

Assessment of knowledge regarding cataract among Saudi adult population in Makkah city, Saudi Arabia

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Abstract

Background: Cataract is the most common age-related eye disease and the most treatable cause of visual loss in adults. It is responsible for 52.6% of blindness and 20.6% of visual impairment in southwestern region of Saudi Arabia.

Objective: To assess the knowledge of Saudi population in Makkah city about cataract.

Materials and Methods: A cross-sectional study was conducted in the city of Makkah, Saudi Arabia, between April and September 2011. It includes a representative sample of the Saudi population in Makkah city who were 40 years or older. Questionnaires consisting of items assessing the knowledge of cataract were administered to the participants. They were attending Primary Health Care Centers in Makkah city.

Results: The study included 384 persons, 81% were men and 19% women. Most of them (72.4%) did not know that cataract is an increase in the opacity of the lens and 78% did not know that cataract can lead to blindness. Majority (90.6%) of population was not aware that the incidence of cataract increases by positive family history and 76.4% that the incidence of cataract increases by age. Almost two-thirds of them (65.9%) did not know that it is treated surgically when it affects vision.

Conclusion: Saudi population in Makkah city aged 40 years or above possessed poor knowledge about cataract. Therefore, efforts should be made to increase the knowledge and awareness of the general public about the disease.

KEY WORDS: Cataract, eye disease, knowledge, Saudi Arabia

Introduction

The sense of vision is very important to every single person in this world. Vision allows the individual to do the basic things such as reading and writing. It also allows


the individuals to do other daily activities such as learning, walking, buying, and taking care of personal hygiene without help from others.

Cataract leads to low vision, which includes moderate visual impairment, severe visual impairment, and total or legal blindness.

The complete lack of form and visual light perception occurs in total blindness, which is clinically recorded as "no light perception" (NLP).^[1] A visual acuity (vision) of 20/200 (6/60) or less in the better eye with the best correction possible is called legal blindness.^[2]

There are many causes of blindness worldwide, many of which are treatable, and blindness is so prevented.

According to World Health Organization (WHO), although notable progress have occurred in surgical techniques in

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many countries during the last 10 years, cataract (47.9%) is still the leading cause of visual impairment in throughout the world, except for developed countries.^[3]

Glaucoma (12.3%), age-related macular degeneration (AMD) (8.7%), corneal opacities (5.1%), diabetic retinopathy (4.8%), childhood blindness (3.9%), trachoma (3.6%), and onchocerciasis (0.8%) are other main causes of visual impairment, as in 2002. Except for AMD, all the above-mentioned causes of visual impairment worldwide are avoidable. In the underdeveloped countries, and particularly, sub-Saharan Africa, cataract (50%), glaucoma (15%), corneal opacities (10%), trachoma (6.8%), childhood blindness (5.3%), and onchocerciasis (4%) form the primary causes of blindness, which could be avoided.^[3]

Middle-income and industrialized countries are witnessing three other eye conditions affecting the eye sight of their populations. Diabetic retinopathy tops the priority list owing to the increase of diabetes, whereas glaucoma, although known for centuries, remains to be a major public health agenda because of difficulty to diagnose early and frequent necessity of lifelong treatment. AMD, with a blindness prevalence of 8.7%, is on third rank among the global causes of visual impairment and the primary cause of visual impairment in industrialized countries.^[4]

For the people to seek timely eye care and, thereby, help in reducing the burden of visual impairment, knowledge about common eye diseases and their treatment plays a very important role.

Cataract is the increase in the opacity of the lens.^[5] It is a very common disease among the elderly population and the most treatable cause of visual loss in adults.^[6]

The prevalence of blindness in the southwestern region of Saudi Arabia is 0.7% and visual impairment is 10.9%. Cataract is responsible for 52.6% of blindness and 20.6% of visual impairment. Proper management of cataract and correction of refractive errors will cure 73.6% of blind subjects and 88.5% of visually challenged people in this region.^[7] No data exist from the western region of Kingdom of Saudi Arabia (KSA).

Visual impairment is closely associated with fair or poor health status and restricted activity.^[8] Age-related eye diseases increase the risk for accidents, falls, and hip fractures.^[9] In 1998, it was reported that 11% of older patients with reduced vision had a history of falls compared with 4.4% of older patients with normal vision.^[6]

Age-related eye diseases can hinder the ability of older adults to lead an independent life, thereby strongly influencing their lifestyle. An association exists between the loss of vision and loss of overall function.^[10-13]

Healthy People 2010, started in January 2000 by the United States Department of Health and Human Services, is a nationwide health promotion and disease prevention plan to be achieved by the year 2010.

The Healthy People 2010 vision goal is to "improve the visual health of the nation through prevention, early detection, treatment, and rehabilitation," and it includes objectives to

reduce visual impairment caused by glaucoma, cataract, and diabetic retinopathy.^[14] Well-designed community and public health programs can have a great impact on the prevention and treatment of vision problems.^[15] Unfortunately, only few communities have adequate resources to expand efforts to conditions other than diabetes-related eye diseases.^[16] It is essential that public education messages be spread regarding all eye diseases and conditions that affect older adults.

The importance of public health education is to ensure that older adults have health literacy. Health literacy is defined as "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions." The effect of less health literacy on health care is a concern among all racial/ethnic groups but is of utmost importance in populations with low literacy levels.^[17] Studies have shown that health literacy is a considerable problem among the older adult population. The prevalence of inadequate and marginal health literacy is higher among persons aged 85 years and older compared with younger persons.^[18] Public education programs and materials must address health literacy to effectively reach their target populations.

Some studies on the awareness of eye diseases in the developed countries have been performed^[19-23]; however, no such information is available for the Saudi population. Researchers assessed the level of awareness of common eye diseases including cataract in the population of Makkah in the western region of Saudi Arabia.

The researchers have not found any educatory programs in Makkah for Saudi population about cataract.

Materials and Methods

A cross-sectional study was conducted in the city of Makkah in Saudi Arabia, between April and September 2011. It includes all the Saudi population in Makkah city who are 40 years or older. According to the latest officially announced census, the Saudi population in Makkah who are 40 years or older was 805,206, and by calculating the sample size using (Roasoft) program at margin of error 5% and level of confidence 95%, 384 was the minimum recommended size for this survey. A questionnaire was structured to assess knowledge about cataract. The questions were developed by the researchers and subsequently scrutinized by a panel of experts to establish content validity. The questionnaire was pretested on a volunteer sample of 20 persons aged older than 40 years to assess questionnaire comprehension. To assess reliability of the questionnaire, 50 persons aged older than 40 years volunteered to complete the questionnaire twice within a 1-week time frame. Test-retest reliability for the knowledge section was as follows for the two trials: knowledge about cataract ($r = 0.87$) and for the best sources to get information about cataract ($r = 0.83$). Given these findings, the questionnaire was considered to be a reliable instrument. Questionnaires were distributed in the primary health-care

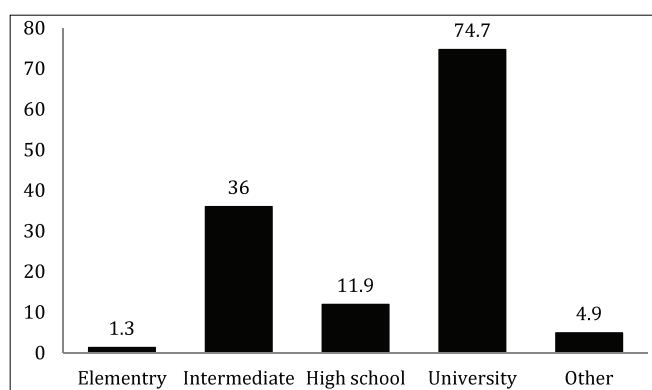


Figure 1: Level of education of the population included in the study.

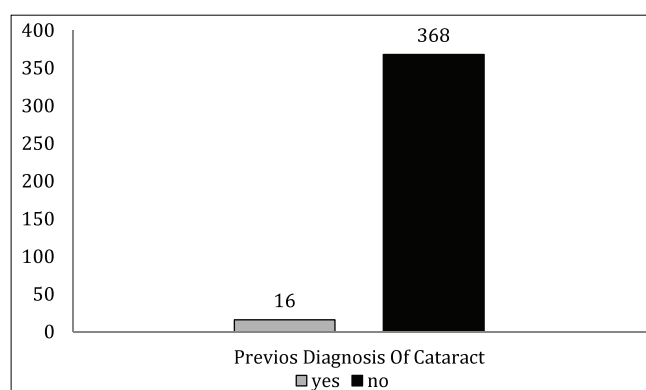


Figure 2: Frequency of previous diagnosis of cataract among the population.

Table 1: The relationship between the level of education and information about cataract

Information about cataract	P-value
Knowing that cataract is an eye disease	0.196
Knowing that cataract is an opacity of the eye lens	0.000
Knowing that cataract is a disease that might lead to blindness	0.000
Knowing that cataract has increased risk with positive family history	0.000
Knowing that cataract has increased risk with aging	0.000
Knowing that cataract is treated surgically when it affects vision	0.000
Knowing that cataract is treated surgically when the lens is mature	0.001

Table 2: The relationship between previous diagnosis of cataract and information about cataract

Information about cataract	P-value
Knowing that cataract is an eye disease	0.049
Knowing that cataract is an opacity of the eye lens	0.000
Knowing that cataract is a disease that might lead to blindness	0.000
Knowing that cataract has increased risk with positive family history	0.000
Knowing that cataract has increased risk with aging	0.000
Knowing that cataract is treated surgically when it affects vision	0.000
Knowing that cataract is treated surgically when the lens is mature	0.000

centers in Makkah, and researchers stopped collecting questionnaires as soon as 384 questionnaires were collected. Data entry and analysis were done using SPSS, version 20. Data were presented using descriptive statistics in the form of frequencies, percentages, and relationships. Statistical significance was considered at $p = 0.05$.

Results

The study included 384 participants; 81% were men and 19% women. The level of education among them is illustrated in Figure 1. Most of them (74.7%) were university educated and 4.9% had higher education. Sixteen participants (4.2%) were diagnosed to have cataract as seen in Figure 2.

There was a significant relationship between the level of education and awareness of cataract as shown in Table 1.

In addition, there was a significant relationship between previous diagnosis of cataract and awareness of cataract as shown in Table 2. However, the relationship between gender and cataract awareness was not significant.

Almost one-quarter (22.5%) of participants thought that they know information about cataract, 52% of them knew

about cataract from their friends, 50% from knowing cataract patients, and 46.4% from reading. Most of the participants (80.8%) considered cataract as a disease. Almost three-quarters of them (72.4%) did not know that cataract is an increase in the opacity of the lens; more than three-quarters (78%) did not know that cataract can lead to blindness. Majority (90.6%) of participants did not know that the incidence of cataract increases by positive family history; 76.4% did not know that the incidence of cataract increases by age; 65.9% did not know that it is treated surgically when it affects vision; and 22.1% had the idea that surgery is done when the lens is mature. Ninety-one percent of population thought that they can get more information about cataract from the media, 89.8% from educatory campaigns, and 88.1% from brochures about cataract. Majority of participants (95.4%) wanted to know more about cataract.

Discussion

With the exception of people who have been diagnosed with cataract, knowledge and awareness of cataract among Saudi population is poor, and it is significantly poorer for

less-educated population. The study found poor understanding of the definition, risk factors, signs, symptoms, and treatment of cataract.

It is clear that there is a gap between health-care providers and the Saudi population, which limits the role of public health and eye education.

Barriers between the population and health care are the health-care system, sociocultural barriers, educational barriers, environmental barriers, financial barriers, geographical barriers, and health status barriers.^[24]

It is thought that misconception of eye disease and limiting it to the “eye sight” is an important factor that decreases population desire for eye follow-up and education. Eye tests are generally not recognized as health checks, and individuals do not go (in the first instance) unless there are symptoms, which they deem serious enough to take the time to arrange and attend an eye test. The way in which referrals are managed is considered by many to be cumbersome and inefficient; optometrists having to refer to GPs, who then refer to secondary care, are considered to add an additional and unnecessary step. It is also believed that eye education is away from media and commercial focuses with the exception of television adverts for glasses, contact lenses, or laser eye treatment.^[25]

In Saudi Arabia, public health education about cataract was deficient. The only considerable efforts were from Saudi Ophthalmology Society in cooperation with King Khaled Eye Specialist Hospital.^[26] They hold special activities to increase public awareness about cataract and other common eye diseases.

It is clear that Saudi population recognizes its shortage of knowledge of cataract and need further education about it.

Conclusion

In conclusion, the Saudi population in Makkah who are 40 years or older have poor knowledge about cataract and efforts should be done to increase the knowledge and awareness of the disease. There is an urgent need for health education to increase the level of awareness and knowledge about cataract. This is particularly important in a developing country, with considerable investment in tertiary eye care. Increasing the awareness and knowledge of cataract could lead to an increase in understanding and acceptance of the importance of routine eye examination for early detection and treatment of such conditions, thereby reducing visual impairment and the cost of eye care. These data could help to develop effective health education and information programs to reduce visual impairment among the study population.

It is recommended to develop a targeted public health awareness raising campaign around eye health and the importance of attending regular site tests. The program should be developed and delivered in partnership with the community, engaging key health professionals to work with the community to promote eye health messages and provide public education about common eye diseases.

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