



## Knowledge About Various Aspects of Refractive Error in Patients

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### Abstract

**Object:** To determine the knowledge regarding refractive errors among outdoor patients.

**Methodology:** A descriptive hospital based and non-probability convenience sampling study. Total 200 patients were enrolled according to inclusion and exclusion criteria and those who gave consent. Researcher asked all the questions given in the structured questionnaire and administered the answers as given by individuals.

**Results:** The females were 59.5% and male were 40.5%, the maximum age were 51 and mostly were house wife a 34%. Refractive error was 66 about distance blur vision had 57% and they thoughts the blur vision occurs due to watching tv and mobile phones as 19%.

**Conclusion:** We observed that only a few of the patients shared a little knowledge regarding refractive errors, which reflected their poor awareness about the subject. Moreover, a majority of the participants were known of the fact that a poor knowledge of the refractive error can have a significant impact on vision and lack of knowledge may leads to the blindness.

**Keywords:** Refractive Error; Awareness; Outcomes; Sign and Symptoms; Causes and Occupation

### Introduction

The emmetropic eye is able to achieve a perfect focus. Ametropia is the global term referring to any refractive error. Refractive development is influenced by both environmental and genetic factors [1].

It is estimated that globally 153 million people over 5 years of age are visually impaired as a result of uncorrected refractive

errors, of which 8 million are blind. Some 12.8 million in the age group 5–15 years are visually impaired from uncorrected or inadequately corrected refractive errors, a global prevalence of 0.96%, with the highest prevalence reported in urban and highly developed urban areas in south-east Asia and in China [2].

### Aim and Objective

To determine the knowledge regarding refractive errors among outdoor patients at Al Ibrahim eye trust hospital.

**Rationale**

Refractive errors are one of the commonest causes of visual impairment. Therefore, knowledge about refractive errors is important for the individuals suffering due to refractive errors.

**Methodology**

- **Study Duration:** 6 months.
- **Study Settings:** Study was conducted at male and female OPD.
- **Study Design:** Descriptive Cross-sectional study.
- **Sampling Techniques:** Non probability sampling technique.
- **Sample Size:** 200.

**Inclusion criteria**

All new patients (male/female) above 15 years with or without refractive errors.

**Exclusion criteria**

- Old Patients with eye disease other than refractive errors attending the male and female
- Patients with age less than 15 years old.

**Data collection procedure**

- Interview based questionnaire was the tool for data collection.
- A written consent was obtained from all the study subjects before commencing the interview.
- Researcher asked all the questions given in the structured questionnaire and administered the answers as given by individuals.
- The researcher kept the privacy and assured the comfort of study subjects.

**Results: Socio-economic status:**

| No. | Minimum | Maximum | Mean  |
|-----|---------|---------|-------|
| 200 | 16      | 51      | 28.60 |

**Table 2:** Age distribution between minimum and maximum.

| Gender | Frequency | Percent |
|--------|-----------|---------|
| Male   | 81        | 40.5    |
| Female | 119       | 59.5    |
| Total  | 200       | 100     |

**Table 1:** Gender distribution about out of total 200 respondents, 81 (40.5%) were male and 119 (59.5%) females.

| Occupation             | Frequency | Percentage |
|------------------------|-----------|------------|
| Businessman            | 15        | 7.5%       |
| Teacher                | 13        | 6.5%       |
| Company employee       | 12        | 6.0%       |
| House wife             | 68        | 34.0%      |
| Accountants            | 4         | 2.0%       |
| Medical health workers | 4         | 2.0%       |
| Others                 | 82        | 8.0%       |
| Not doing any job      | 2         | 1.0%       |
| Student                | 58        | 29.0%      |
| Illiterate             | 08        | 4.0%       |
| Total                  | 200       | 100%       |

**Table 3:** Occupation distribution between all persons.

| Refractive error | Frequency | Percentage |
|------------------|-----------|------------|
| Yes              | 132       | 66.0       |
| No               | 68        | 34.0       |
| Total            | 200       | 100        |

**Table 4:** Distribution of patients with and without refractive error.

| Clinical features                               | Frequency | Percent |
|---|-----------|---------|
| Blurring of vision either distance or near      | 114       | 57.0    |
| Blurring of near vision                         | 13        | 6.5     |
| Blurring of distance vision                     | 21        | 10.5    |
| Condition in which rays doesn't focus on retina | 2         | 1.0     |
| Others (Evil eye, marriage, rain etc.)          | 50        | 25.0    |
| Total   | 200       | 100     |

**Table 5:** Response of the patients regarding refractive error.

| Cause                             | Frequency | Percentage |
|-----------------------------------|-----------|------------|
| Due to unhealthy diet             | 4         | 2.0%       |
| Due to weakness of brain          | 10        | 5.0%       |
| Due to age                        | 19        | 9.5%       |
| Due to focusing more on one thing | 10        | 5.0%       |

|                                      |     |       |
|--------------------------------------|-----|-------|
| Due to tension                       | 9   | 4.5%  |
| Due to watching tv and mobile phones | 39  | 19.5% |
| Others                               | 46  | 23.0% |
| I don't know                         | 63  | 31.5% |
| Total                                | 200 | 100%  |

**Table 6:** Causes of development of refractive error.

| Sign and symptoms of refractive error | Frequency | Percentage |
|---------------------------------------|-----------|------------|
| Blurring of Vision and Headache       | 105       | 52.5%      |
| Eye pain and eye strain               | 36        | 18.0%      |
| Redness and itching                   | 18        | 9.0%       |
| Vertigo                               | 10        | 5.0%       |
| Watering                              | 27        | 13.5%      |
| I don't know                          | 4         | 2.0%       |
| Total                                 | 200       | 100%       |

**Table 7:** Clinical features related to refractive error.

| Outcomes of refractive error | Frequency | Percentage |
|------------------------------|-----------|------------|
| Cause further harm           | 140       | 70.0%      |
| Patient will become blind    | 56        | 28%        |
| Cause cataract               | 2         | 1.0%       |
| Cause brain problem          | 1         | 0.5%       |
| I don't know                 | 1         | 0.5%       |
| Total                        | 200       | 100%       |

**Table 8:** Outcomes of refractive error.

| Possibilities to check refractive error | Frequency | Percentage |
|---|-----------|------------|
| Eye Doctor check this                   | 130       | 65.0%      |
| By alphabetic charts                    | 15        | 7.5%       |
| By computerized machines                | 19        | 9.5%       |
| By checking eye pressure                | 1         | .5%        |
| By eye machine and charts               | 11        | 5.5%       |
| I don't know                            | 24        | 12.0%      |
| Total                                   | 200       | 100%       |

**Table 9:** Possibilities to check refractive error.

| Comments | Frequency | Percentage |
|----------|-----------|------------|
| Yes      | 200       | 100        |
| No       | 00        | 00         |

**Table 10:** Thinking of patients about treatment prevent of refractive error.

| Does refractive error is a hereditary disease? | Frequency | Percentage |
|--|-----------|------------|
| Yes  | 79        | 39.5%      |
| No   | 83        | 41.5%      |
| May be yes/no                                  | 19        | 9.5%       |
| I don't know                                   | 19        | 9.5%       |
| Total  | 200       | 100%       |

**Table 11:** Ask a question about refractive error is a hereditary.

### Discussion

In this study we found that 66% of the respondents know about what is refractive errors which is quite similar to a study conducted in Bangladesh regarding knowledge, attitude and practice about refractive error [3].

We found that blurring and headache were the main sign and symptom reported by the respondents regarding refractive error. Thomas., *et al.* study also reported the same reason regarding sign and symptom of refractive errors [4].

Regarding cause of refractive errors, we found that the respondents reported that watching TV excessively from near can lead to refractive error. This result was similar to a study conducted in Saudi Arabia [5].

Just like the similar findings of our study, around 80% of the study individuals had sufficient awareness regarding refractive errors. Probably because of the education level of the study subjects since the researchers included all the female school teachers in their study. Study was conducted in in JSS college of nursing India [6].

Our results regarding the knowledge and awareness of the patients were quite dissimilar to a detailed study, conducted on 3280 subjects belonging to Malay race in Singapore where 503

individuals had known refractive errors, Study concluded that the lack of knowledge and awareness of refractive errors stands one of the major risk factors for under corrected refractive errors in urban Singapore [7].

Similar to our study a KAP cross-sectional survey was conducted among high school students enrolled in public schools in Nairobi, where the study subjects were comparatively younger than those in our study, researchers observed that It was observed that high school students together with having a poor attitude and knowledge regarding refractive error had a very limited access to eye health care, even those diagnosed with a refractive error had limited access to the treatment majorly because of higher cost of spectacles [8].

Another study showing unlike our study, the study subjects were much younger and comparatively more educated in a study conducted at the Aljouf University Kingdom of Saudi Arabia. Study was conducted to estimate the prevalence of refractive errors and assess the knowledge of students regarding the refractive errors where it was found that the awareness and knowledge regarding refractive errors among the studied participants was poor [9].

At least one third of our study subjects had no clue regarding the possible causes of the refractive error, dissimilar findings were observed in a study conducted in Kannada India, where 458 individuals were asked for their perception about refractive errors. Study observed certain misconceptions regarding the treatment and cure of refractive errors, moreover, prevalence of refractive errors was found to influence certain major decisions like the choice of spouses, Researchers emphasized for the counseling, mass media campaign and provision of information about refractive errors in schools and college textbooks [10].

While a study conducted in Ethiopia showed results similar to our study. 565 primary school teachers were included in the study to assess their knowledge regarding RE. Results concluded that knowledge of the teachers was significantly poor, a training of the individuals on the subject was strongly recommended [11].

### Limitations of the Study

- Study was confined to patients at AIEH only.
- Due to limited available time, we had a smaller sample size which may limit the scope of the study.

### Conclusion

- Overall findings of our study suggest that knowledge and awareness of patient related to refractive error in the OPD department of AL Ibrahim eye hospital Karachi was Good.
- We observed that only a few of the patients shared a little knowledge regarding refractive errors, which reflected their poor awareness about the subject.
- Moreover, a majority of the participants were known of the fact that a poor knowledge of the refractive error can have a significant impact on vision and lack of knowledge may leads to the blindness.
- As it was a hospital-based study, we suggest extensive studies in future with large sample size to assess and evaluate the knowledge regarding refractive errors at community level.
- Viewing the findings of our study, it's evident that there is a still need for health education and awareness programs at mass level to improve their knowledge more regarding refractive errors.

### Recommendation

- There is major role of health education everywhere, so we have to aware primary school teachers, religious scholars and other community members about the refractive error through the awareness sessions and advertisements.
- Behavioral Change Communication material for Awareness and Education has to be photographic and method of dissemination has to be audio visual in addition to print media.
- Females, illiterate and younger age groups need more attention in any campaign of knowledge and education.
- Role of optometrist in responding properly to the refractive error by creating awareness in the community regarding refractive error that its complication is very crucial.

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