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COMMON OCULAR DISEASES AMONG THE PATIENTS ATTENDING AT RAFATULLAH COMMUNITY HOSPITAL, BOGRA

Rahim MM^{1*}, Mazid MA², Sultana N³, Rahman MM⁴

1. **MM Rahim***, MPCS, MPH, Consultant Ophthalmology, Rafatullah Community Hospital & TMSS Medical College, Bogra and Principal, TMSS Medical Institute of Research and Technology, Bogra, Bangladesh. Email: dr.mahbub.rahim@gmail.com. Mobile: +8801713377023
2. **MA Mazid**, FCPS(Surgery), Assistant Professor, Department of Surgery, TMSS Medical College and Rafatullah Community Hospital, Bogra, Bangladesh. Email: amazidmilon@gmail.com, Mobile: +8801914 123 715.
3. **N Sultana**, MBBS, Registrar, Dept of Gynecology and Obstetrics, TMSS Medical College and Rafatullah Community Hospital, Bogra, Bangladesh. Email: nahidamz@gmail.com. Mobile: +8801717623436.
4. **MM Rahman**, MS (Surgery), Assistant Professor and Head of the Department, Department of Surgery, TMSS Medical College and Rafatullah Community Hospital, Bogra, Bangladesh. Email: dr.mostafiz1975@yahoo.com. Mobile: +8801716307255

*Corresponding author

Abstract

Background: Ocular health problems are one of the major public health issue in the world across the developed and developing countries. According to the Bangladesh Blindness Profile over 750,000 blind in Bangladesh among them 80% due to cataract and over 6 million need vision correction by spectacles & other means. To meet this national problem, the National Eye Care project Vision 2020 was launched in the year 2000 by Director General of Health Services of Bangladesh. However, data on ocular health are scarce in Bangladesh.

Objective: To explore the epidemiological pattern ocular diseases in private community hospital like Rafatullah Community Hospital and concentrated not only on the blindness profile of the country but on epidemiological pattern of the ocular diseases.

Methods: An analytic cross-sectional study was conducted to assess and determine the ocular disease pattern at Rafatullah Community Hospital (RCH), Bogra, Bangladesh. This 300 bed hospital is a medical college hospital for TMSS Medical College. It has its community service all over the northern region of Bangladesh and patients comes to this hospital from 52 sub-clinics of different parts of northern region of Bangladesh by the free Shuttle Bus service from Rafatullah Community Hospital. The sub-clinics were selected by simple randomization and patients were selected patients were selected by incidental/accidental sampling technique. Data were collected by interviewing the patients through semi-structured questionnaire and the diagnosis was confirmed by proper ocular examinations and relative investigations.

Results: Among 377 patients 101 (26.8%) were male and 276 (73.2%) were female. The mean age of the patients was 43.94 with SD ± 17.39 . The largest number of patients indicated their age as between 31 and 40 years 94 (24.9%). The second largest group was the 41-50 age group, with 78 (20.7%). Most common ocular health problems were presbyopic (n=101, 26.5%), cataract (n=92, 24.4%), allergic conjunctivitis (n=48, 12.7%), pterygium (n=33, 8.8%), myopia (n=24, 6.4%) and dacryocystitis (n=22, 5.8%).

Conclusion: The study showed almost similar type of ocular disease pattern with few differences in comparison with the other regions of Bangladesh.

Keywords: Cataract, presbyopia, myopia, dacryocystitis, bacterial conjunctivitis.

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Introduction: Health information is an essential tool for effective health planning as it helps to prepare health budget within the resources of the country¹. Unfortunately it is very difficult to get reliable health information in developing countries including Bangladesh.

There are many sources to get health information and one of these is the hospital record. World Health Organization (WHO) recommended that, hospital statistic in all countries be regarded as an integral part of health information, which could be used for national health planning¹.

Epidemiological research on ocular disease pattern of different countries especially in developed countries are done regularly to address specific ocular health problems and to create effective public awareness regarding those health problems. Number of research done on ocular disease pattern is very few and virtually none for the northern part of Bangladesh. In our country there are projects on creating public awareness on Vitamin-A deficiency Night blindness and cataract but not on other ocular health problems. As private practitioner and consultant of eye of the Rafatullah Community Hospital I noticed there are other ocular diseases which are also affecting ocular health, which needs public awareness and with that we can prevent those diseases. This research will be helping to identify the common ocular health problem in this region of the Bangladesh and we can address those problems, make specific plans and action regarding those health issues.

Methods: An analytic cross-sectional study was conducted to assess and determine the ocular disease pattern at Rafatullah Community Hospital (RCH), Bogra, Bangladesh. There are 52 sub-clinics of RCH in the different areas of North Bengal, from where patient comes to RCH for their health related problems. For this reason the researcher selected the sub-clinics/sites by simple randomized sampling method and respondents were selected by using accidental/incidental sampling technique. The selected sub-centers or sub-clinics were Naogan, Adamdighi, Dupchachia, Altaf Nagar, Durgapur, Sukanpukur, Kutubpur, Hatfulbari, Gabtoli, Golabari, Mazhira, Kalai, Mokamtola, Sirhotti, Pirob, Punot, Madla Singra, Nandigram, Gohail, Malancha, Khetlal, Molamgari, Dhaperhat, Palashbari, Kamarpur, Mahimagang, Fasitola and Godarpara. These sub-clinics include Bogra, Joypurhat and Gaibanda, the three major districts of Northern Region of Bangladesh.

The data were collected from the semi-structured questionnaires and also from Outpatient Register Book of the EYE OPD. Patient with same registration number and name was excluded from the study (follow-up cases) to avoid duplication of data. An Information Sheet for the participant which was translated in Bangla of each participant in this study. After understanding of this research study the participants were provided a written consent in taking part in the study. The participants were assured of the confidentiality, and anonymity during the study was maintained. Collected data were managed and analyzed by using SPSS. And proper statistical modeling was used to minimize biases.

Result & Discussion: The main objective of the study was to explore the epidemiological pattern of ocular diseases at RCH. Total 656 patients attended the Eye OPD during the October, 2010. Among these 656 patients, the researcher was able to interview and collect data from 377 patients with the direct help from the other consultants of the Ophthalmology & Surgery Department of RCH. The study showed that majority of the cases attending the Eye OPD of RCH were Presbyopia (n = 100, 26.5%) among them 32 (16%) male and 168 (84%) females. In this study it was also found that majority of the presbyopic cases were between the 31-40 years 53% (n=106) and 41-50 years 36% (n=72) age group. In comparison to this a population based survey in Bangladesh showed about 20.6% of the refractive errors were presbyopic(hyperopia) and more common in females⁵ and the study on Non Vision Impairing Conditions in Chakwal District, Pakistan showed 14.6% of the patients were presbyopic.² The present study also showed that presbyopia are more common in females($X^2 = 8.08$, $p<0.01$). Second major cases in the present were Cataract (n = 92, 24.4%), among them 54 (29.3%) male and 130 (70.7%) female. According to media health India the prevalence of cataract in Bangladesh is 0.6%⁶ and according to the Bangladesh Blindness Profile over 750,000 blind in Bangladesh among them 80% due to cataract.⁴ Third major cases were Allergic Conjunctivitis (n = 48, 12.7%). There was no comparative study on the prevalence or incidence of Allergic Conjunctivitis in Bangladesh. A population based study on Non Vision Impairing Conditions of eye at Chakwal District, Pakistan showed 3.7% of the cases reported were suffering from Allergic Conjunctivitis.² Another cross-sectional study in one of the school of Karachi showed 19.2% of allergic

conjunctivitis among the 5-19 year age group.¹⁰ Patterson's Allergic Diseases stated that sometime dandruff might cause allergic conjunctivitis and allergic blepharitis⁸ and an online article by American Association of Pediatric Ophthalmological Society also mentioned there is association between allergic conjunctivitis and dandruff.⁹ However, the present study showed there was significant association between the dandruff and allergic conjunctivitis ($X^2 = 24.741$, $p<0.001$) and relative risk ratio calculation showed there is 5.3 times more risk of development of allergic conjunctivitis among those who have dandruff (OR=5.318; 95% CI, 2.717-10.409). Forth majority cases in present study were Pterygium (n = 33, 8.8%) among them 18 (27.3%) male and 48 (72.7%) female. There were no comparative studies on the prevalence of pterygium in Bangladesh perspective. The study in Chakwal District, Pakistan on Non Vision Impairing Eyes Conditions revealed 2.6% patients were suffering from pterygia compared to the present study which is lower.² A study in geographical study on pterygia showed 7.1% prevalence of pterygia among Punjabi Indians.⁷ Fifth major ocular case were myopic error (n=24, 6.4%). A population based cross-sectional study showed 2469 (22.1%) were myopic (<-0.5 D), two hundred six subjects (1.8%) were highly myopic. Myopia was more common in men (26.3%) than in women (21.0%).⁵ Sixth major cases were Dacryocystitis (n = 22, 5.8%) among them 4(18.2%) male and 18(81.8%) female patients. A study carried out in Dhaka Medical College Hospital showed there were 17.9% of the attending patients were suffering from Dacryocystitis¹¹ and the study at Chakwal District showed 1% patients were suffering from Dacryocystis.² The study was done at Matlab by ICDDR,B on Night blindness due to Vitamin A deficiency⁴. According to that study 5% of

the 2971 children presented with complain of night-blindness and 47% of them showed the evidence of vitamin A deficiency. However the present study did not find any night-blindness cases during the study period. May be a retrospective study or a case-control study in future may reveal the real scenario of night-blindness due to vitamin A deficiency in this region of Bangladesh. Among the rest of the diseases Bacterial Conjunctivitis (n=10, 3.6%), Corneal Ulcer (n=6, 2.2%) are of clinical importance as well as of public health

importance, as these can cause blindness. There were no prevalence studies on Bacterial Conjunctivitis or Corneal Ulcer or Bangladesh. However, the study at Chakwal District, Pakistan showed there was 3.5% prevalence rate of Bacterial Conjunctivitis.² The statistics of the study is similar with the present study. The rest of the ocular diseases including the distribution of ocular diseases among the male and female are illustrated in Table – I, Table – II.

Table – I : Common ocular diseases among the patients at RCH (N = 377)

Name of the Diseases	Frequency	Percent
Persbyopic	100	26.5
Cataract	92	24.4
Allergic Conjunctivitis	48	12.7
Pterygium	33	8.8
Myopic	24	6.4
Dacryocystitis	22	5.8
Bacterial Conjunctivitis	13	3.4
Corneal Ulcer	11	2.9
Dry Eye Synd (DES)	8	2.1
Viral Kerato-conjunctivitis	6	1.6
Viral Conjunctivitis	4	1.1
Diabetic Retionopathy	3	0.8
Allergic Blepharitis	2	0.5
Glaucoma	2	0.5
Subconjunctival Hemorrhage	2	0.5
Uveitis	2	0.5
Astigmatism	1	0.3
Cystoid Macular Edema (CSR)	1	0.3
Squint	1	0.3
Stye	1	0.3
Optic Neuritis	1	0.3
Total	377	100.0

Table II : Common ocular diseases among the male and female at RCH (N=377)

Name of the Diseases	Male Patients		Female Patients	
	Frequency	Percent	Frequency	Percent
Persbyopic	16	15.8	84	30.4
Cataract	27	26.7	65	23.6
Allergic Conjunctivitis	15	14.9	33	12.0
Pterygium	9	8.9	24	8.7
Myopic	9	8.9	15	5.4
Dacryocystitis	4	4.0	18	6.5
Bacterial Conjunctivitis	3	3.0	10	3.6
Corneal Ulcer	5	5.0	6	2.2
Dry Eye Synd (DES)	1	1.0	7	2.5
Viral Kerato-conjunctivitis	4	4.0	2	0.7
Viral Conjunctivitis	2	2.0	2	0.7
Diabetic Retionopathy	2	2.0	1	0.4
Allergic Blepharitis	0	0.0	2	0.7
Glaucoma	1	1.0	1	0.4
Subconjunctival Hemorrhage	1	1.0	1	0.4
Uveitis	1	1.0	1	0.4
Astigmatism	0	0.0	1	0.4
Cystoid Macular Edema (CSR)	0	0.0	1	0.4
Squint	1	1.0	0	0.0
Stye	0	0.0	1	0.4
Optic Neuritis	0	0.0	1	0.4
Total	101	100.0	276	100.0

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