them and corresponding responses had been collected from all ASHA workers who participated in the study. Result analysis was done based on the responses which were given by 32 ASHA workers by calculating the percentage against each defined condition.

RESULTS

A total of 50 were present at the time of conducting this survey (April 2019), of which 32 were ASHA workers and the remaining 18 were Anganwadi workers. This survey was done only on ASHA workers, a total of 32 ASHA workers participated in this study (100% participation rate). The mean age of subjects was 40 ± 3.5 years.

The questionnaire was completed by all the ASHA workers and the responses were obtained on set of eye conditions such as Refractive errors, Cataract, Glaucoma, Diabetic retinopathy, Pink eye or Madras eye, Common style and Retinopathy of prematurity. Responses for each eye condition were analysed by calculating the percentage. ASHA workers were aware about the refractive error conditions (myopia, hyperopia and presbyopia), but knowledge about the condition was poor. Best management option for refractive error was rightly pointed out by majority of the ASHA workers (table 1-3). Cataract was understood based on the whitish appearance of the eye (61.29%), rather than structure-wise change in crystalline lens (table 4). Knowledge about the eye conditions such as diabetic retinopathy, glaucoma and retinopathy of prematurity was relatively good and they were aware of the most of the changes that happen in eye due to these conditions (table 5,6,9). ASHA workers had poor knowledge about the eye conditions such as sty and pink eye (table

7-8). Awareness and knowledge about all the eye diseases among ASHA workers are summarized in table 10.

DISCUSSION

In this study, we examined the awareness and knowledge about common eye diseases among thirty-two ASHA workers. The results of this study show that most of the ASHA workers were aware about ocular conditions such as Myopia (100%), Hyperopia (87.50%), Cataract (96.87%), Diabetic Retinopathy (100%) followed by Glaucoma (71.87%) and Pink eye or Madras eye (71.87%). Very minimal awareness about Presbyopia (28.12%), Retinopathy of Prematurity (40.62%) and Common sty (18.75%). However, knowledge about disease condition was more for Cataract, Diabetic Retinopathy and Glaucoma. Response about correct treatment was more about Glaucoma and Cataract followed by Myopia, Hyperopia, Presbyopia and Pink eye or Madras eye. This study was undertaken to identify information that could help in enhancing a public campaign designed to reduce the prevalence of visual impairment of the most common eye diseases.

A study was done to assess the level of awareness and knowledge of common eye diseases (Refractive Errors, Cataract, Glaucoma and Diabetic Retinopathy) among the academic staff (non-medical faculties) of Malaya University, excluding Faculty of medicine. Higher percentage of awareness about Cataract 88.2%, followed by Diabetic Retinopathy 83.5%, Refractive errors 75.3% and Glaucoma 71.5%. The study concluded the need to improve the knowledge in the society and to prevent visual impairment in elder population¹³. In another study done among urban population of Hyderabad in southern India, awareness about Cataract 69.8% and Night blindness 60% was better compared to Diabetic Retinopathy 27% and Glaucoma 2.3% and exhibited poor knowledge level about all common eye conditions. Study participants greater than age of 30 were more aware about common eye diseases but except Night blindness. The study suggested that Indian population are less aware about eye diseases, because of poor health education, which leads to visual impairment and blindness¹⁴.

In this study, 71.87% were aware about Glaucoma and had 100% knowledge level about disease description and treatment for Glaucoma. A large number of individuals were enrolled for the survey, to know the awareness, knowledge and practice: A survey of glaucoma in North Indian rural population. Out of 4927 individuals, a total of 409 participants were aware about glaucoma and 93 participants were having knowledge about glaucoma. There is a lack of awareness about glaucoma in rural areas of North India and there is a huge need to spread the awareness about glaucoma to prevent blindness¹⁵.

The present study considered ASHA workers who are majorly connected to community and public health sectors. All enrolled ASHA workers belonged to one area under Udupi district and their previous work experience in eyecare was not noted, which could have altered the outcomes. The responses were all self-reported and it can be influenced by recall bias. However, inaccuracies are unavoidable when self-report measures become part of the study design. In future study, all these parameters can be taken into consideration and awareness program can be conducted, following which a questionnaire can be given to assess awareness and knowledge level with maximum number of ASHA workers involved.

CONCLUSION

Our findings show that the study population had a high level of awareness about all the common eye diseases, but their knowledge about these diseases were limited. ASHA workers are the first point of contact at the community setup, with regards to health care. They screen the patients for any health issue and refer them to health centers, which is a crucial step in preventing avoidable blindness and visual impairment. Hence it is essential for the ASHA workers to be aware of common eye conditions, disease course and management options.

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CONFLICT OF INTEREST

The authors declare that they have no potential conflict of interest in relation to the study in this paper.

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AUTHORS' CONTRIBUTION

Prabhu A has contributed to the intellectual input, concept, design, data collection, result analysis, interpretation of the data and manuscript writing. Jathanna JS has contributed to the Intellectual input, Concept, design, result analysis, interpretation of the data and manuscript writing. Naik Phas

contributed to the Intellectual input, Concept, design, data collection, result analysis, interpretation of the data and manuscript writing. Reddy RB has contributed to the data collection and manuscript writing. All authors read and approved the final manuscript.

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Table 1: Knowledge responses for Myopia (n=32)

Responses	Number	%
What is meant by Myopia or Short-sightedness?		
Difficulty to see near	18	56.25%
Difficulty to see far	11	34.37%
Difficulty to see both far and near	2	6.25%
Don't know	1	3.12%
Myopia or Short-sightedness is commonly seen in which age group?		
5-20 years	8	25%
20-40 years	6	18.75%
40-60 years	10	31.25%
All the above	8	25%
Which is the first line of management option?		
Surgery	2	6.25%
Spectacles / Contact lens	22	68.75%
Drops / medication	8	25%
Don't know	0	0%

Table 2: Knowledge responses for Hyperopia (n=28)

Responses	Number	%
What is meant by Hyperopia or long-sightedness?		
Difficulty to see near	9	32.14%
Difficulty to see far	14	50%
Difficulty to see both far and near	4	14.28%
Don't know	1	3.57%
Hyperopia or Long-sightedness is commonly seen in which age group?		
5-20 years	7	25.00%
20-40 years	2	7.14%
40-60 years	12	42.85%
All the above	7	25.00%
Which is the first line of management option?		
Surgery	4	14.28%
Spectacles / Contact lens	21	75%
Drops / medication	3	10.71%
Don't know	0	0.00%

Table 3: Knowledge responses for Presbyopia (n=9)

Responses	Number	%
What is presbyopia?		
Difficulty to see far	0	0%
Difficulty to see near	0	0%
Difficulty to see far and near	8	88.88%
Don't know	1	11.11%
In which age group presbyopia sets in?		
5-15 years	0	0%
15-25 years	0	0%
25-35 years	0	0%
40 and above	9	100%
Which is the first line of management option?		
Surgery	2	22.22%
Spectacles / Contact lens	7	77.77%
Drops / medication	0	0%
Don't know	0	0%

Table 4: Knowledge responses for cataract (n=31)

Responses	Number	%
What is meant by cataract?		
Opacity of the lens inside the eye	4	12.90%
Cloudiness of vision	8	25.80%
White thing in the centre of the eye	19	61.29%
Don't know	0	0%
Age-related cataract sets in?		
Below 25 years	1	3.22%
25-35 years	0	0%
35-45 years	5	16.12%
Above 45 years	25	80.64%
Best treatment option for cataract?		
Surgery	29	93.54%
Drugs	1	3.22%
Spectacles	1	3.22%
Don't know	0	0%

Table 5: Knowledge responses for diabetic retinopathy (n=32)

Responses	Number	%
What is meant by diabetic retinopathy?		
Damage to retinal blood vessels	28	87.50%
Having a dark or empty spot in the center of your vision	1	3.12%
Difficulty to see at night	0	0%
Don't know	3	9.37%
What are the treatment options available?		
Drugs	12	37.50%
Eye laser	3	9.37%
Diet control	9	28.12%
All the above	8	25%
Diabetic retinopathy is commonly seen in which age group?		
10-30 years	4	12.50%
30-50 years	14	43.75%
50 and above	9	28.12%
All the above	5	15.62%

Table 6: Knowledge responses for glaucoma (n=23)

Responses	Number	%
What is meant by glaucoma?		
Increased pressure in the eyes	8	34.78%
Decreased side vision	13	56.20%
Tunnel vision	0	0%
All the above	2	8.69%
How glaucoma can be treated?		
Surgery	11	47.82%
Laser	3	13.04%
Drops	7	30.43%
All the above	2	8.69%
Glaucoma is commonly seen in which age group?		
10-30 years	2	8.69%
30-50 years	9	39.13%
50 and above	8	34.78%

Table 7: Knowledge responses for common sty (n=6)

Response	No.	%
What is meant by common sty?		
Inflammation in eyelid	1	16.66%
Inflammation of entire eye	0	0%
Inflammation inside the eye	0	0%
Blood clot on the eyelid	5	83.33%
How common sty can be treated?		
Warm compressions over the eye	2	33.33%
Surgery	2	33.33%
Drops	2	33.33%
No treatment is available	0	0%

Table 8: Knowledge responses for pink eye or madras eye (n=23)

Response	Number	%
What is meant by pink eye?		
Inflammation of the white part of the eye	7	30.43%
Inflammation of black part of the eye	1	4.34%
Inflammation of entire eye	13	56.52%
Inflammation inside the eye	2	8.69%

Which is the first treatment option for pink eye?

By wearing protective goggles	7	30.43%
Drops	16	69.56%
Surgery	0	0%
Don't know	0	0%
All the above	4	17.39%

Table 9: Knowledge responses for retinopathy of prematurity (n=13)

Responses	Numbers	%
When it is considered as premature birth?		
Less than 20 weeks	2	15.38%
Less than 32 weeks	8	61.53%
Less than 40 weeks	3	23.07%
Less than 25 weeks	0	0%
What is meant by Retinopathy of prematurity?		
Blindness	2	15.38%
Abnormal growth of blood vessels on the retina	3	23.07%
Lack of growth in the eye	4	30.76%
Infection to the eye	4	30.76%
Best treatment option for Retinopathy of prematurity?		
Drug therapy	2	15.38%
Laser treatment	2	15.38%
Surgery	5	38.46%
Don't know	4	30.76%

Table 10: Awareness and knowledge responses for eye diseases in the study population

Eye disease	Awareness of eye disease	Reasonable description of eye disease	Reasonable treatment of eye disease
Myopia	32/32 (100%)	11/32 (34.37%)	22/32 (68.75%)
Hyperopia	28/32 (87.50%)	9/28 (32.14%)	21/28 (75.00%)
Presbyopia	9/32 (28.12%)	0/9 (0%)	7/9 (77.77%)
Cataract	31/32 (96.87%)	31/31 (100%)	29/31 (93.54%)
Diabetic Retinopathy	32/32 (100%)	28/32 (87.5%)	15/32 (46.87%)
Glaucoma	23/32 (71.87%)	23/23 (100%)	23/23 (100%)
Pink eye/ Madras eye	23/32 (71.87%)	7/23 (30.43%)	16/23 (69.56%)
Common stye	6/32 (18.75%)	1/6 (16.66%)	2/6 (33.33%)
Retinopathy of prematurity	13/32 (40.62%)	9/13 (69.23%)	2/13 (15.38%)