Vision and Mission

Vol 4 no 1

Journal of Community Ophthalmology of Indian Subcontinent

A communication from Association of Community Ophthalmologists of India

Vision of the journal:

Advocacy to community Eye Health in all respect

Target reader:

Ophthalmologists, Midlevel ophthalmic workers, Program managers, social workers

Purpose:

Interchanging ideas and experiences and updating information about community eye health

Take home message: Reach your community, Know your community, join your community

General Information

The journal

Journal of Community Ophthalmology of Indian Subcontinent is a peer reviewed journal published on behalf of Association of Community Ophthalmologists of India (ACOIN). The journal publishes articles related to community ophthalmology. Vision of the journal is advocacy to community eye health and purpose of the journal is interchanging of ideas and experiences and keeping up with the up to date information relating community ophthalmology.

Information for authors

Review articles, original articles, coverage of community initiative project/ program, news relating community ophthalmology, brief communications and letters to the editor are accepted from the author for publication.

All manuscripts should be electronic and send to the editor, bagchiketaki@gmail.com No page writing is chargeable except the coloured images.

Information for readers

All life members of ACOIN will get the journal issue for free, others have to subscribe

Information for the advertisers

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From the Editor's desk

Beyond Ophthalmology

Practice of community ophthalmology has its ancestral root in ancient India, Greece, Babylon, China, Peru and Mexico as revealed by various archeological evidences. In modern era, Community Ophthalmology started its journey as a distinctive discipline of medical science when Dr Patricia Bath, an African American ophthalmologist laid down it founding stone in 1978 in America to increase the access of eye care service to the under served people.

Community ophthalmology is essentially a stream of medical science that is meant for bringing about ocular health in community by preventive and curative measures. It is very much dependant upon the public health sector as well as community medicine.

Epidemiological survey, identification of the need and public health measures should go side by side of ophthalmology practice in the field of community ophthalmology. Every change in social attitude, every advancement in technology and every step in legislation in the state should link them with the interest of community ophthalmology.

A community ophthalmologist should think and act beyond ophthalmology so as to give a new vision and a new mission to the community.

'Vision and Mission', the journal of the association of community ophthalmologists of India is advancing in the direction of this holistic way of community ophthalmology. It gets enriched by the ideas, initiatives and achievements of all the members.

I appeal to all for more and more spontaneous and generous input to this mission to make it a success.

Long live community ophthalmology ! Long live 'Vision and Mission'! Long live ACOIN !!!

Prof(Dr) Ketaki Bagchi

Editor, Vision and Mission

Kolkata, the 8th August 2017

Content

Invited article

My Journey with Persons with Vision Impairment for Forty five years

Ms Hena Basu*

The Beginning

Due to Bangladesh War in 1971 our MA examination was held much behind scheduled time and there was a continuous delay in publication of result for all the Calcutta University examinations. Sometime in February 1972 as I was waiting for my result and planning about future career I was requested by an acquaintance that a lady doctor was losing her vision rapidly due to Retinitis Pigmentosa and that she urgently needed a "reader" to help her prepare her lecture notes. I was asked to contact her in her Alipore Central Govt Officers' Quarters behind the National Library.

She was Dr Miss Nurgez J Sethna, a single woman of Zoroastrian faith, teaching the medical graduates Maternal & Child Health (MCH) in the All India Institute of Hygiene & Public Health, Kolkata, with a tall, bright, shining appearance, sharp and extremely intelligent face, in our first meeting, only the eye contact was missing between us. She was 52, living alone with her aged mother, and I, 24 and our journey started on. Till then my awareness about abilities of Vision Impaired persons was limited to Braille books, live reading & writing support by sighted persons, and extraordinary mental skills. I would visit her every afternoon from 5 to 7 PM and read aloud the newspapers, take down notes from medical books of lectures she would be delivering to students next day and directions/communications to her colleagues on pieces of paper. It was an advance preparation which went into my system and enabled me to organize my tasks better though I had vision. Also reading aloud in English for hours polished my fluency in spoken English and she was all the time grooming me unaware how to improve my personality, communication skill and be generous to those in need.

Inspiration

Around May our result was declared and I came to inform her. She encouraged me a lot and requested me to find out another woman who can read out to her. Back home I asked many of my friends and acquaintances but I found no one ready to take this part time job. So I went back and with a heavy heart and told, "Nurgez, I found no one." She spoke in a reassuring voice, "Go ahead my child, I shall manage." But as I came back I felt increasingly sad to imagine how would she manage without me? Am I taking a right decision to leave her unaided? I consulted my parents and they told me it was a hard decision and you should not repent later for making this choice. I however chose to stick on.

Activities

Nurgez retired as Grade I Gazetted officer of the Government of India in 1982 and she shifted to a rented house. She told me that she now wanted to learn Braille as she did not want to waste time and access information first. A Blind teacher came to teach her Braille and I would take her lessons. She had many questions to ask but all Braille teachers advised her to follow rote-learning. She wrote to the US Library of Congress, Washington DC, USA and bought a self-learning manual and Braille writing equipment. Finally both of us picked up English Braille; I began transcribing books and she became my proof-reader.

Early 1990s

Toward early 1990 an advertisement came in a newspaper inserted by one Dr V Usha, a Tamil woman living in Kolkata. A bright student of Calcutta National Medical College, she lost her vision due to Diabetic Retinopathy on the day she received her registration. She remained within her home in Southern Avenue for two years as she rejected the options for rehabilitation offered by the Blind schools in Kolkata. She was on the point of committing suicide and this was her last attempt to find an opportunity for mainstreaming. This advertisement drew the attention of the Dept of Mass Education Extension Officer on Disability and he forwarded it to me.

I paid several home visits to Usha, counseled her and persuaded her to learn Braille which I personally taught her. I then sent her to YMCA College of Physical Education for the Blind at Chennai for an orientation and mobility training so that she could move independently. As luck would have it a team from St Joseph's Hospital, Madurai was on visit there and they interviewed Usha and selected her appointment at their Hospital. Usha escorted by her father rushed to Kolkata to ask me whether she would accept the appointment and I sent them back by the next train. Dr Usha, as I last heard was a part of the teaching staff at St Joseph's Hospital, Madurai.

1983-2017

Over the three decades and a half Society for Visually Handicapped(SVH) has spread its wings, with the support of a team of old and young volunteers & trained professionals, to touch lives of hundreds of Vision Impaired persons to make them self-reliant through education. Our current projects span as follows:

- Education Empowerment Project including scholarship support to students pursuing higher education, distribution of educational aids & appliances, counseling & guidance
- Digital talking book project which covers recording of audio books from school to PhD level in digital format and distribution through digital players
- Computerized Braille book project and publishing life-enrichment booklets for circulation to create awareness
- Life-skill training through adventure sports e.g. coastal trek for the Blind at Gopalpur-on-sea & Puri, Odisha,

jungle camps for rural Blind children in north Bengal and mountaineering training for the Blind youths at the Himalayan Mountaineering Institute, Darjeeling under the Ministry of Defence, Government of India.

Activities of the vision impaired students

Beneficiaries

From 1983 to 1995 we worked with extremely modest resources from our registered office 12 Dover Road, from my own residence 56B, Ritchie Road and at Maharashtra Nivas, Kolkata, a free of charge space which was arranged by late P G Godbole, the then Regional Officer of the Sight Savers, UK and the National Society for the Prevention of Blindness. The last-mentioned space is still being used for SVH Deaf Blind Project activities.

In 1996 the Chief Librarian, State Central Library West Bengal, Government of WB, invited us through his staff at our stall at the Calcutta Book Fair to visit their present building under construction at Kankurgachi opposite ESI Hospital, Kolkata where their old Library from B T Road would be shifted and consulted us about the essential prerequisites for a Section for the Library Service for the Blind which he said was keenly desired by our the then Hon'ble Chief Minister Jyoti Basu. Finally he offered us a space on the ground floor, some steel almirahs, a few chairs & tables, some tape recorders and requested us to start a Braille & Talking Book Library. With our small funds and a handful of dedicated volunteers we started this service since the day of inauguration of this Library on 16 September 1996. In India and possibly in the world this remains a unique library service where in a mainstream set up Blind and Vision Impaired users can access service in Braille and audio formats. Just last year this State Central Library WB was declared a "Model Library" in India for this service.

Two important happenings led to a spurt in the number of our Blind and Vision Impaired beneficiaries.
(i) Around 1998 onwards implementation of WBDPEP project which opened the doors of general schools to students with special needs and (ii) in 2012 digitization of talking books in MP3 format. With the onset of WBDPEP the enrolment of children with special needs jumped three times more sweeping away the restricted urban-based residential Blind schools which served only 2% of the school age Blind population. It also expedited identification of impaired candidates through medical camps in remote areas and created a demand for education aids and appliances to make general school classroom accessible. Above all, a mobilization of professionals right from medical doctors, paramedical staff of Government hospitals to general school teachers and special educators was all thrown in an implementation program

without any adaptation of the existing skilled manpower and infrastructure. Secondly, the services for Braille and Talking Books that were done manually and through audio-cassettes were found to be too slow the moment Braille software and digital technology reached us at an affordable cost.

From our last year's Annual Report I note below a summary table of beneficiaries of SVH's Education Support & Empowerment Service for the Blind and the Vision Impaired:

Education status	Male	Female	Total
School	66	31	97
Higher Secondary	35	22	57
Undergraduate BA	65	61	126
Postgraduate MA	43	19	62
Postgraduate MPhil	10	3	13
Postgraduate PhD	1	1	2
B Ed (General)	5	1	6
B Ed (Special Education)	6	1	7
NET/SLST	11	4	15
Competitive Exams	40	13	53
Employed Blind users	77	27	104
Blind Resource Persons	10	5	15
Total			557
Institution receipients			35X20=700
Grand Total			1257

Conclusion

I close with an appeal to all the ophthalmologists that please do not hesitate to guide a patient of incurable eye-diseases that he/she must get trained in mainstreaming skills with a positive mind because society wants them to be a productive member contributing to the growth of India.

*Secretary, Society for the Visually Handicapped (SVH), Kolkata

Original article

Ophthalmic Postgraduate Education And Training In India

Dr. Capt. V.M. Loganathan*

Introduction

Present scenario of the country, 1% and 3.6 % blindness prevalence with cut off vision <6/60 in general and 50+ age population respectively, needs adequate number of well trained ophthalmologist to cope up with the situation.[1]

At present the number of postgraduate training seats are 970 in MS ophthalmology, 339 in Diploma and 75 in DNB with a total of 1384 seats. Considering the target of ophthalmologists in the country to be 25000 in 2000 AD, we need to produce 1200 ophthalmologists per year. Present output is 900 per year. It is found that after residency program, the clinical knowledge and surgical skill of the young ophthalmologists is only 20% as compared to 86% in USA.[2]

In Tamil Nadu, 80% of the pass outs of ophthalmic pgts can practice independently wheras only 20% of pass outs from deemed universities can do so.

Aims and objectives

Aims of this write up is to promote building up of good and competent ophthalmologists who can give comprehensive eye health care service to the countrymen through proper post graduate education system.

Materials and methods

Analysis of the data on present system of post graduate education and training system including infrastructutre, human resource, curriculum and teaching and learning practice collected during inspections of 34 PG teaching institutions in India.

Observation

Infrastructure:

- Patients – number of patients is good in Government medical college, average in private medical colleges but poor in DNB teaching private institutes.
- Equipments – number of basic equipments like slitlamp biomicroscope, applanation

tonometer, Humphrey field analyser, A scan biometer, B scan ultrasonogram, synaptophore is average in government medical collges , minimum in private medical colleges and good in private teaching institution.

Number of post segment equipments like vitrectomy machine, fundus camera, operating microscope, OCT, retinal laser machine is good in the private DNB teaching institutions, but very poor in private medical colleges and minimal in government medical colleges. In NPCB in 1979, 24 medical colleges in India were upgraded with advance equipments, in next phase, subsequently other medical colleges upgraded and funds were allotted. But always at a given point of time, more tan 50% equipments remain non functioning in the Govt medical colleges. Non functioning state of the equipments persists due to Lack of funds and mal distribution of funds for repair, administrative reluctance to help the department ,step mother attitude of service engineers to repair the equipment in govt sector (compare to private institutions) due to late settlement of bills. For fear of repair PG's are not allowed to operate the instruments.

- Teaching faculty- number of teaching faculties is good in government medical colleges and Eye institutions, average in deemed universities but very poor in DNB teaching institutes. Training of Asst. Professors and Professors Nationally and Internationally in various subspecialities. Even though enough and qualified faculties are present, passion for teaching, transferring of skill to PGs, are lacking in many centres

- Teaching – although 100% sponsored program allotted to the states increased the patient flow in the hospitals, exposing the PG students to diversity of cases to deal with, 70 % Post Graduates students want to learn only Phaco and are reluctant to learn post segment diseases. 50% of the students wants to learn after they pass out and study only before the examination to acquire degree. As a result they become theoretically sound but poor in practical skill. In DNB teaching institutions and private medical colleges there is lack of cases. Skill transfer from teacher to learner is lacking due to lack of facilities, limited number of hands on training, limited hours of stay in the institution and time spent in private practice. Besides, community ophthalmology activities like eye camps etc are very few in number that might train the students in public services.

Discussions

To improve the teaching of PG students, here are some recommendations

Academic

Case presentations(Patient, clinical photos & investigations) everyday. Neuro-ophthalmology case discussion with neurosurgeon every Tuesday. Ward rounds & Grand rounds(Tuesday & Friday), Journal club discussion by PG's every Wednesday, Clinical discussion with all faculty members every Saturday, Seminars on selected topics once in 3 months, Clinical discussion 6days a wk, 12-1 pm, special clinic, seminar and journal club 6 days a wk, 2-30-4 pm

Library facility should be there with stock of state, national and eminent international journals, E journals, E-conference facilities, Web based learning

Research/publication in pg students should be encouraged. Research topics in epidemiology & Management of diseases should be done. At least one publication in state journal, one publication in IJO/ Indexed journal should be done.

Research methodology training should be given before thesis. In thesis subjects, Surgical Topics, Analysis of Medical Management, community Ophthalmology Project are preferred.

PG students should be encouraged to present papers in conference (State/AIOS). In Tamilnadu Dr MGR Medical University, E – Journal articles of PGs mandatory.

Mandatory surgical procedures

- SICS (150-200 cases)
- Phaco (50 cases)
- Suture lid, facial orbit wounds
- Early endophthalmitis management
- Give intravitreal injection
- Tackle all ophthalmic emergencies
- Pterygium, squint, keratoplasty
- Laser – capsulotomy, iridotomy

Post graduates should assist/observe specific minimum number of complex procedures

- Scleral buckling & cryopexy
- Pars plana vitrectomy
- Refractive surgery lasik
- Orbital surgery

Hands on experience mandatory - Gonioscopy applanation tonometry

- Slitlamp biomicroscopy
- A scan, B scan, FFA & laser therapy
- Surgical simulators & wet labs
- Can be used to train postgraduates in anterior & post segment surgery in very systematic & precise manner

LOG Book – mandatory, abroad hospitals insist on it

Computer knowledge

- Computer training (6months)
- Training on MS office, internet, etc
-

Training in community ophthalmology and eye banking

Participation in Eye banking, community ophthalmology, low vision aid and rehabilitation of blind through attending various screening and promotional camps.

Student exchange program, 3-6 months between govt college (good patient flow) and private institute(good equipment)

Evaluation

Evaluation procedure for PG students is not not uniform & satisfactory. The module of evaluation may be varied. In Dr MGR Medical University of Tamil Nadu, the pattern of evaluation procedure is satisfactory but time consuming. Topic wise theory examination is held twice a month and model theory examination is held for exam going batch. In practical examination, all the basic and advanced clinical and investigative procedures on ocular adenexa, anterior segment, posterior segment, refraction, contact lens fitting, low vision aid are asked. Questions are asked on operation theatre procedures including sterilization techniques, maintenance of asepsis, blocks and intravitreal injections.

Reference

1. (John N, Jose R, Vashist P, Murthy GVS. Rapid Assessment of Avoidable Blindness in India.Plos one. 2006)
2. Blindness: Vision 2020 - The Global Initiative for the Elimination of Avoidable Blindness, WHO fact sheet 1999.

* Professor Emeritus, Joseph Eye Hospital, Trichy, Tamil Nadu

Original article

Study of the morphology of Senile Cataract in rural population in Kashele village

Shrikant Deshpadey,* Neeraj Ishrani,** Nitesh Valla,***Minal Kanhere,*** Vidhi Katheriya,*** Swetha Narayanam***

Abstract:

Aim: Senile cataract is one of the major causes of blindness in India. Because there is growing backlog of cataract the need for early diagnosis and surgery has increased. Our study gives strategy to prevent or delay cataract formation.

Methods: 150 patients from Kashele village of Rajgarh district in Maharasthra were studied. The subjects were aged 40-80 years. All lenses were graded and classified for opacities using Lens opacification classification system (LOCS) III and standard photographs**.**

Results: A total of 201 eyes out of 300 eyes (67%) had nuclear sclerosis cataract of different grades.149 eyes out of 300 (49.66%) eyes had cortical cataract. 59 eyes of 300 eyes (19.66%) had posterior sub capsular cataract. A total of 13 eyes out of 300 (4.33%) eyes had mature cataract or a total cataract.

Conclusions: The burden of cataract in India can be reduced by means of various health organizations and NGO's organizing camps for the benefit of eradicating cataract at an early stage.

Keywords: Senile cataract, rural, India, village

Introduction:

According to the census of 2011, Kashele is a large village located in Karjat of Raigarh district, Maharashtra with total 576 families residing in it. The Kashele village has a population of 2875 of which 1457 are males while 1418 are females as per Population Census 2011. In Kashele village, population of children with age 0-6 is 383 which make up 13.32 % of total population of village. Average Sex Ratio of Kashele village is 973 which is higher than Maharashtra state with average of 929. Child Sex Ratio for the Kashele as per census is 1140, higher than Maharashtra average of 894. Kashele village has lower literacy rate compared to Maharashtra. In 2011, literacy rate of Kashele village was 79.57 % compared to 82.34 % of Maharashtra. In Kashele Male literacy stands at 88.81 % while female literacy rate was 69.85 %. As per constitution of India and Panchyati Raj Act, Kashele village is administrated by Sarpanch (Head of Village) who is elected representative of village.

Senile cataract is the leading cause of preventable blindness worldwide, with an estimated number of 12 to 15 million persons affected.[2] In India, the prevalence

of cataract varies from 30% to 72% among the population aged 40 years and above in different parts of the country and it was estimated that 75% of all blind eyes were due to affected lens.[3,4] It has been reported that senile cataract develops at a younger age in India as compared to in the developed countries.[5] If the development of cataract could be delayed for 10 years, the number of cases needing surgery would decrease by 45%.[2]

Materials and Methods:

The study was conducted on a rural population of Kashele village Rajgarh district Maharashtra.

The population aged between 40 and 80 years were studied. A total of 560 patients were examined and 150 patients with bilateral cataract were chosen for the study. The study was carried out in a Medical college in Navi Mumbai.

Inclusion criteria of cases were

1) Age group between 40-80 years of age.
2) Presence of bilateral lenticular opacity leading to visual loss.
3) Visual acuity of 6/9 or less in the involved eye.

The exclusion criteria included

1) Traumatic cataract
2) Secondary cataract
3) Complicated cataract
4) Ocular diseases like corneal opacity, uveitis, glaucoma or macular degeneration etc. that can cause diminution of vision independently.

A written informed consent as well as a verbal consent was taken from patients. The community leader and personnel was explained study purpose.

Grading of cataract was done in the following manner: Pupil was dilated with 1% Tropicamide and/or 10% Phenylephrine, grading of the lens was conducted using the Lens Opacification Classification System (LOCS) III [6] and with standard set of photograph mounted next to the slit lamp. Visual acuity of the patients was measured using standard optotype Snellen's chart. After a thorough anterior segment examination we graded cataract as nuclear sclerosis, cortical cataract, anterior subcapsular and posterior subcapsular cataract on the basis of anatomical involvement. Stereoscopic examination of the vitreous, retina, and optic nerve was performed by slit lamp with a 90-D lens. We examined the retinal periphery with an indirect ophthalmoscope and a 20-D lens.

Results:

Out of the 150 patients examined in a hospital/medical college based setup in Navi Mumbai 48 patients had ambulatory

vision of 6/18 out of the 150 patients. In spite of having ambulatory vision patients still opted to visit the camp and get cataract extraction. 98 patients (65.33%) had nuclear sclerosis cataract of different grades in the left eyes. 103 patients (68.66%) had nuclear sclerosis cataract of different grades in the right eyes.

Nuclear sclerosis: A total of 201 eyes out of 300 eyes (67%) had nuclear sclerosis cataract of different grades.

67 patients (44.66%) had cortical cataract of different grades in the left eyes. 82 patients (54.66%) had cortical cataract of different grades in right eyes. (Table 1.1, 1.2, 1.3, 1.4, Chart 1.1, 1.2)

Cortical cataract: total of 149 eyes (49.66%) out of 300 eyes had cortical cataract. 32 patients (21.33%) had cortical cataract in their left eyes whereas 27 patients (18%) had cortical cataract in their right eyes. (Table 2.1, 2.2, 2.3, 2.4, Chart 2.1, 2.2)

Posterior subcapsular cataract: A total of 59 eyes (19.66%) had posterior sub capsular cataract. 8 patients (5.33%) had posterior sub capsular cataract in their left eyes out of 150 patients. Only 5 patients (3.33%) out of 150 had posterior sub capsular cataract in their right eyes. (Table 3.1, 3.2, 3.3, 3.4, Chart 3.1, 3.2)

Mature cataract: A total of 13 eyes (4.3%) out of 300 eyes had mature cataract or a total cataract. (Table 4.1, 4.2, Chart 4.1)

Discussion

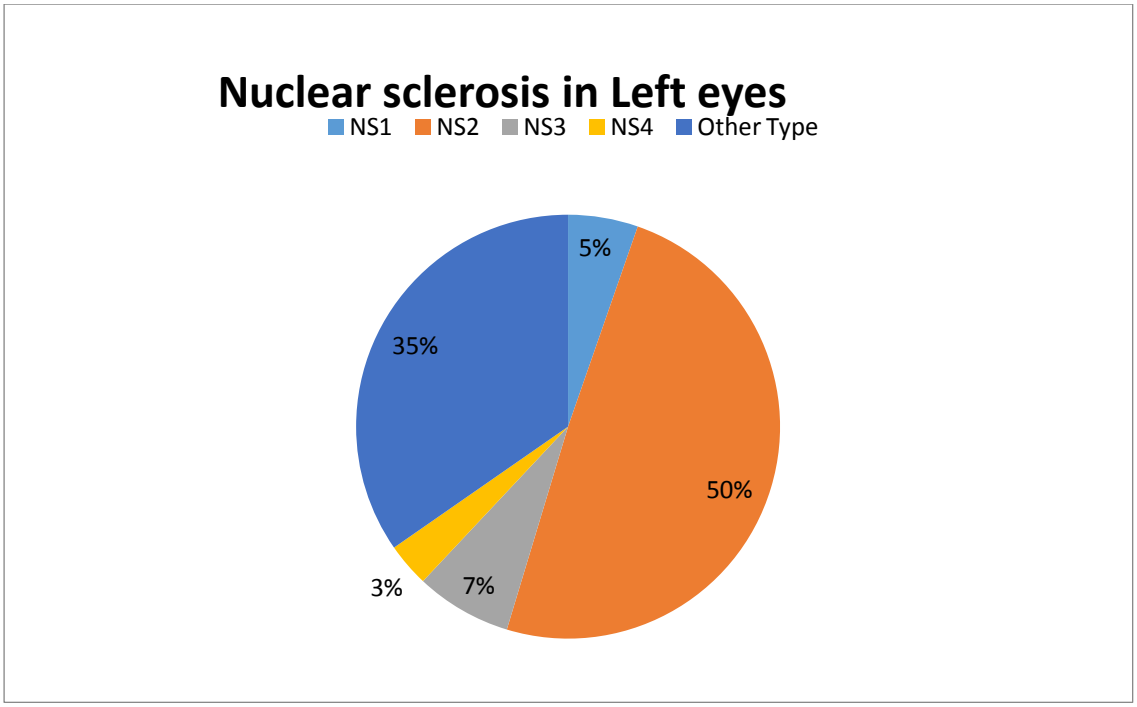
Senile cataract is a slowly progressive and treatable cause of loss of vision. Elderly and poor patients especially in a rural area like Kashele will derive benefit from screening for cataracts and early surgeries in the immature stages.This will help in avoiding blindness due to untreated cataracts and reduce the risk of complications related to the same. At the same time, screening patients in the outreach areas will improve their access to surgery, thus adding to the overall benefits. The important causes of un-operated cataracts leading to blindness comprise lack of awareness, misconceptions regarding cataract surgery, poor access to health services and cost. Hence, mass education and counselling is needed to convince the patients screened to undergo cataract

Grades of Nu	45 – 51	51 – 55	56 – 60	61 – 65	65 – 70	>70	Grand al
Nu gra	Grades of Nuclear sclerosis(NS)	45 – 51 years	51 – 55 years	56 – 60 years	61 – 65 years	65 - 70 years	>70 years	Grand Total
Nuclear sclerosis grade 2	18	18	14	16	8	0	74
Nuclear sclerosis grade 3	0	1	0	4	4	2	11
Nuclear sclerosis grade 4	0	0	1	1	0	3	5
Other Types of cataract	15	6	7	8	5	11	52
Grand Total	37	27	23	29	18	16	150

Table 1.1

Nuclear sclerosis grade 1	**4**	**2**	**1**	**0**	**1**	**0**	**8**
Female	1	0	1	0	0	0	2
Male	3	2	0	0	1	0	6
Nuclear sclerosis grade 2	**18**	**18**	**14**	**16**	**8**	**0**	**74**
Female	12	6	8	9	2	0	37
Male	6	12	6	7	6	0	37
Nuclear sclerosis grade 3	**0**	**1**	**0**	**4**	**4**	**2**	**11**
Female	0	1	0	3	1	0	5
Male	0	0	0	1	3	2	6
Nuclear sclerosis grade 4	**0**	**0**	**1**	**1**	**0**	**3**	**5**
Female	0	0	1	1	0	1	3
Male	0	0	0	0	0	2	2
Other Types of cataract	**15**	**6**	**7**	**8**	**5**	**11**	**52**
Female	8		3	2	2	2	17
Male	7	6	4	6	3	9	35
Grand Total	**37**	**27**	**23**	**29**	**18**	**16**	**150**

Table 1.2


Nuclear sclerosis in Left eyes
NS1
NS2
NS3
NS4
Other Type
5%
50%
7%
3%
35%

Grades of Nuclear sclerosis	45 – 51 years	51 – 55 years	56 – 60 years	61 – 65 years	65 – 70 years	>70 years	Grand Total
Nuclear sclerosis grade 1	3	4	2	2	0	0	11
Nuclear sclerosis grade 2	22	17	13	17	8	1	78
Nuclear sclerosis grade 3	0	0	5	4	1	2	12
Nuclear sclerosis grade 4	0	0	0	0	2	0	2
Other Types of cataracts	12	6	3	6	7	13	47
Grand Total	37	27	23	29	18	16	150

Table 1.3

Grades of Nuclear Sclerosis	45 – 51 years	51 – 55 years	56 – 60 years	61 – 65 years	65 -70 years	> 70 years	Grand Total
Nuclear sclerosis grade 1	**3**	**4**	**2**	**2**	**0**	**0**	**11**
Female	2	2	1	2	0	0	7
Male	1	2	1	0	0	0	4
Nuclear sclerosis grade 2	**22**	**17**	**13**	**17**	**8**	**1**	**78**
Female	11	5	7	7	2	0	32
Male	11	12	6	10	6	1	46
Nuclear sclerosis grade 3	**0**	**0**	**5**	**4**	**1**	**2**	**12**
Female	0	0	3	3	1	0	7
Male	0	0	2	1	0	2	5
Nuclear sclerosis grade 4	**0**	**0**	**0**	**0**	**2**	**0**	**2**
Male	0	0	0	0	2	0	2
Other Types of cataract	**12**	**6**	**3**	**6**	**7**	**13**	**47**
Female	8	0	2	3	2	3	18
Male	4	6	1	3	5	10	29
Grand Total	**37**	**27**	**23**	**29**	**18**	**16**	**150**

Table 1.4

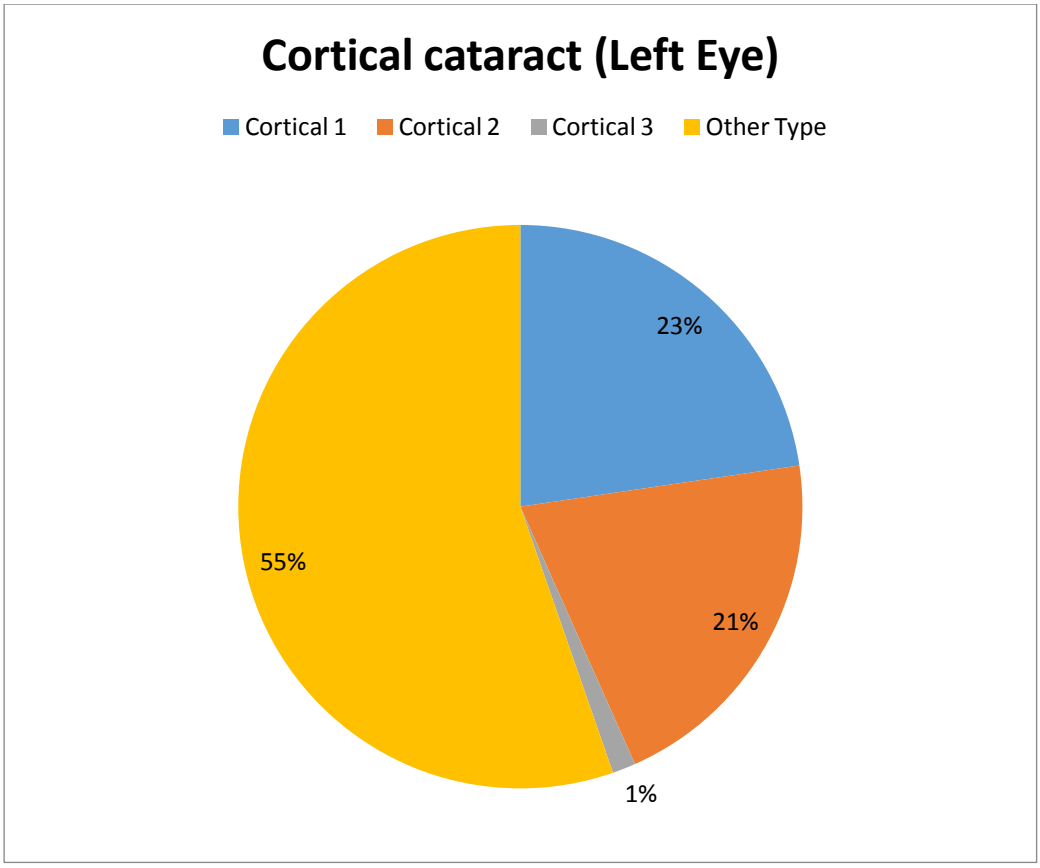
Grades of Cortical cataract	45 - 51	51 - 55	56 - 60	61 - 65	65 - 70	70 and above	Grand Total
Cortical 1	7	9	9	7	1	1	34
Cortical 2	0	6	5	8	8	4	31
Cortical 3	0	0	0	2	0	0	2

Grades of Cortical cataract	45 – 51 years	51 – 55 years	56 – 60 years	61 – 65 years	65 -70 years	>70 years	Grand Total
Other Type	**30**	**12**	**9**	**12**	**9**	**11**	**83**
Grand Total	**37**	**27**	**23**	**29**	**18**	**16**	**150**

Table 2.1

Cortical 1	**7**	**9**	**9**	**7**	**1**	**1**	**34**
Female	3	1	7	2	0	0	13
Male	4	8	2	5	1	1	21
Cortical 2	**0**	**6**	**5**	**8**	**8**	**4**	**31**
Female	0	2	1	5	2	1	11
Male	0	4	4	3	6	3	20
Cortical 3	**0**	**0**	**0**	**2**	**0**	**0**	**2**
Female	0	0	0	2	0	0	2
Other Type	**30**	**12**	**9**	**12**	**9**	**11**	**83**
Female	18	4	5	6	3	2	38
Male	12	8	4	6	6	9	45
Grand Total	**37**	**27**	**23**	**29**	**18**	**16**	**150**

Table 2.2


Cortical cataract (Left Eye)
Cortical 1
Cortical 2
Cortical 3
Other Type
23%
21%
1%
55%

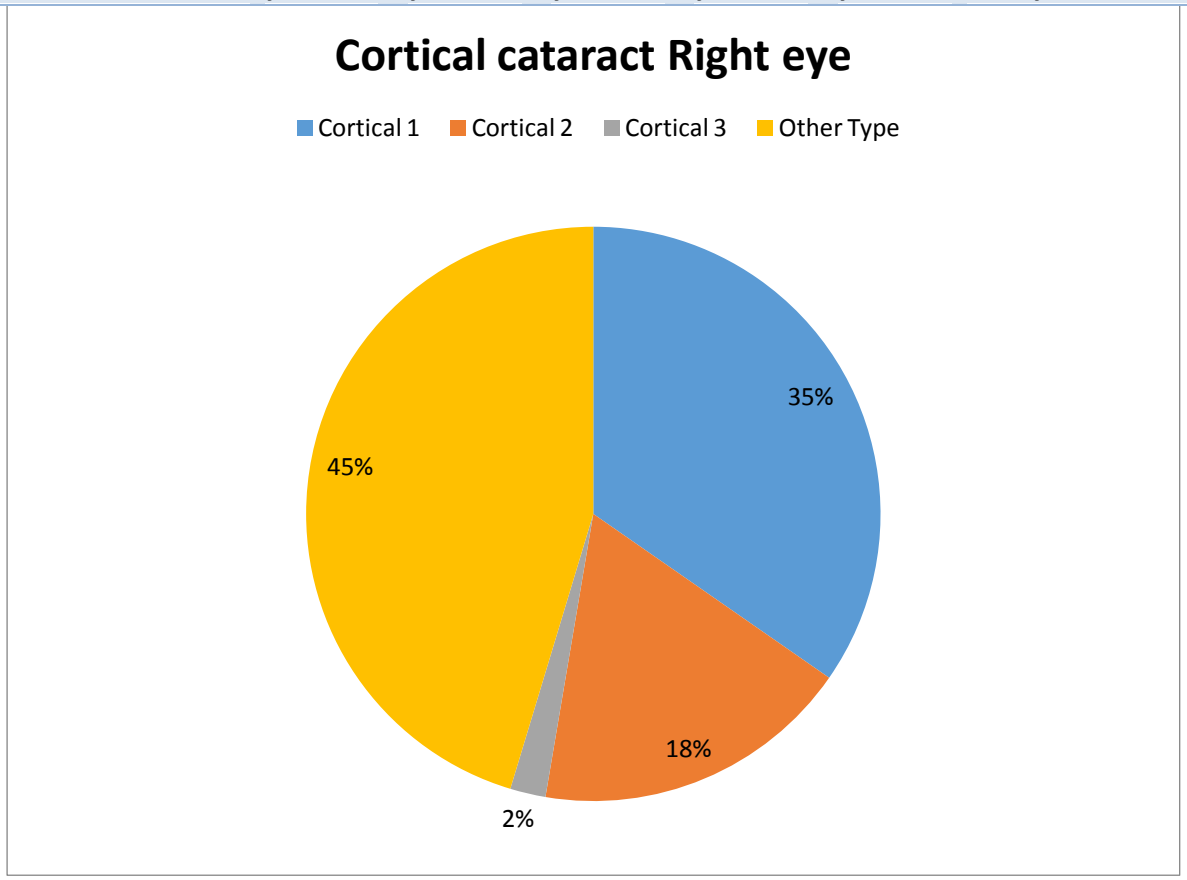
Grades of Cortical cataract	45 - 51	51 - 55	56 - 60	61 - 65	65 - 70	70 and above	Grand Total
Cortical 1	10	10	13	14	5	0	52
Cortical 2	0	4	7	7	6	3	27
Cortical 3	0	0	0	2	1	0	3
Other Type	27	13	3	6	6	13	68
Grand Total	37	27	23	29	18	16	150

Table 2.3

Grades of Cortical cataract	45 - 51	51 - 55	56 - 60	61 - 65	65 - 70	70 and above	Grand Total
Cortical 1	**10**	**10**	**13**	**14**	**5**	**0**	**52**
Female	6	2	7	9	1	0	25
Male	4	8	6	5	4	0	27
Cortical 2	**0**	**4**	**7**	**7**	**6**	**3**	**27**
Female	0	1	4	3	3	0	11
Male	0	3	3	4	3	3	16
Cortical 3	**0**	**0**	**0**	**2**	**1**	**0**	**3**
Female	0	0	0	1	0	0	1
Male	0	0	0	1	1	0	2
Other Type	**27**	**13**	**3**	**6**	**6**	**13**	**68**
Female	15	4	2	2	1	3	27
Male	12	9	1	4	5	10	41
Grand Total	**37**	**27**	**23**	**29**	**18**	**16**	**150**

Table 2.4

Grades of PSC	45 – 51 years	51 – 55 years	56 – 60 years	61 – 65 years	65 – 70 years	>70 years	Grand Total

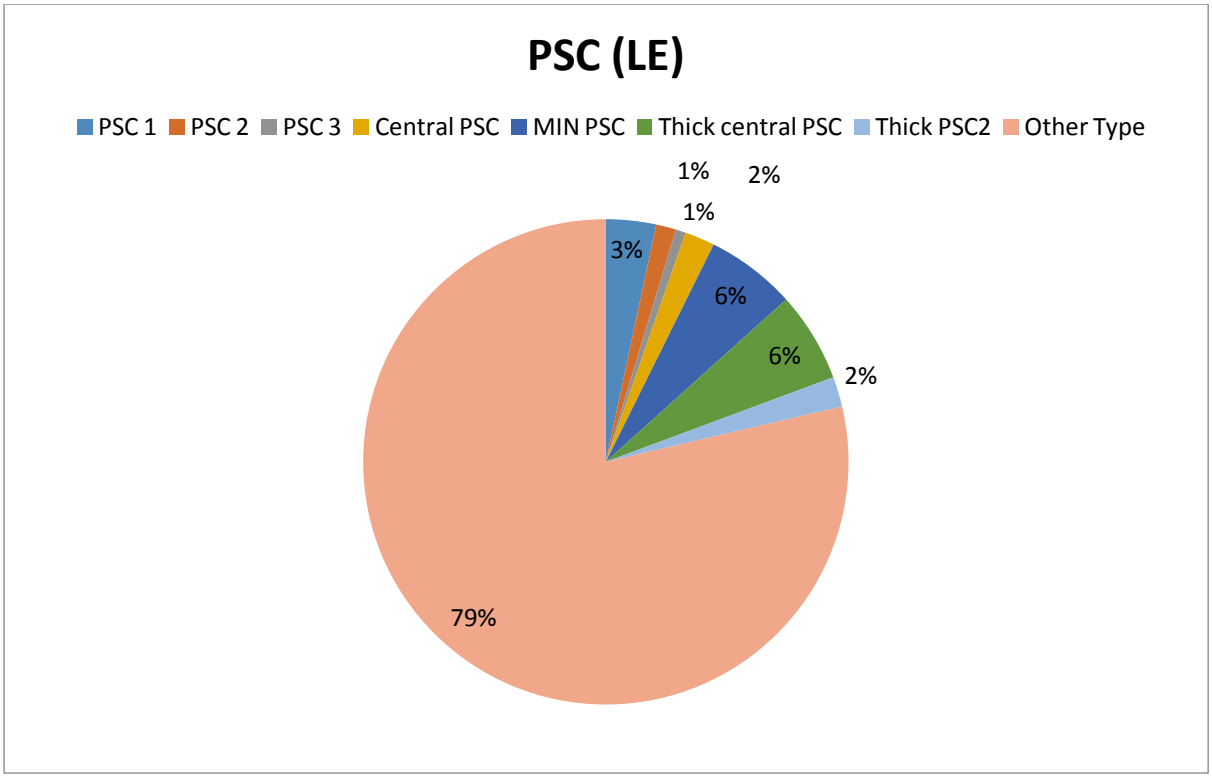


PSC 1	**1**	**0**	**2**	**1**	**1**	**0**	**5**
PSC 2	**0**	**0**	**0**	**0**	**1**	**1**	**2**
PSC 3	**0**	**0**	**0**	**0**	**1**	**0**	**1**
Central PSC	**0**	**0**	**2**	**1**	**0**	**0**	**3**
MIN PSC	**1**	**0**	**1**	**1**	**6**	**0**	**9**
Thick central PSC	**0**	**1**	**1**	**4**	**2**	**1**	**9**
Thick PSC2	**0**	**0**	**0**	**1**	**0**	**2**	**3**
Other Type	**35**	**26**	**17**	**21**	**7**	**12**	**118**
Grand Total	**37**	**27**	**23**	**29**	**18**	**16**	**150**

Table 3.1

Grades of PSC	45 – 51 years	51 – 55 years	56 – 60 years	61 – 65 years	65 – 70 years	>70 years	Grand Total
PSC 1	**1**	**0**	**2**	**1**	**1**	**0**	**5**
Female	1	0	2	1	0	0	4
Male	0	0	0	0	1	0	1
PSC 2	**0**	**0**	**0**	**0**	**1**	**1**	**2**
Male	0	0	0	0	1	1	2
PSC 3	**0**	**0**	**0**	**0**	**1**	**0**	**1**
Female	0	0	0	0	1	0	1
Central PSC	**0**	**0**	**2**	**1**	**0**	**0**	**3**
Female	0	0	2	0	0	0	2
Male	0	0	0	1	0	0	1
MIN PSC	**1**	**0**	**1**	**1**	**6**	**0**	**9**
Female	1	0	1	0	2	0	4
Male	0	0	0	1	4	0	5
Thick central PSC	**0**	**1**	**1**	**4**	**2**	**1**	**9**
Female	0	1	1	4	1	0	7
Male	0	0	0	0	1	1	2
Thick PSC2	**0**	**0**	**0**	**1**	**0**	**2**	**3**
Female	0	0	0	0	0	1	1
Male	0	0	0	1	0	1	2
Other Type	**35**	**26**	**17**	**21**	**7**	**12**	**118**
Female	19	6	7	10	1	2	45
Male	16	20	10	11	6	10	73
Grand Total	**37**	**27**	**23**	**29**	**18**	**16**	**150**

Table 3.2

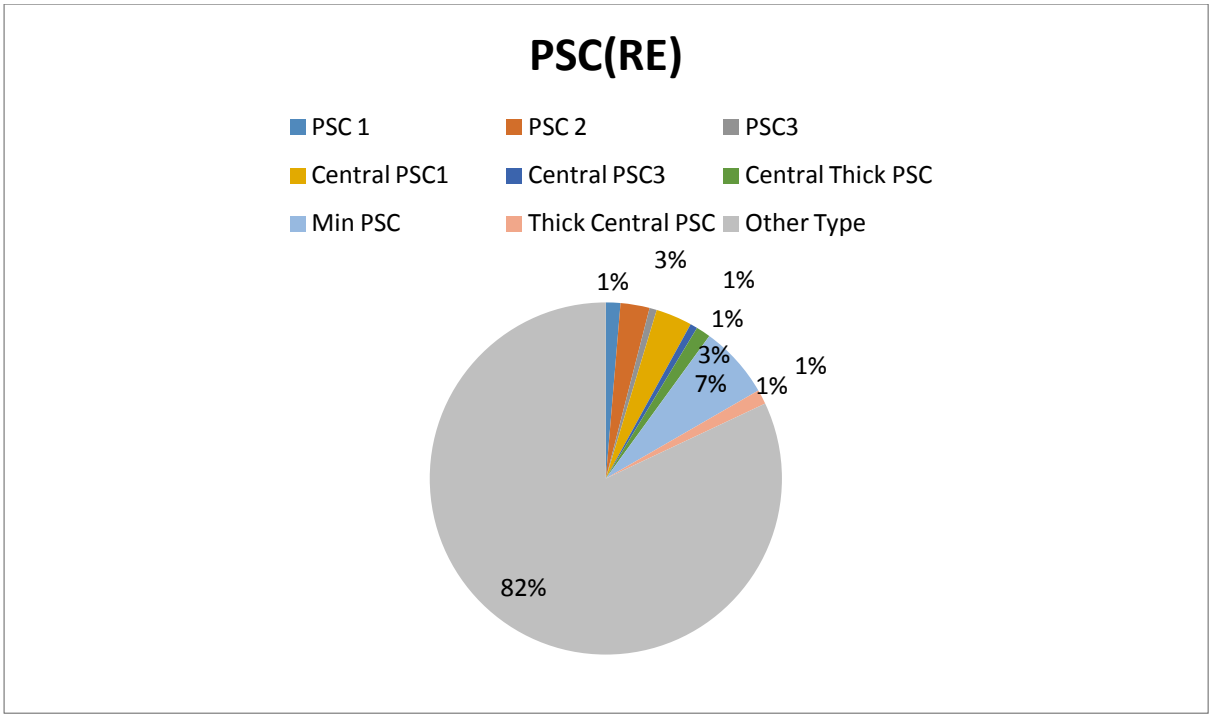

PSC (LE)
PSC 1
PSC 2
PSC 3
Central PSC
MIN PSC
Thick central PSC
Thick PSC2
Other Type
1%
2%
1%
3%
6%
6%
2%
79%

Grades of PSC	45 – 51 years	51 – 55 years	56 – 60 years	61 – 65 years	65 – 70 years	>70 years	Grand Total
PSC 1	1	1	0	0	0	0	2
PSC 2	0	1	1	0	2	0	4
PSC3	0	0	0	0	1	0	1
Central PSC1	1	2	0	2	0	0	5
Central PSC3	0	0	0	0	0	1	1
Central Thick PSC	0	0	0	1	1	0	2
Min PSC	1	0	2	6	1	0	10
Thick Central PSC	0	0	0	1	1	0	2
Other Type	34	23	20	19	12	15	123
Grand Total	37	27	23	29	18	16	150

Table 3.3

Grades of PSC	45 – 51 years	51 – 55 years	56 – 60 years	61 – 65 years	65 – 70 years	>70 years	Grand Total
PSC 1	**1**	**1**	**0**	**0**	**0**	**0**	**2**
Female	1	1	0	0	0	0	2
PSC 2	**0**	**1**	**1**	**0**	**2**	**0**	**4**
Female	0	0	0	0	1	0	1
Male	0	1	1	0	1	0	3
PSC3	**0**	**0**	**0**	**0**	**1**	**0**	**1**
Female	0	0	0	0	1	0	1
Central PSC1	**1**	**2**	**0**	**2**	**0**	**0**	**5**
Female	0	1	0	1	0	0	2
Male	1	1	0	1	0	0	3
Central PSC3	**0**	**0**	**0**	**0**	**0**	**1**	**1**
Male	0	0	0	0	0	1	1
Central Thick PSC	**0**	**0**	**0**	**1**	**1**	**0**	**2**
Male	0	0	0	1	1	0	2
Min PSC	**1**	**0**	**2**	**6**	**1**	**0**	**10**
Female	1	0	0	4	0	0	5
Male	0	0	2	2	1	0	5
Thick Central PSC	**0**	**0**	**0**	**1**	**1**	**0**	**2**
Male	0	0	0	1	1	0	2
Other Type	**34**	**23**	**20**	**19**	**12**	**15**	**123**
Female	19	5	13	10	3	3	53
Male	15	18	7	9	9	12	70
Grand Total	**37**	**27**	**23**	**29**	**18**	**16**	**150**

Table 3.4

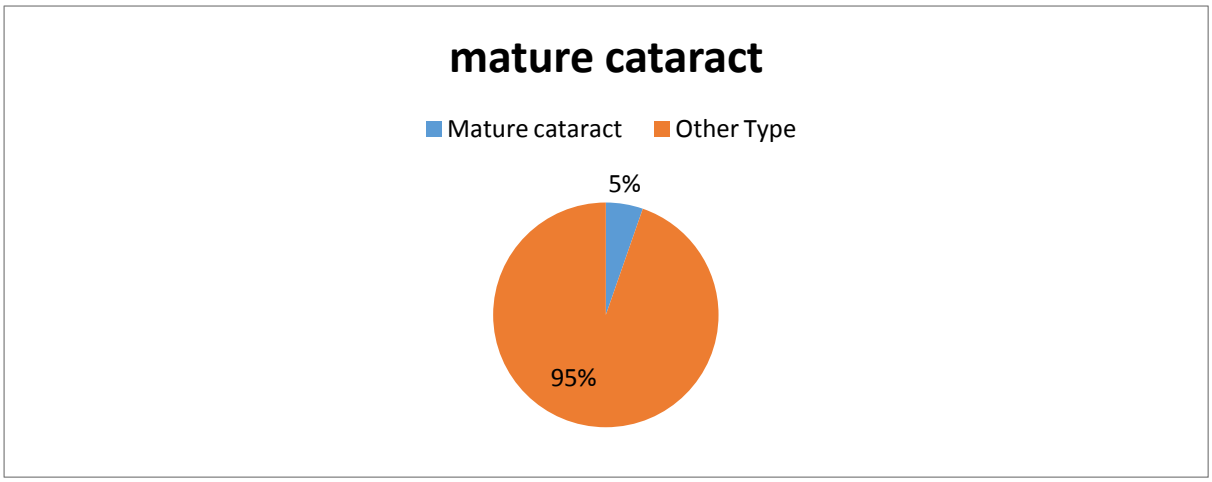

PSC(RE)
PSC 1
PSC 2
PSC3
Central PSC1
Central PSC3
Central Thick PSC
Min PSC
Thick Central PSC
Other Type
1%
3%
1%
1%
3%
7%
1%
1%
82%

Mature Cataract	45 - 51	51 - 55	56 - 60	61 - 65	65 - 70	70 and above	Grand Total
Mature Cataract	45 – 51 years	51 – 55 years	56 – 60 years	61 – 65 years	65 – 70 years	>70 years	Grand Total
Mature cataract	0	0	0	1	1	6	8
Other Type	37	27	23	28	17	10	142

Table 4.1

Mature cataract	**0**	**0**	**0**	**1**	**1**	**6**	**8**
Female	0	0	0	1	0	1	2
Male	0	0	0	0	1	5	6
Other Type	**37**	**27**	**23**	**28**	**17**	**10**	**142**
Female	21	7	13	14	5	2	62
Male	16	20	10	14	12	8	80
Grand Total	**37**	**27**	**23**	**29**	**18**	**16**	**150**

Table 4.2



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Original article

Eye Screening camp at logistics hubs: An insight into the ocular health of highway truck drivers

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Highway truck drivers need perfect vision in all categories for safe drive. Ocular health in them is neglected. No published data on ocular heath and vision status in India is available. To know and take care of the ocular health of them, eye checkup camps were conducted among 400 national highway truck drivers of India. 269 truck drivers(67.25%) were found to have visual acuity less than 6/6, 95% of which was due to uncorrected refractive error. Colour blindness was found among 7(1.75%) persons. Ocular health certification should be mandatory for driving license and periodic ocular health check up is recommended.

Key words: Truck driver, ocular health

Introduction

The highway truck drivers of India navigate their vehicles heavily loaded with every kind of commodities necessary for national life, day and night down the national highways. Extensive hours of driving, sleepless nights, unhealthy food and lodging and mental tension affects their health adversely.[1] In addition postural fatigue, exposure to noise, vibration and diesel exhaust fumes, unsafe sex and alcoholism, these all add to their professional hazards leading to development of musculoskeletal disorders, deafness, respiratory tract disease, cardiovascular disease, hepatic cirrhosis and sexually transmitted diseases. [2,3]

Highway truck drivers are also supposed to suffer from dimness of vision, refractive error, dry eye and other ocular disease. These may not be directly related to their profession, but ocular health hazards can pose difficulty in their work and road safety also.

Various governmental and non governmental bodies have been taking care of highway truck drivers' health including eye health, but there very few published data on it.

This study highlights the state of ocular health of highway truck drivers of India together with measures to keep it healthy in order to maintain safe drive.

Aims and objective

To detect dimness of vision and other ocular morbidities in highway truck drivers

To assess the refractive error and corrective power in highway truck drivers

Materials and Methods

A cross sectional observational study was conducted among 400 highway truck drivers of all ages at the logistic hubs at Khiddirpur (Kolkata), Shalimar(Howrah) and

Dankuni(Hooghly) from January 2017 to March 2017, where Highway truck drivers used to come from distant states and hault for loading and unloading. The check up was done by the professional team of Dept of Ophthalmology, Calcutta National Medical College & Hospitals, Kolkata in collaboration with the West Bengal State Transport Dept and Seva Kendra, a non governmental voluntary organization.

Eye examination of the drivers was done with the help of hand torch and direct ophthalmoscope. Acuity of Vision and colour vision were tested with the help of Snellen's chart and Ishihara's chart respectively and refraction was done with the help of streak retinoscope and trial box. Prescription for correcting glasses was done. Medicines were prescribed for other ocular morbidities and difficult cases were referred to Medical College Hospital.

Result

A total 400 truck drivers were examined.

Table 1. showing the age distribution

	Age group			
	0-19 N= 400	20-39 yrs N= 400	40-59 yrs N= 400	60 yrs & above N= 400
Number of driver	11(2.75%)	206(51.50%)	163(40.75%)	20(5%)

Table 2 showing the geographical distribution

	Residential state								
Number of drivers	West Bengal N=400	Bihar N=400	Uttar Pradesh N=400	Jharkhand N=400	Panjab N=400	Nepal N=400	Rajsthan N=400	Odisha N=400	Hariyana N=400
	134 (33.50%)	176 (44%)	56 (14%)	13 (3.25%)	9 (2.25%)	5 (1.25)	4 (1%)	2 (0.5%)	1 (0.25%)

Table 3 showing the Visual acuity and colour vision, refractive error and other ocular morbidity status

	PVA <6/6 N=400	Refractive error N=400	Colour blindness N=400	Other morbidity N=400
No of drivers	269(67.25%)	274(68.50%)	7 (1.75%)	21(5.25%)

Table 4 showing the refractive error and power of correcting glass

	Myopia N= 274	Hypermetropia N= 274	Astigmatism N= 274	Presbyopia N= 274
Number of drivers	58(21.16%)	87(31.75%)	33(12.04%)	169(73+96)(61.67%)

Table 5 showing other ocular morbidities

	Cataract N=21	Allergic conjunctivitis N= 21	Chalazion N=21	Dry eye N=21	Blocked nasolacrimal duct N=21	Pthysis bulbi N= 21	Glaucoma suspect N= 21
No of drivers	11(52.38%)	14(66.66%)	3(14.21%)	5(23.80%)	5(23.80%)	1(4.76%)	3(14.28%)

Discussion

For driving along the highway for a considerable time, all day and night, a driver needs good distant and near vision, colour vision as well as field of vision for safe driving. In India, tests for these faculties of vision are not mandatory to acquire a driving license. Therefore it is obvious that a highway truck driver remains unaware of his visual disability. Away from the home and cities for long days busy with his work, a highway truck driver can not get access to the eye care facilities even if he suffers from any shortcoming of vision or other ocular diseases. Those who are having spectacles are not careful about revision of power at two or three years' interval.

In one study among 59 long distance truck drivers in Hyderabad in 2011, 16.95% drivers were found to have visual impairment in either of the better eye upon testing visual acuity, according to the WHO criteria. Three (5.08%) divers had visual impairment of both eyes. Only 5 (38.46%) drivers were found to be using spectacles for corrected vision. None of the drivers were found to be color blind.[4]

In our study we have found 269(67.25 %) truck drivers were suffering from less than 6/6 visual acuity. The causes of impaired vision in almost 95% was uncorrected refractive errors like hypermetropia, myopia and specially presbyopia . In 5% it was due to cataract. Among them a considerable number of drivers never had any refraction test in past, many of them were reluctant to wear spectacles they had been prescribed and were still wanted to avoid wearing them.

Barrier to use of spectacle mainly evolved out of prejudice and uncomfortable feeling of wearing specs. Those who are to wear bifocal specs often complaints that they have blurring of mid zone vision.

Provision for eye check up and primary eye care should be made available at the frequently visited places of truck drivers like logistics hub, truck terminus and *dhabas*. Eye check up and refractive correction should be made mandatory during issuance and renewal of driving license.

Reference

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Review article

Global trends in the magnitude of Blindness and Visual impairments: An overview

Amitava Dey MS*

Up to date estimates and future projected data on the magnitude of blindness and vision impairments (VI) form the basis for setting up plans of action, monitoring and evaluation of interventions, formulating norms for prevention of blindness and VI and improvement of global eye health.

The first estimate on the prevalence and causes of blindness and VI was based on 1990 World population data which indicated that there was 148 million visually challenged persons of which 38 million were blind and 110 million were vision impaired[1]. This estimate was later extrapolated to 1996 world population data which indicated there was 45 million blind people and to the projected 2020 world population data indicating that there would be 76 million blind people i.e., about a two-fold increase in blindness, in comparison to 1990 data. This provided the basis for launch of global initiative for the elimination of avoidable blindness, VISION 2020.Thereafter WHO bulletins were published in 1995, 2002 and 2004 after systematic search and review of all available data to obtain a worldwide estimate of blindness and vision impairment.[2-4]

Pascolini D and et al in order to obtain a global estimate on vision impairment for 2010, studied observations from 53 surveys from 39 countries in between 2001 to 2008 using Medline search for published data on blindness and vision impairment with no language restriction.[5] Studies were also searched in WHO regional databases. Following definitions were used based on international classification of diseases (ICD) update and revision 2006 according to presenting visual acuity (PVA).

Mild VI : <6/12 but 6/18 or better
Moderate VI : < 6/18 but 6/60 or better
Severe VI: <6/60 but 3/60 or better
Blindness: <3/60
Moderate and severe vision impairment were combined in the study to refer as "Low vision"
The study showed,
Prevalence: Visually impaired : 285 million
Blindness : 39 million
Low vision : 246 million

65% visually impaired and 82% of all blind people were aged 50 years or older.

This study also had its own limitations and strengths as follows:
Limitations:

i) Most of the surveys were RAAB studies for ages 50 years or older
ii) Availability of few national level studies with or without WHO Eye Survey Protocol
iii) Difficulty in estimates of errors due to imputation of prevalence for missing data.

The combined effect of the above uncertainties might have led to an over or under estimation of blindness and vision impairment of approximately by 20%.

Strengths:

i) Availability of new data replacing previous extrapolations
ii) Use of a model based on the same economic parameter for all countries. The imputation process using this model was more reliable as it provided consistency between regions and countries and also could be adapted for estimating trends.

This study did not estimate the prevalence of vision impairment by sex and also did not account for changes in vision impairment prevalence over time.

Stevens G, White R, Flaxman SR, et al, for the Vision Loss Expert Group published their study report on trends in the prevalence of blindness and MSVI for the period 1990 through 2010.[6]

Globally, 32.4 million people were blind in 2010 and crude prevalence was 0.50%. Out of 32.4 million blind people, 19.6 million (60%) were female. Largest number of blind people resided in South Asia (10.6 million), followed by 5.2 million in East Asia and 3.5 million in South East Asia. The prevalence of blindness varied from 0.10% in North America high-income region to 0.7% in North Africa and Middle East region. 191 million people were suffering from moderate and severe vision impairment (MSVI) and crude prevalence for MSVI was 2.8%. Out of this 216.6 million people suffering from MSVI, 109 million (57%) were female. 72 million were residing in South Asia followed by 33 million in East Asia and 18 million in South East Asia. Crude prevalence of MSVI varied from 0.9 % in North America high income region to 4.57% in South Asia. Of those with MSVI, 30 million people were suffering from severe vision impairment and 161 million had moderate vision impairment. The prevalence of MSVI varied from 0.9% in North America high-income region to 4.5% in South Asia region. 155 million people were suffering from mild vision impairment (Mild VI) in 2010. 84.6% of blind people and 77.5% of those with MSVI were aged 50 years and older.

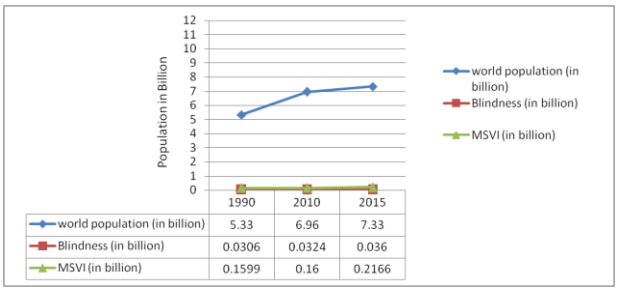
Bourne R A, Flaxman S R, Braithwaite T, et al for Vision Loss Expert Group (VLEG) has recently published their study report in 'Lancet' on 2nd August'2017 which was based on systematic review and meta analysis of population based data relevant to vision impairment and blindness that were published in between 1980 and 2015 and used hierarchical models to estimate the prevalence by age, sex and country wise in 2015.[7]

Following definitions on blindness and vision impairment were used.

Category	PVA in better eye
Mild vision impairment (Mild VI)	<6/12 but 6/18 or better
Moderate & Severe vision impairment (MSVI)	<6/18 but 3/60 or better
Blindness	<3/60
Presbyopia	Near vision worse than N6 or N8 at 40 cm and BCVA more than or equal to 6/12 (20/40)

Worldwide, out of the 7.33 billion people alive in 2015, 36.0 million were blind (80%

UI 12.9 – 65.4) and crude prevalence was 0.48% (80% UI 0.17 – 0.87). Out of 36 million blind people, 20.1 million (56%) were female. 11.7 million were residing in South Asia followed by 6.2 million in East Asia and 3.5 million in South East Asia. Crude prevalence of blindness varied from 0.24% in Australasia to 0.7% in South East Asia. 216.6 million people were suffering from moderate and severe vision impairment (MSVI) and crude prevalence for MSVI was 2.95%. Out of this 216.6 million people suffering from MSVI, 118.9 million (55%) were female. 61.2 million were residing in South Asia followed by 52.9 million in East Asia and 20.8 million in South East Asia. Crude prevalence of MSVI varied from 1.57 % in Southern Sub Saharan Africa to 3.69 % in East Asia. 188.5 million people were suffering from mild vision impairment (Mild VI) and crude prevalence rate for Mild VI was 2.57%. Out of this 188.5 million people suffering from Mild VI, 101.4 million (54%) were female. 1094.7 million people aged 35 years or older and 666.7 million people aged 50 years and above were functionally presbyopic. Crude prevalence was 35.6% and 40.3% for these groups respectively. The numbers of people who were Blind or Moderately and Severely Vision Impaired (MSVI) through 1990 to 2015 are shown in figure 1.



	1990	2010	2015
world population (in billion)	5.33	6.96	7.33
Blindness (in billion)	0.0306	0.0324	0.036
MSVI (in billion)	0.1599	0.16	0.2166

Figure 1: The numbers of people who were Blind or Moderately and Severely Vision Impaired (MSVI) through 1990 to 2015

People aged 50 years and above have the largest burden of vision impairment. Globally 31 million (86%) of 36 million blind people, 172.3 million (80%) of 216.6 million people with MSVI, 140.3 million (74%) of 188.5 million people with mild VI, 666.7 million (61%) of 1094.7 million people with functional presbyopia belong to this group. Prevalence of blindness in this group (aged 50 years and above) was 4.0% or greater in three developing regions in 2015 viz., 5.1% in Western Sub Saharan Africa, 4.3% in Eastern Sub Saharan Africa and 4.0% in South Asia. It is 0.5% or less in high income regions. Age standardized prevalence of MSVI was highest in South Asia(17.5%) followed by North Africa and Middle East (17.2%), Western Sub Saharan Africa (16.0%), Central Sub Saharan Africa (14.4%)and South East Asia(14.1%). Age standardized prevalence of MSVI was lowest (<5.1%) in all four high income regions. Age standardized prevalence of Mild VI was highest in South Asia(12.2%) followed by North Africa and Middle East (11.9%), Western Sub Saharan Africa (11.2%) and Central Sub Saharan Africa (10.8%). Age standardized prevalence of Mild VI was 5.0% or less in all four high income regions and in Central Europe. Among the seven super-regions, the age standardized prevalence of functional presbyopia was highest in South Asia(63.8%)followed by Sub Saharan Africa (58.5%) and Central Europe, Eastern Europe and Central Asia (51.9%) and was lowest (12.2%) in the high income super-
Region.

Distribution in Sex:

Female prevalence of blindness was more than that of male blindness in all world regions (figure 2). Global female to male age standardized prevalence ratio among older adults was 1.05 for blindness, 1.07 for

moderate and severe vision impairment and 1.05 for mild vision impairment.(Fig2)

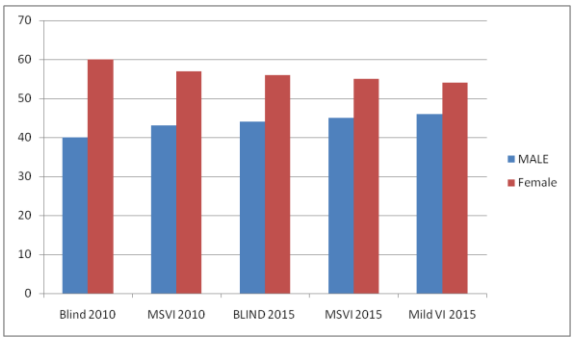


Figure 2: Sex distribution of people suffering from blindness or moderate and severe vision

Impairment (MSVI) through 2010 to 2015.

Distribution in Age:

Age standardized prevalence of blindness in older adults was highest, exceeding 7% was in Afganistan, then Ethiopia, Yemen, Chad, Cameroon and Niger. Age standardized prevalence of

moderate and severe vision impairment in older adults was highest , exceeding 21% in Afganistan, following by Nepal, Eritrea, Turkey, Laos, Pakistan and Myanmar.

Projections:

Based on findings of present prevalence it has been projected that in 2020, 38.5 million people would be blind of a total global population of 7.75 billion and crude prevalence would be 0.50%. There would also be 237.1 million people with moderate and severe vision impairment in 2020 and crude prevalence would be 3.06%. Similarly in 2050, 114.6 million people would be blind of a total global population of 9.69 billion and crude prevalence would be 1.18%. There would also be 587.6 million people with moderate and severe vision impairment in 2050 and crude prevalence would be 6.06%. The predicted numbers of people who will be blind or moderately or severely vision impaired, for each decade in between 2020–50, are shown in figure 3.

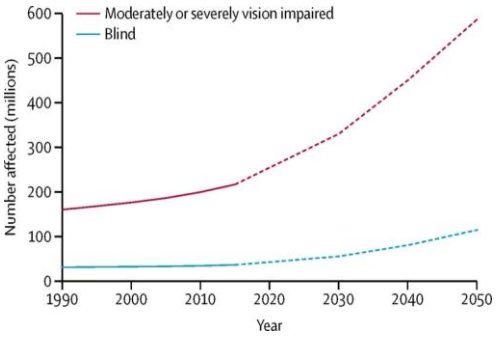


Figure 3 : *Global trends and predictions of numbers of people who are blind or moderately and severely vision impaired, from 1990–2050*
(COURTESY : The Lancet Global Health 2017 5, e888-e897DOI: (10.1016/S2214-109X(17)30293-0)

This study also had its own limitations as follows:

1) Varied data source with major gaps in between regions of the world
2) Varied definitions of blindness and vision impairment
3) Many studies were not done on national level
4) Lack of participation of institutionalized (often elderly) individuals
5) Exercise of caution in interpretation of the forecast of blindness and vision impairment.

Uncertainties of the global estimates could be reduced with population based studies from regions with limited or old data and with detailed national studies for all ages recording all causes of blindness.

Discussion

Global age standardized all age blindness has decreased from 0.75% in 1990 to 0.48% in 2015 and thus recorded a decrease of 0.27 percentage points. Similarly, global age standardized all age moderate and severe vision impairment has also decreased from 3.83% in 1990 to 2.9% in 2015 and thus recorded a decrease of 0.93 percentage points. But the absolute number of people with blindness has increased from 30.6 million in 1990 to 36.0 million in 2015 and thus recorded an increase by 17.9%. This change was attributable to three factors:

1) An increase in population growth (38.4%)
2) An increase in population ageing after accounting for population growth (34.6%)
3) A reduction in age-specific prevalence (- 36.7%)

Similarly, the number of people with moderate and severe vision impairment has also increased from 159.9 million in 1990 to 216.6 million in 2015 and thus recorded an increase by 35.5%. The proportion accounted for by each of the three factors were also similar viz., 38.4% increase due to population growth, 29.2% increase due to population ageing and 24.2% decrease in age specific prevalence. Thus in spite of the reduction in the age standardized prevalence of blindness and vision impairment, the increased growth and ageing of world population is causing a substantial increase in the number of people affected.

Conclusion:

Formulation of the policies aiming at the prevention and elimination of the avoidable causes of blindness and vision impairment needs assessment and monitoring the magnitude of the problem. There is ever increasing number of people at risk of vision impairment as world population grows and particularly the older age groups. The disparity and inequity in the availability and affordability of eye care services in the highly populated poorest countries of the world failed to prevent and control the overwhelming increase of avoidable blindness and vision improvement.

The reduction in the age standardized prevalence of vision impairment since 1990 and 2010, after accounting for population growth and ageing, suggests that the interventions made in the alleviation of vision impairment during this period have gained considerable dividends, like improvement in the quality of life and economic benefits.[8,9]

Although there is ongoing reduction in the age standardized prevalence of blindness and vision impairment noted in 2010, the growth and ageing of world population is causing a substantial increase in the number of people with blindness and vision impairment which appears to be accelerating. This finding along with very large contribution from uncorrected presbyopia, highlight the need to respond to WHO's Global Action Plan 2014 – 2019 by scaling up vision alleviation efforts at all level.

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Nai Kiran: The community initiative bringing new rays of hope in life

Md.Toffique Ansari*

Nai Kiran is a voluntary organization registered under Indian Trust Act -1882. It is working in the field of eye care and sanitation since 2009. In the year 2012 a thirty bedded Charitable Eye Hospital – "Razia Charitable Eye Hospital" was founded in Hazaribagh, Jharkhand with the aim to eliminate needlessly blindness from Hazaribagh and Chatra district of Jharkhand at a very affordable rate with quality service.

Chatra is one of the district of Jharkhand which is Extremist affected and lacks good infrastructure for eye care as there is no private and Government Ophthalmologist in the district. In Hazaribagh & Chatra districts Razia Charitable Eye Hospital caters the need of eye health of poor and destitute. There is a huge backlog of cataracts in both the districts and many cases of refractive errors are found among children which remains untouched. The areas which we are covering are tribal and remote areas which depend on rain fed agriculture and the socio-economic condition of the people is below the national average. The eye health services are still unreached due to fear of extremist groups in Chatra district. It is seen in the areas that rural youths have migrated to metropolitan cities in search of livelihood and the dependant age group (+60) remain in villages with eye problems mainly cataract and refractive errors. No proper care are taken to this group, they live a miserable life. It is seen that in this age they live an abandoned life and curse their life and wait for final journey because at this age they become fully dependant on other young members of family in decision making.

The aim of the organization is to provide affordable eye care services to the untouched population who are deprived of basic needs.

Nai Kiran focuses on following areas of concern"

- Free eye check up camps
- Free & Subsidized cataract surgeries.
- School Screening camps
- Teachers training on vision test

The organization with support of following agencies provided free cataract surgery and dispensed spectacles for the refractive error cases:

- District Blindness Control Society.
- Anugrahadristidaan- NGO
- Damodar Valley Corporation

The organization works on people-centric approach, it plays an important role in creation of awareness generation on eye health through school interventions and IEC materials distribution. Our charge of surgery at base hospital is Rs.1000.00 which include Cataract surgery with IOL, pre-intra and post operative medicines, black goggles, food and to & fro transportation for camp patients. Beside this for awareness

generation on eye health we regularly organize free eye check up camps in remote villages and identify cases of Glaucoma, Diabetic Retinopathy, High Blood pressure etc and refer them to government hospital and higher centre for treatment.

The organization with Nidan Hospital and Research Centre which is run by Government retired Doctor organizes free Geriatric camps in both district of Jharkhand i.e Hazaribagh & Chatra for awareness generation and treatment of cases of High Blood Pressure ,Diabetic and Cataract..

Base Hospital Update – Razia Charitable Eye Hospital

Free & Subsidized Cataract Surgery	Outreach Camps	Patients Treated in camps	School Screening	Base Hospital OPD	Free spectacle Distribution	Teachers Training
3652	864	58752	24	15497	1289	12

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Brief communication

Acute Bilateral ptosis: A diagnostic clue for venomous snake bite

Dr Dayal Bandhu Majumdar*

Bilateral ptosis is not a very uncommon phenomenon to be presented by an ophthalmic patient. Keeping in mind the possibility of a venomous snake bite at the rural areas of tropical country like India in differential diagnosis, proper exploration of history and thorough neurological examination are necessary. The article presents four of such cases.

Key words: Ptosis, snake bite, common krait

Introduction:

[i]In popular practice venomous snake bite patients are recognized in the first instance from history of bite and characteristic bite marks on the body of the patient, before the characteristic signs of hemotoxicity or neurotoxicity appear.

'Common Krait' bite shows atypical bizarre presentation without any typical history or bite marks, leading to diagnostic dilemma. Appearance of acute bilateral ptosis, finally, indicates the correct diagnosis.[1]

Here are the reports of few of venomous snake bite cases with acute bilateral ptosis.

Case 1:

A 40 yrs old male Patient attended emergency outpatients' department of Calcutta National Medical College & Hospitals with complaint of sore throat since last midnight and thereafter from difficulty in swallowing since morning. He had got admitted in a subdivisional hospital in the early morning and had been diagnosed as Guillain Barre syndrome following a CT scan brain. He was then referred to Calcutta National Medical College & Hospitals. On examination the patient was conscious but disoriented. There was no neurological deficit except bilateral moderate ptosis. Ocular movements in all directions of gaze were normal. Pupils we dilated and fixed. Patient was diagnosed as a case of snake bite. He was immediately transferred to ICU and Anti Snake Venom (ASV) was infused. After four hours of artificial ventilation at ICU the patient was saved. Later, the patient admitted that he had stepped on a blackish snake in his garden in the previous morning.

Case 2 (Fig 1)

A 7 yrs old girl was admitted at a Subdivisional Hospital of Burdwan district, West Bengal with complaints of difficulty in deglutition since morning. The girl informed her mother in the morning that she had a nightmare last night that a snake was biting her in bed. Parents ignored her dream, and even the doctors of the SD Hospital didn't consider a differential diagnosis of a venomous snakebite. She was referred to Chuchura District Hospital, Hooghly. Pediatrician medical officer there noticed the bilateral ptosis and made the diagnosis

of neurotoxic snake bite. ASV was infused and the girl recovered.

Fig 1

Case 3(Fig 2a & 2b)

A 54 yrs old lady attended Sub Divisional Hospital of North 24-Paraganas , West Bengal with complaints of vomiting, discomfort in chest and difficulty in swallowing for more than two hours in the morning. She was diagnosed as suffering from Ischemic heart disease. All the treatments were initiated. Patient was not feeling well in spite of all sorts of treatment for heart attack. Suddenly the treating Physician noticed Bilateral Ptosis. A diagnosis of neurotoxic snakebite was declared and ASV was started. Patient improved in few hours after ASV infusion. Then the lady admitted that, there had been a thorn prick on her finger, when she was plucking flower from a bush in the early morning.

Fig 2a & 2b

Case no 4(Fig 3a & 3b)

A 40 yrs old female was admitted at a rural Hospital of Hoogly district, West Bengal in the afternoon of 7 th July, 2017 with pain abdomen for last 36 hours. She was referred to district hospital for USG abdomen. During counseling for transfer, the medical officer suddenly detected bilateral ptosis in the patient's eye. He started ASV immediately, and her complaints of pain abdomen for more than 36 hours were relieved in three hours.

Fig 3a & 3b

All these cases presenting with got relief of their complaints and presenting symptoms in

few hours after ASV infusion. But the main finding for neurotoxicity, Bilateral ptosis, remained for three to five days.

Discussion

Ptosis in snake bites is due to Pre synaptic blockage of the cholinergic nerve endings and ptosis in all of the said cases was due to bite of 'common krait'. Common Krait (*BangurusCeruleus*) is a hoodless, highly venomous, neurotoxic snake. Common Kraits(CK) or 'Kalach' are distributed all over the Indian subcontinent. (Fig 4)

Fig 4

Main feature of CK bite is its atypical presentations. The popular belief is that all the venomous snakebites are painful and there must be two clear bite marks. These are the commonest features of a cobra bite. In CK bites, there would be no pain at all. Usually these snakes come out of their hiding places in the darkness of night to reach the bed and move around a sleeping person lying on the open floor bed or beds on a low height cot.[2]

As most of the bites by CK occur in a sleeping person, all most all of these bites remain unnoticed by the victim.

CK bite cases, most of the times without any definitive history or mark of bite, presents to the Health Center or Hospital with acute pain abdomen, sore throat, vomiting and acid dyspepsia or any other bizarre symptoms. It is appearance of bilateral ptosis that differentiates the case from acute abdomen, respiratory tact infection or myocardial infarction. "Early morning sleep breaking pain abdomen", which is vague in nature and does not point towards any definite underlying cause on examination and imaging is highly suggestive of CK bite.[2]

The ocular sign of "Bilateral Ptosis" is the diagnostic point in all the cases of CK bite. But the time of onset of bilateral ptosis is highly variable. It is noted just on presentation (zero hour) to even after 72 hrs after hospitalization.[2,3]

Causes of variation of time of onset may be due to 1) amount of venom injected, 2) Time of bite, early night bite or late night bite, as the time of bite is usually not noticed by the victim 3)Patients physical fitness 4) site of bite; bite at more vascular body parts may circulate the venom early.[2,3]

Whatever may be the time of onset of ptosis, once this ocular finding is noticed, these patients rapidly deteriorate to total ophthalmoplegia, then palatal and pharyngeal muscle palsies and ultimately respiratory failure due to intercostal muscle blockage occur.

So, diagnosing "Acute Bilateral Ptosis" at an early stage is the hall mark of managing a CK bite

Conclusion

A high degree of suspicion, keeping neurotoxic snakebite in the differential diagnosis of any acute abdomen, sore throat, acute onset poly arthralgia and respiratory distress in children can save many a CK bite cases. Asking for a positive history of a snakebite, searching for classical bite marks

and local signs of a snakebite make delay in diagnosis which is usually fatal. As late infusion of ASV in a case of CK bite usually lead to respiratory failure, artificial ventilation is the only way out to save a CK bite case diagnosed late.

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iiiiiii