

## Corneal ulcer in a Cambodian eye hospital

**Tim Hall**

Sheffield, UK.

**Frans Lion**

Medical Director, Takeo Eye Hospital, Caritas RBC, PB 123, Phnom Penh, Cambodia. Email: flion@bigpond.com.kh

Traumatic corneal ulcer is an important cause of bilateral and monocular blindness in the developing world, with estimates of 5% of all blindness being trauma related. Cambodia is likely the poorest country in South East Asia with no national survey of blindness aetiology, although surveys were carried out in the provinces Kandal (1996) and Battambang (1997). Most Cambodians are rice farmers and agricultural work-related corneal trauma is a neglected area of research. This retrospective case-series study in Takeo Eye Hospital in southern Cambodia looked at sex, age, history, surgery and comparative visual acuity of affected eyes between presentation and discharge of 130 patients with a corneal ulcer diagnosis between 21 May and 31 December 2001. Whilst the study cannot shed light on, for example, corneal ulcer aetiology or the relative efficacy of different treatments, it can describe patterns in this particular patient population that may prove useful and indicate areas for further research.

**Results:** 55% patients were male, 45% female, aged 1-88 yrs. Most were of working age. Of 121 cases, 51% recorded trauma. There were 99 cases with a recorded acuity; 75 presented blind (defined here <3/60); 15 had normal vision (defined here 6/6-6/18). There were 14 fewer blind eyes and 9 more with normal vision at discharge. About a quarter improved in WHO category of visual loss (including 6 from blind to normal), half stayed the same (12 maintained as normal and 58 remained blind); 4 eyes out of 99 deteriorated. 23 of the 24 eyes removed were blind on presentation.

**Conclusions:** With a rough quarter of the sample showing an improvement of one or more grades and deterioration in only 4%, patients are benefiting as a whole (some individuals dramatically) from their treatment in Takeo Eye Hospital. However, most are arriving with a blind eye and there is need for more research into how to prevent this. There is also a need to discover the extent of under-reporting of corneal ulcer and of monocular blindness with a prospective population-based study. The vast majority of patients were of working age (there were surprisingly few children given the economic environment). Do they present because they need to work but cannot see (most present blind) and not present because they need to work and can still see? Their disability impacts the economy. This study cannot reveal aetiology but it is worth noting that half the patients reported trauma. Trauma and corneal ulceration is largely a cause of monocular blindness although it is an important cause of bilateral blindness as well. Added to a complex aetiology this makes it a difficult area to tackle. It is sad but unsurprising that it is developing countries that suffer most from this silent epidemic.

**Table 1. Comparison by visual acuity grading of affected eyes at presentation and at discharge**

Visual Acuity	At presentation	At discharge
6/6 - 6/18	15	24
< 6/18 - 6/60	7	12
< 6/60 - 3/60	2	2
< 3/60	75	61
<b>Total</b>	<b>99</b>	<b>99</b>

**Table 2. Difference in grade between presentation and discharge as a percentage of sample.**

% Improved	23.2
% Same	49.5
% Deteriorated	4.0
% Removed	23.2

## Community Eye Health MSc dissertation summaries from the Pakistan Institute of Community Ophthalmology Peshawar, Pakistan



**Introduced by Muhammad Babar Qureshi**

Director, Academics and Research, PICO, Peshawar, Pakistan.

The Community Eye Health Masters Programme at the Pakistan Institute of Community Ophthalmology (PICO) equips doctors for a career in eye care management.

Eight weeks in the academic year are dedicated to fieldwork leading to a dissertation, a requirement for the Masters degree from the University of Peshawar. A topic is chosen in collaboration with the Institute from which the candidate comes, the provincial coordinator for Prevention of Blindness in Pakistan (if the student is from Pakistan), and the supervisor at the Pakistan Institute of Community Ophthalmology.

The candidate presents a synopsis to the research and ethical committee for approval prior to conducting the fieldwork, analyzing the data and writing the dissertation. The dissertation is defended at the end-of-course examination.

The dissertations have provided the students, their institutions, their provinces and their countries with some very valuable information which has been used for planning and implementing eye care projects within a defined unit of population in the students' local setting. The students are encouraged to publish their original piece of work in national and international journals. Below are three summaries of the MSc Community Eye Health 2004 batch.

### Qualitative study of the barriers to the uptake of cataract surgery in Sharda Patwar Circle, Upper Neelum Valley District, Muzaffarabad, Azad Kashmir



**Khawaja Muhammad Iqbal**

Department of Ophthalmology, Combined Military Hospital, Muzaffarabad Azad Jammu and Kashmir.

Email: kashbal54@yahoo.co.uk

**Objectives:** To determine awareness about cataract blindness, assess treatment-seeking behaviour of cataract blind and elicit the reasons for not opting for cataract surgery.

**Methods:** We conducted twelve semi-structured interviews with cataract blind persons, followed by an informal discussion with concerned families and interviews with key informants. The records were summarised into case studies of the individual subjects, families and key-informants and analysed for recurrent themes.

**Results:** Cost (both direct and indirect) emerged consistently as the main barrier to acceptance of cataract surgery. There was also fear of poor visual outcome of surgery and post-operative discomfort. Most subjects had sought treatment at some stage during the blinding process but their concern was to obtain glasses or eye drops. Eleven out of 12 subjects were well aware of their blinding condition as they expressed in their local language as "Pholla or Poh" (cataract). One subject made a rational decision in terms of the cost and perceived benefits of the cataract operation (cost of the operation and visual outcome). Negative attitudes to cataract surgical services included distrust of ways of treatment, need not felt, lack of company, belief that blindness is a natural process or the will of God, and loss of self esteem.

**Conclusions:** Cost and fear are major barriers to the uptake of cataract surgical services. The negative effect of poor visual outcome due to unsuccessful surgeries outweighs the impact of the successful ones. In the community studied, cataract surgery needs to be made available, affordable and acceptable and visual results need to be closely monitored and evaluated.

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## Perceptions amongst primary school teachers of visual problems affecting their pupils



**Mohammad Saeed Khan**

Layton Rahmatulla Benevolent Trust Eye Hospital, Quetta.  
Email: drsaeed@yahoo.com

### Objectives:

- To determine the ability of primary school teachers to recognise visual problems in their pupils
- To determine the knowledge among primary school teachers about the nature of visual problems (including refractive errors) among their pupils
- To estimate the need for training of primary school teachers in detecting visual problems (refractive error and types of visual problems).

**Methods:** The study was conducted during July to August 2004. Sixteen interviews and 16 questions for teachers (including school principals and headmistresses) were conducted followed by four focus group discussions with other teachers of primary section in two government and two private schools.

Qualitative research methods used were individual interviews, questionnaires and focus group discussions. The information collected from the three sources was used to triangulate the data, thereby strengthening its trustworthiness.

**Results:** The main findings of this study were that teachers perceive that:

- The eye is a blessing of God
- Eyesight is an important sense
- Discoloration of eyes is a sign of eye diseases
- Pupils' behaviour can show visual problems
- Children with eye pain and decreased vision should be referred to a hospital
- Weak eyesight leads to headache and inability to recognise words and objects
- Hot dusty weather and pollution is bad for the environment and also eyes
- Good knowledge and balanced diet are essential for health
- Poverty leads to blindness
- Iodine deficiency may lead to eye problems
- Both eyes always have different vision
- Un-equal eyes create future problems
- Every one needs bright light but some need dark light
- Addition of spectacles looks interesting
- Teachers are always thirsty for knowledge
- Experiences, newspapers, magazines, journals and clippings are the best source of eye knowledge for teachers
- Medical professors or eye doctors can select good training courses for primary school teachers.

**Conclusion:** The knowledge of teachers was based on hearsay, personal experiences, layman talk, journals, and magazine and newspaper clippings.

They can detect the visual problems through the pupils' behaviour in class but have no idea how to refer them to secondary/tertiary eye care health services. There is lack of any training about primary health care/primary eye care teaching in the syllabus of primary teachers. The teachers were enthusiastic to work for the betterment of school children if they were given proper training and the chance to serve. Poverty came out as a major problem and the purchase of spectacles is out of the reach of many needy children. The importance of the eyes was universally accepted. Many of the teachers mentioned shyness as a social problem, which causes pupils to abandon the use of glasses. The teachers were found to be quite able to identify children with visual problems.

## Prevalence of diabetic retinopathy at a diabetic clinic, Mayo Hospital, Lahore



**Zafar Shah**

Punjab Institute of Preventive Ophthalmology, Lahore, Pakistan.  
Email: zafarshah30@hotmail.com

**Aim:** To estimate the prevalence of diabetic retinopathy among diabetics of all ages presenting at the diabetic clinic, Mayo Hospital Lahore.

**Introduction:** Diabetes mellitus (DM) is a common condition and its frequency is increasing all over the world. Some 3.2 million people died in the year 2000 because of complications of DM. This compares with 3 million deaths from AIDS. In the year 2000, 171 million people had diabetes globally and by the year 2030, this figure is expected to be more than double and reach a total of 366 million. More than 75% of people with diabetes will reside in developing countries. In Pakistan, there will be 14.5 million diabetics in the year 2025. Six deaths can be attributed to diabetes or related conditions somewhere in the world every minute.

With increasing incidence of diabetes, the incidence of diabetic retinopathy, one of the serious complications of diabetes, will increase. Some studies suggest that prevalence of diabetic retinopathy in Pakistan ranges from 21%-82% depending upon glycaemic control and duration of DM. This problem remains largely unrecognised.

**Methods:** A screening programme/cross sectional/observational study was undertaken from the first week of July till the end of August 2004. All diabetic patients coming to the diabetic clinic during this period were included in the study. Those patients having known glaucoma, dense cataract or corneal opacity were excluded.

After taking consent from the patient, demographic information was taken and entered in the proforma. Random blood sugar done routinely amongst these patients was recorded. Blood pressure using mercury sphygmomanometer and visual acuity using Snellen test chart were measured.

The anterior segment was examined using a torch and gross pathology was noted. Pupils were dilated with 1% tropicamide. After full pupillary dilation, the posterior segment was examined with a direct ophthalmoscope. Finally all the posterior segment findings were verified by an ophthalmologist using an indirect ophthalmoscope (Gold Standard). All those patients who needed surgery, follow-up or laser treatment (where indicated) for diabetic retinopathy were referred and sent to the eye department for appropriate management. Data entry and analysis were done in EPI-INFO-6.

**Results:** Total patients examined were 1,054. Their mean age was 47.2 (the climax of working age). Out of 1,054, 343 (32.5%) were males, while 711 (67.5%) were females. 536 (50.9%) out of the total had diabetic retinopathy. Among males, 186 (54.2%), and among females 350 (49.2%), had diabetic retinopathy.

Among patients with diabetic retinopathy, 82.1% had normal vision, 17.5% had low vision and 0.4% were blind. Out of 536, 431 (80.4%) had mild to moderate non-proliferative diabetic retinopathy, 81 (15.1%) had severe non-proliferative diabetic retinopathy and 19 (3.5%) had proliferative diabetic retinopathy and 5 (0.9%) had advanced diabetic eye disease.

It was found that diabetic retinopathy increases with age and hence with duration. Housewives and jobless patients had more prevalence of diabetic retinopathy than employed (self employed or government employees). As far as risk factors are concerned, hypertension and smoking had an association but, amazingly, pregnancy (age group <45 years) had not. Total number of diabetics having diabetic macular oedema was 182 (17.2%). Among these, 45 (4.3%) had unilateral while 137 (13.0%) had bilateral diabetic macular oedema.

**Conclusions:** The burden of diabetic retinopathy (50.9%) among patients with diabetes mellitus is a public health problem. Awareness creation, a team work approach about diabetes and diabetic eye disease and its screening, along with provision of good laser services, are needed to address these newly emerging challenges of blindness. The gravity of the problem also demands that it be seriously considered for inclusion in the VISION 2020 priorities.