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Research Article

Knowledge, Attitudes and Practices Regarding the Cataract among Adult in the Town of Parakou in 2020

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Abstract

Introduction: Cataract is the partial or total opacification of the lens with progressive visual decrease. It is the main cause of reversible non-refractive blindness in the world.

Purpose: To assess knowledges, attitudes and practices related to cataract in the adult population of the commune of Parakou in 2020.

Patients and Methods: This was a cross-sectional, descriptive and analytical study that took place in July 2020. It involved all subjects who had been permanently resident in the commune of Parakou for at least 12 months, were at least 18 years old and had signed a free and informed consent form.

Results: A total of 720 subjects had participated in the study. The mean age was 29.33 ± 12.40 years. The male sex was more represented (59.58%). The secondary level was represented with 35.14% and as concerned the occupation 35.83% were students. It emerged that 66.33% of the subjects had heard about eye diseases, among which 70.73% had heard about cataract. But only 0.14% had a good knowledge of the disease. The attitude was bad at 62.22%. It emerged that 19.3% of the subjects in our study had good cataract practices. Marital status and age were statistically related to knowledge, and socio-professional category and education level were statistically related to cataract practice.

Conclusion: The level of cataract knowledges, attitudes and practices in the commune of Parakou in northern Benin is very poor. The promotion of information, education and communication on cataract among the population must be undertaken in order to reduce the rate of reversible blindness related to this pathology.

Keywords: *Cataract; Knowledge; Attitude; Practice; Parakou*

Introduction

Vision plays an important role at all stages of life. However, there are an estimated 1.5 billion people with visual impairments worldwide [1]. According to WHO, cataracts remain the leading cause (47.9%) of reversible visual impairment in all regions of the world [2]. Cataracts are partial or total clouding of the lens which subsequently leads to progressive visual loss. However, note that blindness caused

by cataracts is reversible and this by surgical treatment. Public awareness of this condition is essential in preventing the blindness it causes. Indeed, the good knowledge, by the population, relative to the cataract is important to acquire the behavior of regular frequentation of the health services for a regular control of the sight, thus increasing the chances of identifying the cases in due time. In view of these observations, it seems important to us to know the level of knowledge as well as the attitudes and practices of the population of the city of Parakou towards cataracts. This study was initiated with the aim of evaluating knowledge, attitudes and practices relating to this pathology.

Framework and Study Methods

This was an observational, cross-sectional, descriptive and analytical study with prospective data collection which took place over a period of 1 month from July 01 to July 31, 2020. The target population of our study consisted of individuals adult men and women living in Parakou commune.

Were included in our study, subjects residing permanently in Parakou commune or for at least 12 months and aged at least of 18 years old.

The minimum sample size (N) was determined by Schwartz's formula. So, with an accuracy of 5% and using the prevalence of cataract in Sakété (in the Republic of Benin) in 2016, a minimum size of 356 subjects was obtained. This was random sampling. The sampling technique was cluster sampling. We had assigned the C = 2 cluster effect of developing countries and with the WHO default cluster number, this brought our study population size to 720 subjects.

The dependent variables of the study were: knowledges, attitudes and practices regarding cataracts. They were defined as good, average and bad after attribution of score to each individual compared to the answers given to the questions asked. Independent variables were represented by socio-demographic variables and background.

For data collection, a structured face-to-face interviewer-respondent interview took place. The data entry was made by the software Epi-data 3.1 and analyzed by the software Epi info 7.2.2.2. Microsoft Word 2013 software was used for entering of the manuscript and Excel 2013 for organizing the data in the form of tables and graphs. For associations, the significance threshold was 5%.

Results

Our sample was 720 subjects who all responded with a 100% participation rate.

Sociodemographic characteristics

Age

The mean age of our series was 29.33 ± 12.40 years with the extremes of 15 years and 82 years.

Sex

The male sex was the most represented in our study (59.58%) against 40.42% for the female sex.

Ethnic group

The Bariba and related ethnic group was the most represented with a percentage of 28.06%; followed by Fon and related 26.67% then Nago and related 19.44%, Dendi and related 18.06% and others 7.78%.

Educational level

Subjects with secondary education were more represented (35.14%).

In addition, the university, primary and out-of-school levels represented respectively 32.08%, 22.78% and 10%.

Socio-professional category

Students, artisans and traders represented 35.83%, 24.44% and 10.42% respectively.

Marital status

Single people represented 48.75% of the subjects questioned against 44.72% married.

Antecedents

Personal medical history

Of the 720 included in the study, 191 subjects (26.53%) claimed to have a medical history.

Personal surgical history

Among the 720 surveyed, 46 subjects (6.39%) had declared having already undergone at least one surgery in the past. Cesarean section (30.43%) was the most commonly mentioned surgery.

Personal history of eye disease

A total of 86 (11.94%) subjects reported having at least one eye disease. Myopia (53.49%) was the most common disease, followed by cataract (32.56%).

Knowledge

Eye disease

In our series, 492 (68.33%) of the subjects declared to have already heard about eye diseases. Myopia and cataracts were the most cited known diseases.

Meaning of cataract

In our study 346 subjects (48.06%) had already heard about cataract and 272 (78.61%) of subjects who have heard about it, defined it as "An eye disease which gives a white spot to the eyes and which causes loss of vision".

Signs of cataracts

Signs cited were decreased visual acuity (86.13%), objects appearing as if they were behind a white veil (25.43%) and eye pain (21.68%).

Risk factors and etiologies

Advanced age and a family history of cataracts were the most advanced risk factors for cataracts by those surveyed.

Inheritance (37.57%) and advanced age (35.84%) are the most cited causes of cataracts in our study.

Cataract prevention and treatment

In our series, 58.96% of the subjects surveyed think that protecting their eyes from the sun could be a means of preventing cataracts.

For 308 subjects (89.02%0 there is a treatment against cataracts. Surgical treatment was mentioned in 25%.

Blindness and cataracts

In our series, 78.19% of the subjects had heard about blindness and 379 (52.64%0 knew that cataracts could lead to blindness.

Degree of knowledges

After attribution of the scores, it emerged that 0.14% of the subjects of our study had a good knowledge about cataracts (Figure 1).

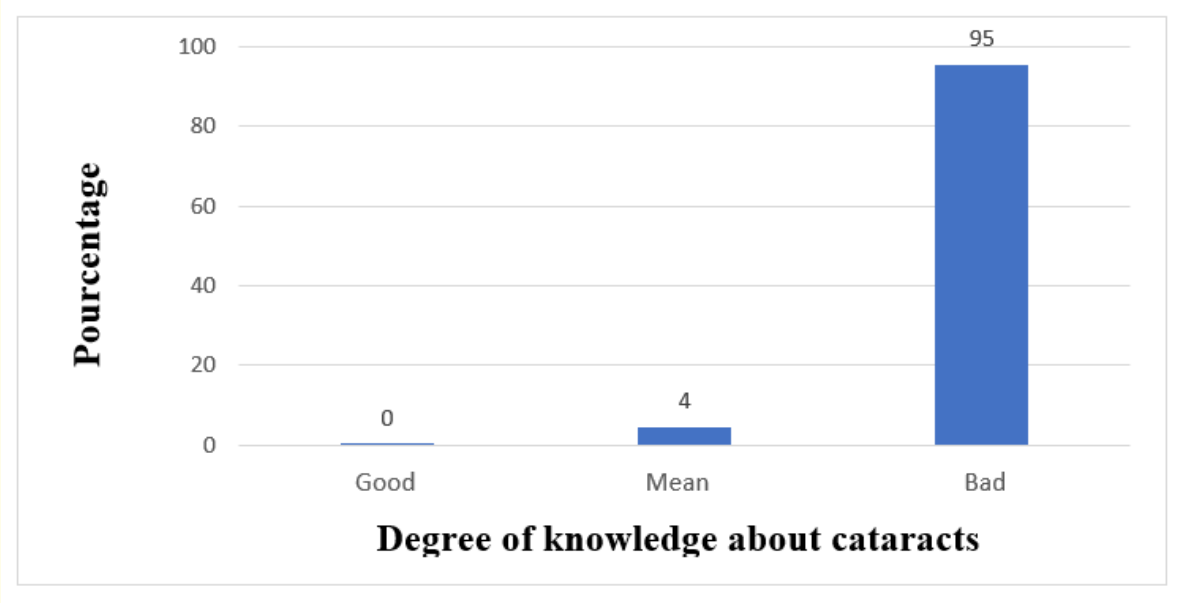

Figure 1: *Graphic representation of the degree of knowledge about cataracts (Municipality of Parakou, July 2020).*

Attitudes

To prevent cataracts, studied subjects reported wearing filter glasses 68.89% of the time.

Most of those surveyed (61.11%) said they did nothing when they noticed a decrease in their vision. On the other hand, 27.22% said they would go straight to the hospital.

Upon finding a white in the eye, 319 (44.31%) of subjects reported doing nothing and 32.08% were ready to go to see a doctor.

Degree of attitudes

It emerged that 147 (20.42%) of the subjects in our study had a good attitude towards cataracts. This is shown in figure 2.

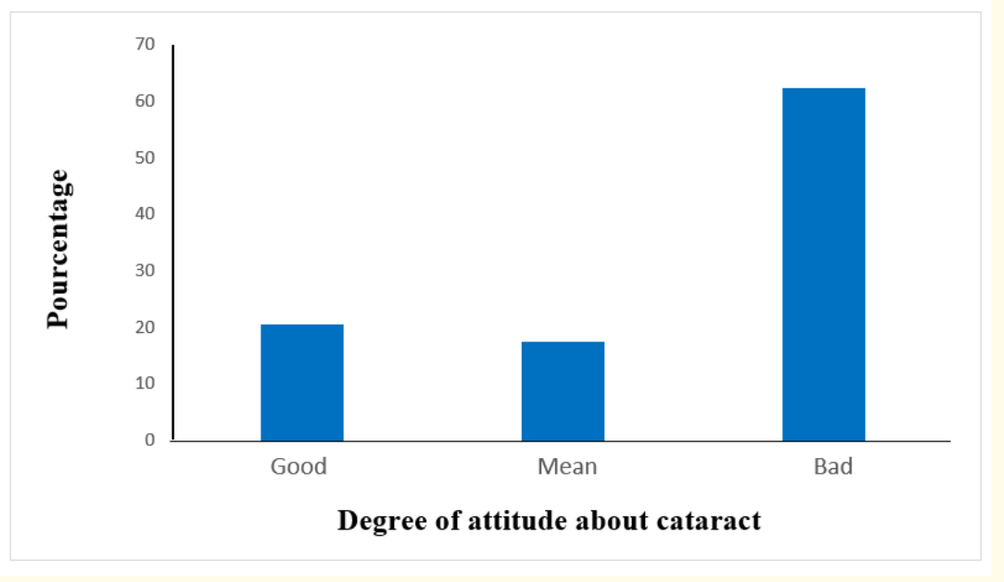

Figure 2: *Graphic representation of the degree of attitude about cataracts (Municipality of Parakou, July 2020).*

Convenient

In our study, 170 (23.61%) individuals reported making regular medical visits. For the 550 (76.38%) not making medical visits, the lack of financial means was the most mentioned reason with 54.36%. In the event of cataract, 612 (85.00%) of the subjects questioned declared to be ready to go to see the general practitioner. To treat cataracts, 561 subjects (77.92%) said they were in favor of surgery and 606 subjects (84.17%) said they were ready to recommend the surgery to a loved one suffering from cataract.

Degree of practices

After attribution of scores, it emerged that 19.03% of the subjects in our study had good cataract practice (Figure 3).

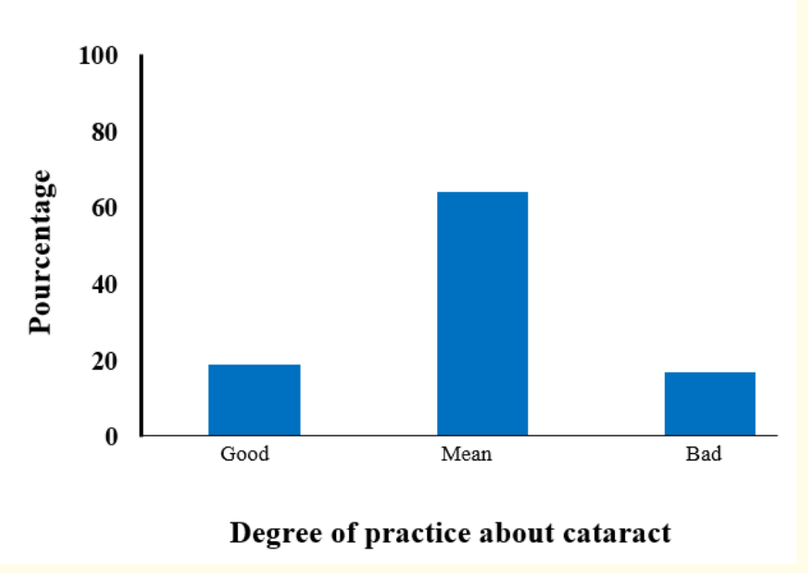

Figure 3: *Graphic representation of the degree of practice about cataracts (Municipality of Parakou, July 2020).*

Associated factors

Knowledges

Poor knowledge of cataracts was statistically significantly associated with unmarried marital status, with a P-value of 0.0366 and a prevalence ratio (PR) of 5.65. The subjects who had never heard of eye disease were the most unfamiliar with cataracts; and this difference was statistically significant with a p-value of 0.0057 and a prevalence ratio of 7.59. Poor knowledge was also associated with subjects under the age of 20 years old.

Attitudes

Only the "herdsman" modality of the socio-professional category variable was significantly associated with the poor attitudes towards cataracts.

Convenient

Poor cataract practice was significantly associated with the socio-professional category of civil servant (0.01) and student/pupil (0.5323). Being a civil servant or a student/pupil is a protective factor against bad cataract practice.

Poor practice was also statistically associated with out-of-school, primary and secondary education levels with respective p-values of 0.000; 0.000 and 0.0029.

Discussion

The mean age of our study population was 29.33 ± 12.40 years old. It is similar to that of Alimaw., *et al.* [3] in 2017 which reported an average age of 28 ± 17 years old. This resemblance can be explained by the similarity of the age groups because the age group found in their study was 18 years to 29 years old which is similar to that of our study (20 years to 40 years). On the other hand, our results differed from those of Ayena., *et al.* [4] in Togo, Magliyah., *et al.* [5] in Saudi Arabia and Aboubakar., *et al.* [6] in Mali who reported respectively an average of 37.5 ± 12.2 years old, 38 ± 13.07 years old and 46.1 ± 16.5 years old. As the most representative age group, Magliyah., *et al.* [5] and Aboubakar., *et al.* [6] found those aged 40 years old and over and 31 to 45 years old, respectively. This difference in average age could therefore be explained by the difference in age of the people taken into account in this study.

In our study, with regard to gender we found a male predominance of 59.58% which was similar to that obtained in Saudi Arabia by Abdulrahman., *et al.* [7] (76.2%), in Mali by Aboubakar., *et al.* [6] (51.5%) and in Nigeria by Onwubiko., *et al.* [8] (52.56%). On the other hand, in Togo, Vonor., *et al.* [9] reported a predominance of women with a sex ratio of 0.38. Alimaw., *et al.* [3] also in Ethiopia had mentioned in their study in 2017, that 64.8% of the subjects questioned were women. This can be explained by the fact that in most African countries, women are still predominantly housewives and the man is the only one, if not the one who is in search of resources for the family: this is why men are not many to participate in population studies. The male predominance among our study could be explained by the fact that the population in our study is predominantly Muslim (48.47%).

The majority of subjects in our study (90%), were educated. Secondary education was the most prevalent (35.14%). Similar results were observed in Nigeria by Onwubiko., *et al.* [8], who reported that 82.8% of those surveyed were educated and the majority of them had primary education. Alimaw., *et al.* [3], Akowah., *et al.* [10] and Ayena., *et al.* [4] found similar results. On the other hand, Vonor., *et al.* [9] and Aboubakar., *et al.* [6] found respectively 81.6% and 62.7% illiteracy. This could be explained by the fact that their studies took place in rural areas.

The most predominant socio-professional category was that of students (35.83%), followed by craftsmen (24.44%) and traders (10.42%). Similar results were found by Alimaw., *et al.* [3] in Ethiopia with 24.80% students. On the other hand, studies carried out in rural areas [6,8,9] found high proportions for professions such as: farmer, unemployed housewives and shopkeeper.

Single people were the most represented in our study with a proportion of 48.75% against 44.72% of married subjects. The remain were either cohabiting, divorced or widowed. Onwubiko., *et al.* [8] in Nigeria and Alimaw., *et al.* [3] in Ethiopia, on the other hand, found in their studies a predominance of married subjects of 67.6% and 46.9% respectively.

After our survey, 492 subjects surveyed (68.33%) of subjects had declared having already heard about eye diseases. Myopia was the most represented ocular pathology in a proportion of 70.73%. Cataract followed in second place with a proportion of 70.33%. The latter is called in bariba "Gbiriwonkorou"; in dendi "denateré" and in nago and related "ojuoju".

These results are similar to those observed in some studies. Alimaw., *et al.* [3] in 2017 in Ethiopia conducted a study on knowledges and associated factors relating to cataract in the adult population of the city of Gondar in which they reported that 74.70% of the subjects surveyed had already heard about eye disease and among them 67.2% have already heard of cataracts.

Ayena., *et al.* [4] in 2008 in Togo reported in a study conducted on knowledges, attitudes and practices relating to cataracts and glaucoma in the population that 80.9% of the subjects questioned had heard about eye diseases and among these 70.9%% had heard about cataracts.

We can also cite other authors who have obtained a high proportion of people who have heard about cataracts without judging their knowledges such as: Akowah., *et al.* [10] (85.6%), Vonor., *et al.* [9] (99.7%), Abdulrahman., *et al.* [7] (97.6%) and Abdulhamid., *et al.* [11] (77%).

On the other hand in China in 2002, Lau., *et al.* [12] In the Cataract, Glaucoma and Age-Related Macular Degeneration Knowledge Study, 49.96% had heard about eye diseases. And less than half of the subjects surveyed (46.41%) had heard about cataracts. This slight difference could be explained by the large study sample size of their study.

Regarding the definition of cataract, among the 346 subjects who had heard of cataract, 272 (78.61%) of the subjects had a good definition of cataract and defined it as "An eye disease which gives a white spot to the eyes and which causes loss of vision". This result is similar to that found by the study on knowledges and attitudes relating to cataracts carried out by Aboubakar., *et al.* [6] in Mali in 2017 which reported a proportion of 83.7% of people defining cataracts as "a white spot in the eye associated with a decrease in vision".

Similar results were also found in Ayena., *et al.* [4] (66.69%), Akowah., *et al.* [10] (50.93%), Abdulrahman., *et al.* [7] (79.9%) and Abdulhamid., *et al.* [11] (66.3%). On the other hand, Alimaw., *et al.* [3] reported that only 23.10% of the people questioned in their study could give a good definition of the cataract.

Speaking of factors associated with cataracts, Assavèdo., *et al.* [13] in the study "Risk factors associated with cataracts in northern Benin. In 2015 reported that the frequency of cataracts increases with age. This was known by only 39.88% of the subjects in our survey, but noted that advanced age was the most cited risk factor for cataracts. It was followed by the family history and ultraviolet irradiation cited respectively by 30.9% and 23.99% of the subjects surveyed. Other studies have also reported that age is the best-known risk factor. We could cite the studies of Akowah., *et al*. [10] in Ghana, by Abdulrahman., *et al.* [7] and Abdulhamid., *et al.* [11] in Saudi Arabia. On the other hand, the study carried out by Alimaw., *et al.* [3] found irradiation with known ultraviolet radiation as the most cited risk factor by 46.60% of the subjects who participated in the study.

The study by Assavèdo., *et al.* [13] in 2015 found that there were modifiable risk factors such as alcohol and tobacco consumption. Only 13.58% of the subjects in our study knew that alcoholism was a risk factor for cataracts while smoking was cited by 11.27% of the subjects surveyed.

When asked about the causes of cataracts, of the 346 who knew the disease, 40 people (11.56%) did not known. Heredity was the most common and well-known cause of cataract in 37.57% of subjects who had heard about cataracts. It was followed by advanced age (35.84%), drug side effects (21.68%) and eye trauma (21.68%). For 4.62% of the subjects in the study, witchcraft is also the cause of cataracts. The study carried out in 2015 by Onwubiko., *et al.* [8] in Nigeria reported that 21.2% of the subjects surveyed cited advanced age as the cause of cataracts and 31.7% believed that cataracts could be caused by witchcraft. These results thus highlight the ignorance that results from the attachment of Africans to their culture and this fact would be one of the causes of low attendance at health centers.

The symptoms cited by the respondents in our study were reduced visual acuity (86.13%), sensation of white veil (25.43%). Similar results were found in Saudi Arabia by two authors namely: Abdulrahman., *et al.* [7] (85.2%) and Abdulhamid., *et al.* [11] (82%). On the other hand, Vonor., *et al.* [9] found in 2015 in Togo only 31.5% of the subjects questioned knew that cataracts are manifested by a decrease in visual acuity. This difference could be explained by the high rate of illiteracy in the study population of Vonor., *et al.* [9] which was 81.6% compared to population of our study which was mainly represented by educated subjects (90%).

Blindness was known and well defined by 78.19% of the subjects in our study. But only 52.64% of them knew that cataracts were a serious disease that can lead to blindness. Other authors have made the same observation. Thus Aboubakar., *et al.* [6] found in their study published in 2017 that among those who were aware of the existence of cataracts in their sample, 80% had recognized that cataracts could cause blindness. Ayena., *et al.* [4] confirmed this result after their study in Togo where 94% knew that cataracts progressed to blindness in the absence of treatment.

However, in 2017 in Saudi Arabia, Abdulrahman., *et al.* [7] found in their study that 54.8% of their study population did not know that cataract was a blinding disease. Likewise, Abdulhamid., *et al.* [11] in Abha, Saudi Arabia in 2018 found that 45.3% did not know that cataracts can cause blindness.

In our study, the majority (89.02%) of those who knew cataracts knew that was a treatment for them. Among them, 48.38% said that the treatment of cataracts was medication, 25% believed that the treatment was surgical. On the other hand, 26.62% thought that the treatment of cataracts was not medical but traditional. So let's say that only 10.69% of the respondents in our survey knew the appropriate treatment for cataracts.

This had also been reported by Aboubakar., *et al.* [6] in Mali in 2017 in their study on knowledges, attitudes and practices relating to cataracts in a rural population of Mali, where among the subjects surveyed, nearly half of the population (48.9%), thought that cataract cannot be cured. Only 4.3% knew that the treatment was surgical. In addition, 43.8% evoke traditional treatment and 2.9% think that the treatment is medical.

In contrast, in China, Lau., *et al.* [12] in 2002 reported in their study that surgery as a treatment for cataract was mentioned by more than half or 57.6% of all respondents to their study, while 5.5% mentioned at least one treatment inappropriate for cataracts. The three most frequently cited inappropriate treatments were: laser treatment (3.5%), drug treatment (1.2%) and wearing glasses (0.6%).

In Nigeria Onwubiko., *et al.* [8] in 2015 in their study entitled Knowledges and Attitudes towards Eye Diseases in a Rural Area of the Nigerien Population, reported that half of the study respondents (54.7%), knew that cataracts could be treated. Among them, 37.95% thought the treatment was surgical, 29.92% thought the treatment was traditional, 19.34% thought the treatment was medical. Others (5.47%) had mentioned that the treatment of cataracts is done by wearing eye glasses. Thus only 20.75% had mentioned the optimal treatment for cataracts, which is surgery.

Ayena., *et al.* [4] for their part found better results in Togo in 2011. They reported that the treatment of cataracts is surgical for 91.9% of people questioned, medical for 7.6% and traditional for 0.5%.

After attribution of score, it emerged that of the 720 subjects surveyed, only 0.14% had a good knowledge of cataracts. Of the remaining 99.86%, only 4.44% had average knowledge of cataracts and 94.42% had poor knowledge. Onwubiko., *et al.* [8] in Nigeria, Akowah., *et al.* [10] in Ghana had reported respectively that 81.8% and 70% of the subjects surveyed had poor knowledge. On the other hand, Alimaw., *et al.* [3] in Ethiopia, reported a result that contrasted with ours. Indeed, 61.74% of the subjects in their study had a good knowledge of cataracts against 38.26% of poor knowledge. In Pakistan, Khawaja., *et al.* [14] conducted a study among non-ophthalmic health workers from two tertiary care hospitals in Mipur. The results found showed that the level of knowledge was not as good even among paramedics, as only 11% of paramedics had a good knowledge of cataracts. But 91% of the doctors in the study had good knowledge.

It is therefore concluded that knowledge and knowledge about cataracts were low in our study population.

After multivariate analysis, it emerged that poor knowledge of cataracts was statistically significant with single marital status and with age less than 20 years with respective p values of 0.0366 and 0.0159. Singles had a 5.65% chance of having a poor acquaintance. This similar with the study by Onwubiko., *et al.* [8] who reported that married marital status was associated with good knowledge. Subjects under the age of 20 years old had a 17.08% chance of having poor knowledge in our study. Onwubiko., *et al.* [8] meanwhile reported that subjects aged 40 years old and over were more likely to have a good knowledge of cataracts. The good knowledge of cataracts found in Ethiopia by Alimaw., *et al.* [3], was significantly associated with education level. In fact, subjects educated at primary and secondary/university were 2.4 and 2.3 times more likely to have a good knowledge, respectively, than those who could neither read nor write. Akowah., *et al.* [10] in Ghana, also found a statistically significant association between the level of education and knowledge of cataracts. Participants in their study with tertiary level were 4 times more likely to have good knowledge of cataracts. However, there was no significant association between knowledge about cataracts and educational level in our study.

This low knowledge rate of 0.14% found in our study could be explained by: insufficient spontaneous medical visits, awareness campaign on eye diseases, inaccessibility to the Internet.

In the current study, when asked "What would you do to prevent cataracts", more than half (68.89%), mentioned wearing glasses against the sun. Of the remainder, 54.03% would avoid tobacco, 45.83 would avoid alcohol.

Regarding the question "what would you do if you have a sign of cataract", 44.31% answered "do nothing". Only 32.08% had mentioned consulting a doctor in case of signs of cataracts, while 11.53% would have had recourse to traditional therapy. Aboubakar., *et al.* [6], in Mali had reported in 2017 that 51.1% of respondents in its study had also mentioned "doing nothing" in the event of a sign of cataract and only 5.1% had mentioned consulting a doctor.

After attribution of the attitude score, it emerged that 22.42% of the subjects surveyed had a bad attitude towards cataracts. Onwubiko., *et al.* [8] in Nigeria, on the other hand, reported that 92% of participants in their study had a good attitude. They also found a statistically significant association between education level and good attitude toward cataracts. Educated subjects were more likely to have good attitudes towards cataracts than uneducated subjects. This is understandable given that in his study because the majority of the subjects surveyed were educated (82.83%). But in our study, we did not found any association between educational level and attitude level, although the majority are educated, the level of good attitude is low.

Only the "socio-professional category" variable was significantly associated with the degree of attitude. Being a herdsman increases the likelihood of having a bad attitude 5.13 times.

After our survey, only 23.61% of people made regular medical visits. More than half of those who did not, had mentioned as a reason, the lack of financial means. More than 4/5 (89.44%) of the subjects surveyed said they were ready to go to the hospital if they suffered from cataracts. Of these, 8.33% said they were not in favor of a cataract operation. The reasons given for this refusal are among others, fear in 95% of subjects and lack of financial means in 25.15%.

Ayena., *et al.* [4] had also researched in their study the places where the interviewed subjects went for cataract care. More than half, or 87.3%, consulted a doctor, 8% practiced self-medication and 4.4% consulted traditional traders.

After attribution of the score, it emerged that 19.3% of the subjects in our study had good cataract practice, 64.17 had moderately risky practices and 16.81 had high risk practices.

Cataract bad practice was noted to be significantly associated with subjects being government officials, students/pupils, and educational attainment. Being a student/pupil or civil servant was a protective factor against bad cataract practice. Subjects without tertiary education were more likely to have poor cataract practice.

Conclusion

At the end of our study, less than one person over two had already heard about cataracts and only one person had a good knowledge about it. For the remain, four persons out of hundred had fairly good knowledge and the majority that means nine over ten persons had poor knowledge about cataracts.

Note that not having heard of eye diseases was a factor significantly associated with poor knowledge of cataracts with a ratio of less than eight over hundred. So, despite such a low level of knowledge of the population towards cataracts, twenty over hundred persons had a good attitude. Of the remained, seventeen over hundred had low risk attitudes and sixty two over hundred had high risk attitudes. Regarding cataract practices, the majority two over three persons of respondents had moderately at-risk cataract practices, one person over five had good practices and less than it had practices highly at risk of cataracts.

Bad cataract practice was significantly associated with the socio-professional category of civil servant (0.01) and student/pupil (0.5323). The low levels of knowledge, attitudes and practices obtained in this study should promote information, education and communication on eye diseases in general and more particularly on cataracts among populations.

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