

A Cross-Sectional Study To Assess The Knowledge Regarding Cataract Among The Adults Aged 40 Years and Above Attending Different OPDs in Tertiary Care Centre of North East India

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Abstract

Cataract occurs when the lens loses its transparency thereby scattering or absorbing light that visual acuity is compromised. Worldwide, Cataract is the most common cause of blindness and visual impairment. It may occur at any age and babies may be born with congenital cataract. Cataract can also be caused by eye injury. Cause of cataracts is not known. Data from epidemiological and case-control studies have suggested various risk factors, among them, sunlight, diabetes, diarrhoea, smoking and alcohol. Opacities of the lens are one of the most common causes of blindness today. Data given by the World Health Organisation reveal that more than 40 million people are blind, half of which are blinded by cataract. In the western world the incidence of cataract in adults older than 50 years is 15% the incidence in the developing countries is far higher and in India, reaches

40%. Therefore, identification and early treatment of cataract is crucial.¹

A cross-sectional study was conducted to assess the knowledge regarding cataract among adults aged 40 years and above attending different OPDs in tertiary care centre of North East India in August 2025. A structured knowledge-based questionnaires was used to collect data from 180 participants attending different OPDs who were selected using consecutive, sampling technique. Analysis was done using descriptive and inferential statistics (chi-square).

Out of 180 participants majority of them, 110(61.1%) had average knowledge regarding cataract, 26(14.4%) had poor knowledge and 44(24.4%) had good knowledge. From the study, it is found that there is no association of knowledge of the participants regarding cataract with age, gender, occupation, education, religion,

except there is a significant association of knowledge with their place of residence.

Keywords: Knowledge, cataract, signs and symptoms, prevention, complication

Introduction

Background of the Study

Cataract occurs when the lens loses its transparency thereby scattering or absorbing light that visual acuity is compromised. Worldwide, Cataract is the most common cause of blindness and visual impairment. It is also a major cause of blindness in the world. It may occur at any age and babies may be born with congenital cataract. Cataract can also be caused by eye injury. Cause of cataracts is not known. Data from epidemiological and case-control studies have suggested various risk factors, among them, sunlight, diabetes, diarrhoea, smoking and alcohol. Opacities of the lens are one of the most common causes of blindness today. Data given by the World Health Organisation reveal that more than 40 million people are blind, half of which are blinded by cataract. In the western world the incidence of cataract in adults older than 50 years is 15% the incidence in the developing countries is far higher and in India, reaches 40%. Therefore, identification and early treatment of cataract is crucial.¹

Need of the study

To the best of our knowledge, there has been little or no attention paid to assessment of knowledge on cataract in Meghalaya. Therefore, we are interested in exploring this new field of study. Our study may provide a framework for understanding the level of knowledge and will be the first hand data which can be used for further studies and intervention.

Cataract account for blindness in 17 million people worldwide. The World Health Organization estimated in 1982 that cataracts accounted for 17 million cases of

blindness out of a total of 42 million blind people worldwide. These estimates are based on a definition of blindness as visual acuity of less than 3/60.¹

Operational definitions

Assessment: Assessment refers to the evaluation and estimation of the knowledge among adults aged 40 years and above on cataract.

Knowledge: Knowledge means what adults aged 40 years and above know about cataract and its risk factors, signs and symptoms, prevention and complication.

Cataract: Cataract is the clouding or opacification of the eyes normally clear lens, leading to specific, measurable visual impairments like blurred vision, faded colours, glare, and night blindness.

Objectives of the study

Primary Objectives:

To assess the knowledge of adults regarding cataract aged 40 years and above attending different OPDs in tertiary care centre of North East, India.’’

Secondary Objectives:

To find out the association between the level of knowledge regarding cataract with their selected demographic variables among adults aged 40 years and above attending different OPDs in tertiary care centre of North East, India.

Research Methodology

Research design

A research design is the framework or guide used for planning, implementation and analysis of a study. It is a systematic plan of what is to be done how it will be done, and how the research will be carried out and the methods that will be used.

A non-experimental cross-sectional study design was adopted to assess the knowledge of adults regarding cataract aged 40 years and above attending different OPDs in tertiary care centre of North East, India.

Variables in the study

Variables are anything that has quantity and quality that varies. Variables are qualities, properties, or characteristics of person, things, or situations that change or vary.

In this study, the independent variables are age, gender, religion, educational qualifications, residence and occupation.

Study settings

The study setting is the location in which the research is conducted- it could be natural, partially controlled or highly controlled. The present study was conducted in different OPDs of NEIGRIHMS. The selected OPDs for the study was Neurology, Cardiology, Dental, Dermatology, General Medicine. The criteria for selecting this study setting were based upon the availability of study participants, feasibility of conducting the study, convenience of access for the researchers and approval from the various personnel of concerns.

Ethical considerations

In our study, permission was obtained from:

- Thesis Review and Monitoring Committee NEIGRIHMS
- Institutional Ethics Committee (IEC)
- Principal, College of Nursing, NEIGRIHMS
- Medical Superintendent, NEIGRIHMS
- Informed Consent from Participants

Study population

Population is the entire set of individuals or objects having some common characteristic(s) selected for research study, sometimes referred to as the universe of the research study.

In this study, the population comprises of adults aged 40 years and above attending different OPDs in tertiary care centre of North East, India.

Sampling design

Sample is a part or subset of population selected to participate in research study.

In the present study, samples include 180 adults attending different OPDs in tertiary care centre of North East, India.

Sampling technique

Sampling is the process of selecting sample from the target population to represent the entire population. In this study, sampling technique was consecutive sampling technique.

Sample size

Sample size is the number of subjects, events, behaviour or situations that examines the study.

The calculated sample size is 165 approximately so we rounded it to 180 to minimize error

Criteria for sample selection

Inclusion criteria:

- All the adults aged 40 years and above attending different OPDs in tertiary care centre of North East, India.
- Adults who are willing to take part in the study.

Exclusion criteria:

- Adults who are already diagnosed with cataract

Development of data tool

Tools are procedures or instruments used by the researcher to collect data. The research tool was prepared on the basis of the objectives of the study.

The following steps were adopted prior to the development of the tool:

- Extensive review of literature from books, research journals, online resources, books related to the research subjects
- Suggestions from experts
- Personal experience of the investigators, discussion with the colleagues.

Description of data collection tools and technique:

The tool used for the study consists of the following:

Section 1: Questionnaire to collect the socio-demographic data of participants like Age, Gender, Educational status, Occupation, Residence, Religion. (6 Questions were included)

Section 2: It includes questionnaire to assess the knowledge of adults regarding cataract aged 40 years and above attending different OPDs in tertiary care centre of North East, India. The section consists of 19 questions; correct response was scored 1 (one) point and wrong response was scored 0 (zero).

Scoring:

Scoring was done for the knowledge questionnaire. Each question was scored 1(one) point if answered correctly and 0(zero) if answered wrongly.

Knowledge score was categorized into three categories:

Good knowledge (15-19)

Average knowledge: (10-14)

Poor knowledge: (0-9)

Analysis, Interpretation and Discussion

Analysis and interpretation of the study

This chapter presents the analysis and interpretation of the data collected to assess the knowledge regarding cataract among adults aged 40 years and above. Analysis and interpretation are based on the data collected from 180 adults aged 40 years and above by using structured knowledge-based questionnaires. The collected data is tabulated in a master sheet as enclosed in the appendix. It is also analysis and interpreted using descriptive and inferential statistics on the basis of objectives.

Organization of findings

The data was analyzed, interpreted and presented under the following headings

Section I: Demographic profile of the study participants

Section II: Level of knowledge of the participants regarding cataract.

Section III: Association between cataract and selected demographic variables of the participant.

Section I

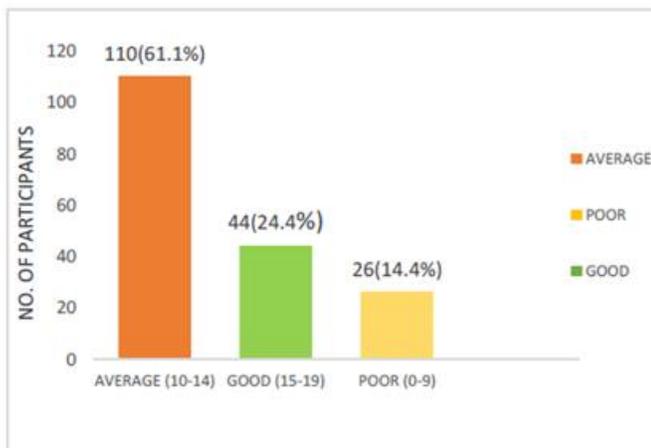
Table 1: Frequency and percentage distribution of participants according to their socio demographic characteristics n=180

Variables	Frequency (f)	Percentage (%)
<u>Age (in years)</u>		
40-49	67	37.2
50-59	62	34.4
60 >	51	28.3
<u>Gender</u>		
Male	104	57.7
Female	76	42.2
<u>Educational qualification</u>		
Primary	44	24.4
Secondary	75	41.6
Graduate	61	33.9
<u>Occupation</u>		
Homemaker	39	21.6
Business	38	21.1
Others	103	57.2
<u>Resident</u>		
Rural	100	55.5
urban	80	44.4
<u>Religion</u>		
Hindu	61	33.8
Islam	40	22.2
Christian	73	40.5
Others	6	3.4

Table 1 shows that 104(57.7%) of the participants are male, while 76(42.2%) are female. In terms of age, 67(37.2%) are 40- 49 years, 62(34.4%) are 50-59 years, 51(28.3%) are above 60 years. Regarding educational qualification, 44(24.4%) holds a primary degree, 75(41.6%) holds a secondary degree while 61(33.9%) holds a graduate degree. In terms of occupation,39(21.6%) are homemakers, 38(21.1%) are in business and 103(57.2%) falls under others category. In terms of residence, 100(55.5%) lives in rural areas and 80(44.4%) are from urban areas. In terms of religion, 61(33.8%) participants are Hindus, 73(40.5%) are Christians, 40(22.2%) are Islam and 6(3.4%) are others.

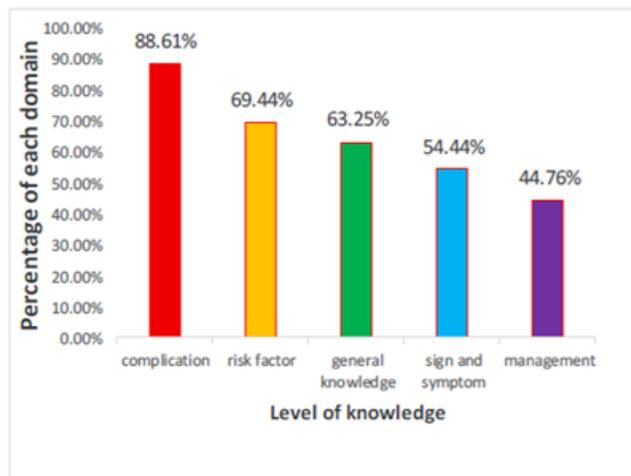
Section II

Figure 1: Bar diagram showing the percentage distribution of knowledge regarding cataract. n=180



Data represented in fig.1 shows that the knowledge score of the participants aged 40 years and above in which majority of the participants 110(61.1%) had average knowledge regarding cataract, 26(14.4%) had poor knowledge and 44(24.4%) had good knowledge.

Figure 2: Knowledge of participants on each domain of cataract. n=180



Data represented in fig. 2 reveals that the level of knowledge of the participants regarding complication is 88.61%, risk factors is 69.44%, general knowledge on cataract is 63.25 %, signs and symptoms is 54.44%, and management is 44.76 %.

Section III

Table 2: Association between knowledge of participants regarding cataract with demographic variable n=180

DEMOGRAPHIC VARIABLES	GOOD KNOWLEDGE		AVERAGE KNOWLEDGE		POOR KNOWLEDGE		TABULATED VALUE	D F	CALCULATED VALUE
	(f)	(%)	(f)	(%)	(f)	(%)			
Age (40-49) (50-59) (>60)	20	11.1%	36	20%	11	6.1%	9.49	4	4.3
	15	8.3%	42	23.3%	5	2.2%			
	10	5.5%	31	17.2%	10	5.5%			
Gender Female Male	18	10%	47	26.1%	11	6.1%	5.99	2	0.02
	26	14.4%	63	35%	15	8.3%			
Education Primary Secondary Graduate	10	5.5%	26	14.4%	8	4.4%	9.49	4	0.97
	20	11.1%	46	25.5%	9	5%			
	16	8.8%	36	20%	9	5%			
Occupation Business Homemaker Others	6	3.3%	26	14.4%	6	34.4%	9.49	4	3.43
	9	5%	22	12.2%	8	%			
	32	17.7%	59	32.7%	12	4.4%			
						6.6%			
Residence Rural Urban	20	11.1%	57	31.6%	23	12.7%	5.99	2	13.84*
	25	13.8%	52	28.8%	3	1.6%			
Religion Christian Hindu Islam Others	21	11.6%	47	26.1%	5	2.2%	12.49	6	9.274
	14	7.7%	36	20%	11	6.1%			
	9	5%	21	11.6%	10	5.5%			
	1	0.5%	5	2.7%	0	0%			

*Significant at tabulated value <= Chi square value

Interpretation: The above table shows that there is no association of knowledge of the participants regarding cataract with age, gender, occupation, education, religion except there is a significant association of knowledge with their place of residence.

Discussion

In the present study, we have found that out of 180 participants, majority of the participants i.e. 110 (61.1%) had average knowledge, 44 (24.4%) had good knowledge and the rest i.e. 26 (14.4%) had poor knowledge regarding cataract.

A similar study conducted by Angelin Lavanya S, Mrs. Anitha G, Eswari J (June 2024) on the assessment of knowledge regarding cataract among older adults at selected area. It was a non-experimental descriptive study. The study results showed that 65% of the older adults had inadequate knowledge, 20% of the older adults

had moderately adequate knowledge and 15% of the older adults had adequate knowledge.

Akash Kumar Pradhan, Junaid Ahmed, Salal Khan, MD Zakaria Midya (February 2022) conducted a similar study on knowledge and awareness about cataract and factors affecting cataract surgery among rural versus urban population in Eastern India. It was a cross-sectional descriptive study conducted among rural and urban population. In results it was found that 50.8% in rural and 62.2% in urban had good knowledge about cataract.

In the present study, there is no association of knowledge of the participants regarding cataract with age, gender, occupation, education, religion except there is a significant association of knowledge with their place of residence.

A similar study conducted by Yezinsh Addis Ali Maw (2019) conducted a study on knowledge about cataract and associated factors among adults in Gondar town, North West Ethiopia. It was a community based cross sectional study conducted on 836 adults aged 18 year and above. The result showed that participants with higher education had an adjusted odds ratio (AQR) of 2.86 and those with higher income had an AQR of 1.92 for good knowledge.

Conclusion

Based on the findings of the study, it can be concluded that majority of the participants 110(61.1%) had average knowledge, 26(14.4%) had poor knowledge and 44(24.4%) had good knowledge regarding cataract. The present study also reveals that there is no association of knowledge of the participants regarding cataract with age, gender, occupation, education, religion except there is a significant association of the knowledge with their place of residence. From the study, it is found that most of the participants possess a moderate understanding of

the subject, though there remains room for improvement, particularly in addressing gaps among those with poor knowledge.

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