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Awareness and Knowledge of Ophthalmic Malignancy In Persons Attending Birat Medical College Teaching Hospital

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ABSTRACT

Introduction: Being a vital organ, eye is the most neglected in regard to malignancy. In developing countries, ophthalmic malignancies are often diagnosed at stages when curative treatment is no longer possible and causes high morbidity and mortality. For early diagnosis of ophthalmic malignancies, there should be awareness about it and its risk factors.

Objective: To know about the level of awareness and knowledge of ophthalmic malignancy, its risk factors and to correlate between the literacy status and gender of a person with awareness among people attending ophthalmology outpatient department.

Methodology: Random sampling of the people visiting Ophthalmology department were done. Demographic data, awareness about the prevalence of malignancy in any part of the eye and associated risk factors were asked in a prepared proforma. The people were asked about their attitude towards the malignancy and the effect of early screening on prevention of ophthalmic malignancies.

Results: Study of 235 people showed more males and literates, among which 13.57% had more than secondary level education. Only 26.8% were aware of ophthalmic malignancies where 17.46% thought trauma and infections as risk factors. Probable site of malignancy were unknown to 14.28%. Majority agreed, routine eye check-up helps in detecting malignancy and early screening helps in reducing the morbidity and mortality.

Conclusion: Awareness in ophthalmic malignancies seems low and is not dependent on the level of education or profession. Awareness among people coming for routine eye examination and conducting screening camps to increase the awareness and knowledge would be beneficial.

INTRODUCTION

In this era, malignancy in any part of the body is an emerging challenge. Although the eye is a vital organ, it is mostly neglected when we talk about malignancy. Moreover, eye malignancies are rare. A study in 2014 on the Malignancy Incidence in Five Continents, showed a worldwide distribution of the annual incidence ranging from 0.1/100,000 to 7.4/100,000 persons.[1] The incidence rates are generally higher in the west than those described in Asia.[2] There are different types of malignancy that affect the eye, including uveal and cutaneous melanoma, squamous cell carcinoma, lymphoma, and retinoblastoma.[3] The two most common ones are retinoblastoma in children, accounting for 2% of all childhood malignancy, and uveal melanoma in the elderly.[4] Eyelid tumors are also more prevalent in Asian countries.[5] The most frequent types of malignant eyelid tumors are basal cell carcinomas (BCC), sebaceous gland carcinomas (SGC) and squamous cell carcinomas (SCC) with these tumors representing about 90% of all ocular malignancies.[6]

Only when the malignancy affects the vision or causes cosmetic problem it is addressed. If detected earlier, surgical resection is the successful gold standard technique in the absence of local infiltration and distant metastasis [7]or else treatment modalities can vary from radiotherapy, chemotherapy, phototherapy and cryotherapy, and even an extensive surgery leading to functional loss and disfigurement.

In developing countries, ocular malignancies are often diagnosed at an advanced stage when curative treatment is not possible anymore. Moreover, ocular malignancies may present simulating that of benign conditions, resulting in delays in diagnosis and tumor metastasis.[8]

There are various factors that can be avoidable and checked on time to prevent any type of eye malignancy to cause grave morbidity and mortality to the patient. In a study done by Huang J et al., conducted to see the disease burden and risk factors of ocular malignancies, it had shown that UV exposure, smoking, diabetes, alcohol consumptions and unhealthy dietary habits were common risk factors associated with higher ocular malignancy incidence.[9] As there is lack of awareness patient comes to us in late stages. Treatment becomes a great challenge especially when the expectation does not meet the reality in terms of recurrence, finance, functional and cosmetic outcomes. Late presentation bears the chance of metastasis to another part of the body that needs a multispecialty oncology care. Many times we have to refer the patient for oncology services for tumor reduction and prevention of metastasis. This leads to more financial burden and morbidity for patients. Overall socioeconomic factor degrades as the cost of total treatment becomes higher. In many instances, economically poor patient lose hope and are forced to live a painful life.

The level of education has been linked with the malignancy awareness by various studies. In a study done by Annaiyani et.al in Nigeria shows education was associated with awareness of ocular malignancies (P<0.001) and malignancies in general (P<0.001).[10] A study in Nepal shows knowledge about common eye conditions was good among 78% of the study population.[11] Another study done in Nepal by Shrestha M.K et Al. shows low awareness of common ocular conditions is associated with factors such as female gender, old age, lower levels of education and rural habitation.[12]

As the saying goes, prevention is always better than cure, it becomes very important to let people be aware of the disease. There are studies done in Nepal regarding Retinoblastoma in children. These studies have revealed the importance of early screening and detection of the disease to prevent long term morbidity and mortality of children. [13, 14]

Several studies have been done in Nepal to find out about the knowledge and practice of eye diseases, but there is no study which is done regarding the knowledge, awareness and practice of eye malignancy. [12] Nepal is the first country in the WHO South-East Asia Region to eliminate trachoma as a public health problem. [15] And our prevalence of blindness also has decreased from 0.81% to 0.35% from 1981 to 2010. [16] This is all due to better awareness and knowledge regarding common ocular diseases. Evaluating the knowledge of the patient coming to the ophthalmology department that already has some knowledge about eye problems can show us a picture of the level of awareness and their attitude regarding eye malignancies and their risk factors. Thus creating a scope for health professionals for counseling and early detection of eye malignancies. This type of study will show us the area in eye health where we can think of various awareness programs and better services. Very few studies have been conducted to assess the general awareness of malignancy in Nepal. The objective of the current study was, therefore, to find this in a selected area of Biratnagar.

METHODOLOGY

The study was conducted among the patients visiting the ophthalmology department of Birat Medical College and Teaching Hospital.. This study was done from 1st September, 2022 to 30th March, 2023. Data collection were done after approval from Institutional review committee approval (IRC –PA-218/2022). The sample size for this study was 235. It is extracted from the formula n= [DEFF*Np(1-p)]/ [(d2 /Z 2 1-a/2*(N-1)+p*(1-p)]. Confidence level is taken as 95%. [15]

All people visiting the eye department irrespective of any reason were included in the study. However children below 14 years and those not willing to participate were excluded from the study. Random sampling techniques were used for the sample collection. A set of questionnaires was prepared, which included demographic data, awareness about the prevalence of malignancy in any part of the eye, associated risk factors that include smoking, tobacco chewing, recurrent lumps in the eye, consanguineous marriage, malignancy in other part of the , etc. People were asked about childhood eye malignancy and its awareness, different eyelid malignancies and its predisposing factors, ocular surface malignancies and its related factors, and about orbital malignancies and other metastatic malignancies. The participants were asked about their attitude towards the malignancy and the effect of early screening on prevention of ophthalmic malignancies.

Ethical clearance was obtained from IRC of Birat Medical College and Teaching hospital. Analysis of the data was done through SPSS 21.

RESULTS

A total of 235 people were enrolled and asked in the questionnaire. The study population mean age was 38.24 years with a standard deviation of 14.863. Out of total 235 study population, 59% (n=139) were male and 41% (n=96) were female.

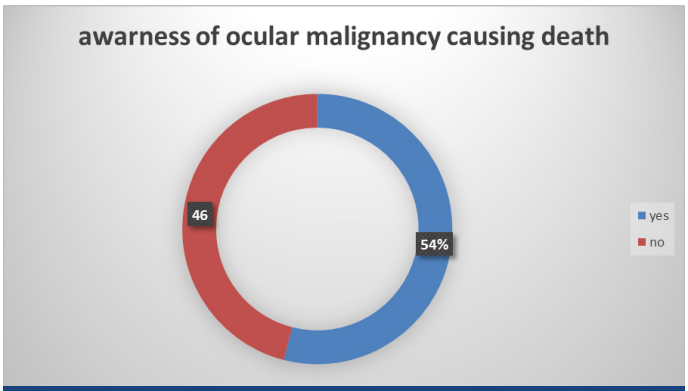

Fig 1: Pie chart showing gender distribution

Among the people enrolled in the study, most of them were working in various sectors like laborers, IT officers, teachers etc. They comprised about 64.10% of the study population. People staying at homes taking care of households comprised of 23.8% and students were 11% of the study group.

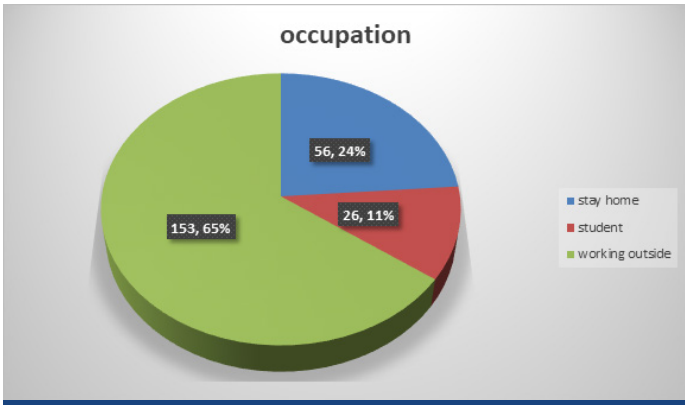

Fig 2: Three-dimensional pie chart showing the occupation of the study population

In this study, 85% were literate and 15% were illiterate people. Out of the literate 85% , those who had less than secondary level of education were 35.57% and those who had more than secondary level of education were 65.1%. Among the total of 235 people, only 63 (26.8%) were aware of ocular malignancies.

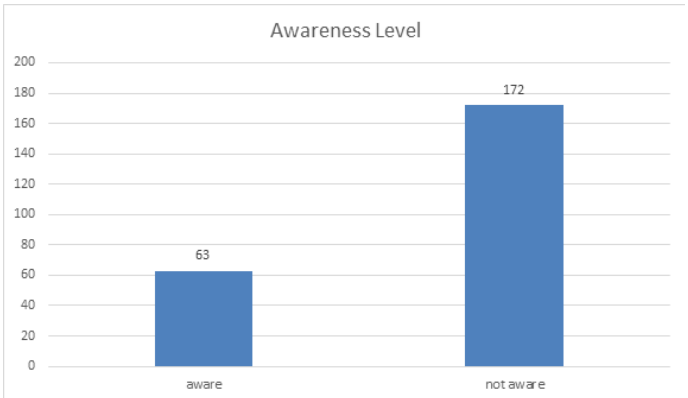

Fig 3: Bar graph showing awareness level of the study population

In comparison to the awareness level, there are a greater number of unaware people in both the genders (male 98 and female 74, respectively). However, it is not clinically significant (p value- 0.26, relative risk is 1.29 and the 95% confidence interval is 0.82-2.01).

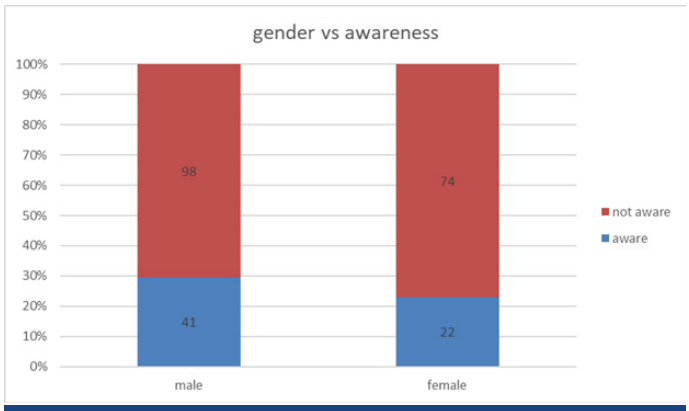

Fig 4: Bar graph (clustered column) showing gender and awareness association of the study population

Even while comparing level of education with awareness, only 19.56% were aware and 80.43% were unaware among those who have less than a secondary level of education. In more than secondary level of education, 51% were aware and 69.48% were unaware of ophthalmic malignancies.

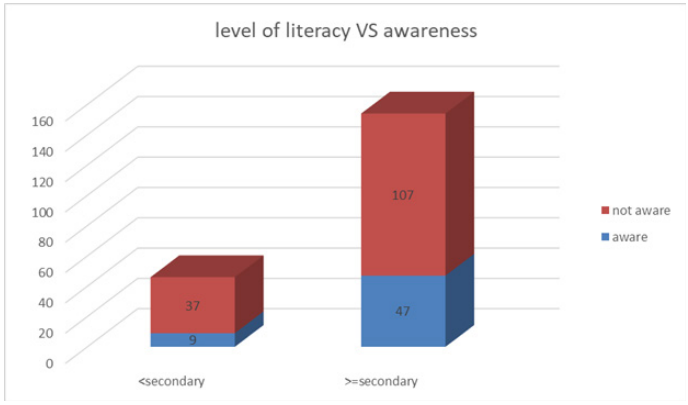

Fig 5: Bar graph (3 dimension stacked column) showing association of level of literacy and awareness

Among the total study group (n=235), 54% of them were aware that ophthalmic malignancy, if it occurs, can cause death too. But only 46% of them thought ophthalmic malignancies in childhood can cause death of a child.

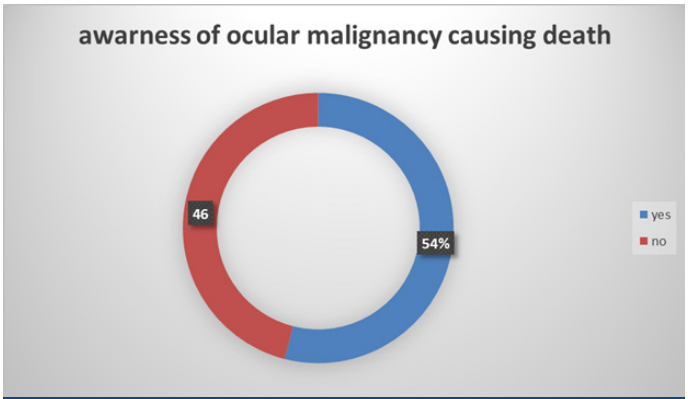

Fig 6: Graph (doughnut graph) showing awareness of ocular malignancy causing death

Among those who were aware of ocular malignancies (26%), 9.25% had no idea why ocular malignancy occur, 17.46% thought it could be due to trauma and infection, and a significant portion, 41.26% thought that ocular malignancies have mixed causes. Total 44.40% of those who were aware regarded eyeball as the commonest site of having malignancy followed by eyelid 20.63% and 14.28% had no idea which part of an eye usually is involved in ocular malignancy.

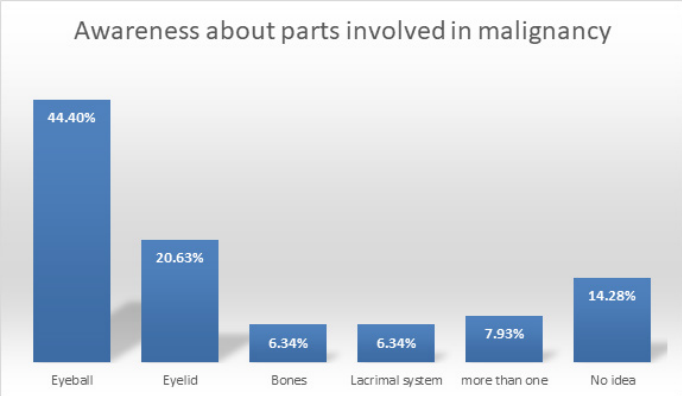

Fig 7: Bar graph showing awareness of the study population about parts involved in ocular malignancy

Regardless of awareness level, 86.80% of the total study population agreed that routine eye examinations would help to detect eye malignancies.

A total of 91% agreed that screening programs for ocular malignancy would help in preventing morbidity and mortality associated with ocular malignancies.

DISCUSSION

According to a study on the malignancy burden in Nepal, the number of new malignancy cases and deaths have increased by 92% and 95%, respectively, from 1990 to 2017. They have mentioned the most common malignancies, such as breast, lung, cervical, stomach and oral cavity malignancies. [17] Ocular malignancies as in comparison to other malignancies is less frequent and its distribution and the determining factors of these diseases are less known. [18] This may be due to paucity of studies done to see awareness level in ocular malignancies. So, this study was done to see the awareness and knowledge about ophthalmic malignancies in people visiting our outpatient department at outpatient department at Birat Medical College Teaching Hospital. A total of 235 people participated in the questionnaire. The mean age of the study population was 38.24 years, with a standard deviation of 14.863.

When examining the gender distribution in our study, 51 % were male and 49% were female, resulting in a ratio of 1.4:1. Our finding is comparable with the study done by Ayanniyi AA et al. in which 55.6% were males and 44.4% were females (ratio-1.3:1). [10] We had 64.10% of people working outside the house in different sectors and 11% were students, others were homemakers. Among the total study population of 235, only 63 people (26.8%) were aware of any kind of ophthalmic malignancy. This level of awareness is much lower than that reported in a study done in Nigeria. [10] There was no association of gender with awareness level in our study (p value- 0.26, relative risk is 1.29 and 95% confidence interval is 0.82-2.01). The study done in Nigeria also had no significant association between gender and awareness level (P=0.07)). [10] In Nepal, the awareness level for the common ocular diseases, such as cataract, is also not very high . In the study done by Shrestha et al., the awareness level was only 49.6%. [12] Whereas, in a different study done to see the knowledge regarding eye health in Nepal, it was depicted that 78% had basic knowledge about ocular diseases. This shows that even though awareness and knowledge regarding eye health in our country are improving, there is still a significant gap in awareness about ophthalmic malignancies and this issue does not show any gender predilection.

There is a disparity in Literacy rate in Nepal between urban and rural communities (64% and 34% respectively). [19] Our hospital is in the urban community, and we do get a mixed population from both urban and rural areas. In our study we had 85% (n=200) literate people and 154 of them had more than a secondary level of education. But when we compared the level of education with the awareness, it showed only 30.51% of people with more than a secondary level of education were aware of ophthalmic malignancy. In the study done in Nigeria, the level of education was significantly associated with the level awareness of ocular malignancy. [10] Even in the study in Nepal by Shrestha et.al, higher level of literacy was associated with better awareness about basic eye diseases. [12]

Among those who have awareness, 44% of people thought the eyeball is the most commonly involved site of malignancy and 14% had no idea where in an eye malignancy occurs. In our country there are few awareness campaigns regarding Retinoblastoma, which may be why 44% of people thought the eyeball is the most common site for ocular malignancy. Many studies done in various parts of Nepal showed that the eyelid is the most common site for ocular malignancies. In a study done in Central Nepal, eyelid was most frequently involved, followed by conjunctiva (59% and 21% respectively). [20] Whereas in a study done in eastern Nepal, Retinoblastoma was the commonest one,

35.8%, followed by basal cell carcinoma of eyelid (22.3%). [21]

In comparing the knowledge about the cause of ocular malignancy, many thought it could be due to trauma and infection (17.46% each), while a significant portion thought that ocular malignancy has mixed causes (41.26%). Very few people attributed ocular malignancy to smoking, sunlight/radiation, or genetics (7.9, 8%, 1%, 4.7% respectively). Our study is not comparable with the study in Nigeria, where corrosives were thought to be the major cause of ocular malignancies followed by trauma (15.5%, 10% respectively). [10] Ocular trauma has no role in ocular malignancy, so these misconceptions should be removed by health education. Witchcrafts/spirits were also one of the causes, accounting for about 8.7% of people believing it as the cause of malignancy in the Nigerian study. [10] Whereas in our study there were no responders who held witchcraft to be the cause. This may be due to lesser practices of such alternative healing practices in Nepal.

Regardless of awareness level, 80% of people said that routine eye checkup would be of help to detect malignancies. When we asked our study population about screening programs for ocular and other malignancies, 91% agreed that such screening programs will help in decreasing mortality and morbidity due to ocular malignancies. This shows people are willing to learn more about various eye diseases, including malignancies. Nepal has a very good network of eye hospitals, primary eye care centers and eye departments in various hospitals and medical colleges. We do not lack infrastructure to treat eye disease. However, very few institutions focus on ocular malignancies. Including awareness programs regarding ocular malignancies,would likely have a significant impact .

CONCLUSION

Ophthalmic malignancies are important diseases which need more studies. Currently, there are no studies assessing awareness regarding these conditions , and we face challenges related to dedicated human resources and institutions focusing on ophthalmic malignances. Without awareness, patients may only seek help at the late stage when surgery become more complex and costly, and potentially requires other treatment modalities. . This causes financial burden to a low-income developing country like Nepal. In the past, lots of awareness programs regarding common eye diseases like cataract, glaucoma, trachoma etc. were conducted. As a result, Nepal is currently free of trachoma and blindness rate has decreased from 0.84 %to 0.35% from 1981 to 2010. With the changes in lifestyle in today's era, we are increasingly exposed to risk factors of malignancies regardless of the site in the body. Creating awareness and enhancing knowledge about ophthalmic malignancies is as important as it is for other types of malignancies. Our study has clearly showed that educational level and working status are not associated with malignancy awareness. To improve awareness, we need to engage with the community and provide more health education related to the topic. This study will help us identify better ways to enhance the awareness level and services related to ophthalmic malignancies.

LIMITATIONS OF THE STUDY

This is a hospital-based study, so it may not accurately reflect the overall awareness level of the general population. A community level study would provide better insights regarding awareness and knowledge of ophthalmic malignancies, as well as the challenges faced in addressing them.

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CONFLICT OF INTEREST None

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