

# Knowledge and Attitude Regarding Cataract and its Management among Diabetic Mellitus Patients

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## Abstract

**Introduction:** People with diabetes are more likely to experience major health issues like cataracts and diabetic retinopathy, and persistently high blood sugar levels can cause serious conditions that leads to vision loss in order to avoid this, it is crucial to evaluate the knowledge and attitude of diabetes mellitus patients. Prolonged high blood glucose absorption in the lens of the eye, which leads to changes in its shape, resulting in vision changes. Cataracts are still the biggest cause of blindness worldwide, and this is especially true in India.

**Objectives** 1. To assess the level of knowledge and attitude regarding cataract and its management among diabetic mellitus patients at IMS and SUM hospital 2. To find out association of level of knowledge and attitude regarding cataract and its management with selected socio-demographical variables among diabetic mellitus patients at IMS and SUM hospital.

**Methodology:** It was a quantitative study conducted among 383 subjects who visited endocrinology OPD, IMS & SUM hospital, Bhubaneswar, Odisha selected descriptive, quantitative study through purposive sampling technique. It was assumed that the margin of error is 5%. The data was collected by standardized socio demographic questionnaire, knowledge and attitude questionnaire.

**Results:** The finding shows that maximum samples between age group 51-65. This included both the male and female population of 50.7% and 49.3% respectively.. It was observed that 91.9% had a basic knowledge of cataract. 68.9% of the subjects have a positive attitude toward cataract and its management in diabetes mellitus patients. It was observed that there is no significant difference between socio demographic variables with level of knowledge. An association of attitude and socio demographic variables in the subjects put forward that there was significant difference between socio demographic variables like educational status, regular eye check-up, last eye check-up and source of information and that of attitude.

**Conclusion:** Although majority of the patients know that DM affects the eye, that leads to cataract. The importance of better control of DM and regular eye examination in the prevention of cataract should be emphasized.

**Keywords:** Diabetes mellitus, Cataract, Level of knowledge, Level of attitude, endocrinology OPD.

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## Introduction

Diabetes mellitus constitutes a major threat on health and economy worldwide. Type 2 DM (T2DM) is the most prevalent type of diabetes among adults and constitutes around 90% of all cases<sup>1</sup>. Remarkably, 70% of these individuals live in developing countries<sup>2</sup>. Diabetes is a self-managed condition; therefore, knowledge, attitudes, and practices about the condition among DM patients can influence the overall treatment outcomes and complications of the disease<sup>3</sup>. Recent studies show that compliance with complex regimens and self-care behavior of diabetic patients worsen over the long-term with lifestyle changes. Adherence to medical instructions and glycemic control are affected by several factors such as knowledge about diabetes<sup>4</sup>, self-efficacy<sup>5</sup>, and medical beliefs<sup>6</sup>. Hence, Identification of knowledge, attitudes, and practices towards glycemic control would provide better insight for the development of preventive and treatment strategies for the patients<sup>7</sup>. Patients who are knowledgeable about the DM self-care, have better long-term glycemic control<sup>8</sup>. A cataract affects more than 95 million individuals worldwide, and diabetes mellitus affects 285 million. According to the National Programme for Control of Blindness report, there are currently approximately 22 million blind eyes in India (12 million blind persons), 80.1% of whom are blind as a result of cataract<sup>1</sup>. 3.8 million people worldwide experience cataract-related blindness every year. Cataracts are still the biggest cause of blindness worldwide, and this is especially true in India. In this nation, 55% of all blindness is caused by cataracts. According to estimates, if cataract development could be postponed by 10 years, the number of cataract procedures might drop by 45%, significantly lowering costs and strain on the National Blindness Control Program. There are 47.2 million people living in Odisha overall, 4.2 million of whom have diabetes mellitus. About 3.2% of the people in Odisha live in Khordha.

The prevalence of obesity, urbanisation, ageing, sedentary lifestyles, and population growth all contribute to an increase in diabetes mellitus cases. In 2000, it was projected that 2.8% of people worldwide had diabetes; by 2030, that number is predicted to rise to 4.4%. According to projections, there will be 366

million persons with diabetes mellitus worldwide by 2030, up from 171 million in 2000. The greatest cause of blindness in the world, impacting over 18 million people, is still cataracts. Cataracts develop sooner in life and 2–5 times more frequently in diabetic individuals, hence the working population is significantly impacted by the visual loss.

Cataracts are one of the most prevalent causes of vision impairment in those who have diabetes mellitus, which is on the rise. DM, which has both a microangiopathic and a systemic chronic metabolic illness component, can cause diseases in a variety of tissues across the ocular structure<sup>9,10</sup>. One of the main factors contributing to visual impairment in diabetic people is cataract. Up to five times as probable, especially in young patients with DM, cataracts are known to develop. Diabetic cataract incidence has increased along with the prevalence of DM.

The main objective of this study is - To assess the knowledge and attitude regarding cataract and its management among diabetic mellitus patients.

## Material and Method

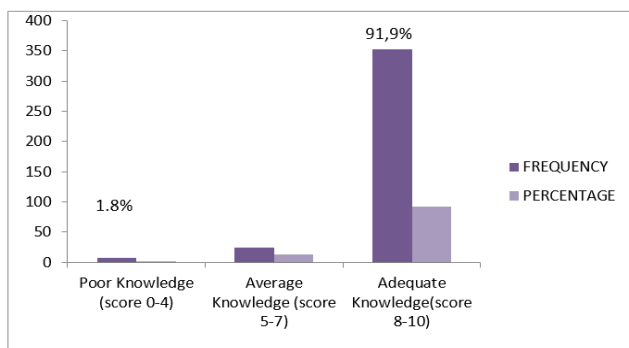
The research design chosen for this study was quantitative descriptive research design. Study population includes all the diabetes mellitus patients in khordha district. Sample size was 383 diabetic mellitus patients, who are attending endocrinology OPD at IMS and SUM hospital, Bhubaneswar. Sampling technique was purposive sampling technique. This study conducted after obtaining institutional ethical committee, the data collected from the participant those who come under inclusive and exclusive criteria and gave the informed consent for the study. The data collected by using self-structured questionnaire which consist of 3 sections. Socio - demographic variable, Knowledge questionnaire with multiple choice questions and Attitude with rating scale tool is used, which consist of 10 questions each.

## Result and Discussion

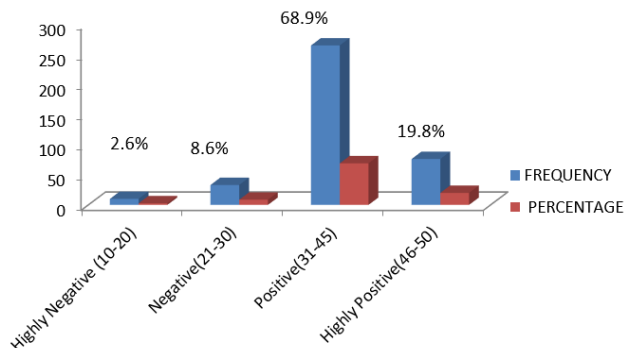
Among 383 study participants majority 55.4% of DM patients were at between age group 51-65 years and 50.7% study participants are male.

**Table 1. Descriptive demographic characteristic of DM patients participated in this study, (n=383).**

Sociodemographic Variables		Frequency	Percentage
AGE	20-35	2	0.5
	36-50	73	19.1
	51-65	212	55.4
	66-80	88	23.0
	81-95	8	2.1
GENDER	MALE	194	50.7
	FEMALE	189	49.3
EDUCATIONAL STATUS	PRIMARY SCHOOL	69	18.0
	SECONDARY SCHOOL	73	19.1
	UNDER GRADUATE	74	19.3
	POST GRADUATE	89	23.2
	ILLITERATE	78	20.4
DURATION OF DIABETES MELLITUS	LESS THAN 1 YEAR	40	10.4
	2 YEARS	61	15.9
	3 YEARS	80	20.9
	ABOVE 4 YEARS	202	52.7
OCCUPATION	CIVIL SERVANT	51	13.3
	STUDENTS/DEPENDENT	24	6.3
	BUSINESS	83	21.7
	OTHERS	225	58.7
FAMILY HISTORY OF CATARACT	YES	181	47.3
	NO	202	52.7
PREVIOUS HISTORY OF CATARACT	YES	127	33.2
	NO	256	66.8
DIAGNOSED WITH CATARACT	YES	148	38.6
	NO	235	61.4
AVAILABILITY OF NEARBY EYECLINIC	YES	256	66.8
	NO	127	33.2
REGULAR EYE CHECK-UP	YES	195	50.9
	NO	188	49.1
LAST VISIT FOR EYE CHECK-UP	LESS THAN 2 YEARS	180	47.0
	MORE THAN 2 YEARS	203	53.0
SOURCE OF INFORMATION ABOUT DIABETES MELLITUS	NEWSPAPER	136	35.5
	MASS MEDIA	47	12.3
	INTERNET	99	25.8
	OTHERS	101	26.4



**Fig 1. Summary of Knowledge score of DM patients participated in this study, (n=383).**



**Fig 2. Summary of Attitude scores of DM patients participated in this study, (n=383).**

**Table 2. The relation between socio-demographic characteristics with attitude among DM patients, (n=383). P<0.05, significance determined using two tail method.**

SL NO.	SOCIO-DEMOGRAPHIC DATA	CHI-SQUARE	Df	P VALUE	LEVEL OF SIGNIFICANCE
1.	REGULAR EYECHECK-UP	7.885	3	0.049*	Significant
2.	LAST EYE CHECKUP	11.154	3	0.011*	Significant
3.	SOURCE OF INFORMATION	21.137	3	0.012*	Significant

## Discussion

The risk of developing cataract is influenced by the patient's knowledge of the disease<sup>13</sup>. Yet, knowledge and attitude regarding cataract vary greatly depending on socioeconomic condition, regular eyecheck-up, attended diabetes clinic at least once in a year and source of information<sup>14,15</sup>. Cataracts are still the biggest cause of blindness worldwide, and this is especially true in India. In this nation, 55% of all blindness is caused by cataracts. Understanding these variables it is necessary to design prevention and management measure for cataract. The findings of the present study reassert the gaps in knowledge and attitude regarding cataract in the IMS SUM hospital. We found that 91.9% of our participants had good knowledge regarding cataract and its management, however, when it comes to attitude 68.9% of our sample participants had positive attitude. The level of DM knowledge in our study was higher than Saudi (48%)<sup>16</sup>, Jordan (66%)<sup>22</sup>; Ethiopia (62%)<sup>17</sup>, and Iran (61%)<sup>18</sup>. When it comes to attitude, the nearly half of participants, 195 (50%) had their regular eye check up and attended diabetes clinic 180 (47%) at least once in a year.

Control of obesity is important for better glycemic control and prevention of complications, such as cataract, it is evident from the present studies. Similar previous studies conducted in Malaysia, Japan, Bangladesh and also with several other studies elsewhere showing obesity has been to be a major risk factor for developing diabetic complications, such as cataract<sup>19, 20, 21</sup>. This attitude needs to be modified more to the patients by the diabetes educators or nurse educator in clinics. The present study showed a slight significant association between the level of education and knowledge with p value 0.071 which is similar to many other studies<sup>23</sup>.

The attitude of our participants was strongly associated with regular eye checkup (p=0.049), frequent attend to diabetic clinic (p=0.011) and source of information (p=0.012), less DM complications such as cataract. This is well reported in other studies<sup>12</sup>.

This study will help the government to implement the diabetic complications such as cataract educational programmes. Tailoring cataract information that have been identified in this study will be a forwarding step towards overcoming these gaps.

## Limitations

This study focused only on patients in IMS SUM hospital, so it may not be generalized to all population. In this study we used convenience sampling so that the results might be unrepresentative of the general population. However, despite these limitations, the results of this study provide a basis for further planning and in-depth research need to develop a strategic plan in cataract management and education programme of patients with DM.

## Conclusions

This study assessed the knowledge awareness attitude regarding cataract among DM patients in IMS SUM hospital. Our results demonstrates that regular eye checkup, frequent visit to diabetic clinic and previous source of information is highly associated with positive attitude and outcome of the disease. There is a need for encouraging DM patients for regular eye checkup and better education programme at PHC and the development of number of campaigns and awareness program on prevent and early diagnosis of cataract and complications of DM. Finally, we suggest that new measure to establish to increase the community for regular eye check up in diabetes patients in order to prevent eye complications. New measure to establish to increase the community for regular eye check up in diabetes patients in order to prevent eye complications.

**Ethical clearance-** Take from institutional review board committee

**Source of Funding-** self

**Conflict of Interest-** Nil

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