Getting the best out of the ophthalmic nurse in Ghana

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In many health care settings in Africa, motivation tends to be closely associated with financial incentives. In our eye care programme in northern Ghana, we have developed a different concept of motivation that we find more sustainable and mutually rewarding to both workers and management and, consequently, the entire programme.

We perform some 3,000 operations annually, and we have focused on building the skills of our ophthalmic nurses beyond levels normally required in practice here. In the outpatient department this has included use of the slit lamp in quantitative and qualitative evaluation of anterior and posterior segment changes, applanation tonometry, visual field assessment and retinoscopy. We are currently training the more experienced nurses in indirect ophthalmoscopy and biomicroscopy for fundus examination. In the theatre, nurses do a wide range of minor operations and also give most of the ocular anaesthetic.

Eye Unit Bawku Hospital

Ophthalmic nurse at Bawku hospital eye unit doing objective refraction using the retinoscope. GHANA

With this level of training, the ophthalmic nurses perform competently in both pre-operative assessments and post-operative reviews of uncomplicated cases. This frees the hands of the ophthalmologists from managing common refractive errors and red eye conditions and also frees up theatre time, allowing him or her to concentrate on the more serious cases and surgery. This may seem unorthodox to many surgeons, especially those in the large teaching hospitals, but is not uncommon in many developing and developed countries. During my recent visit to the United Kingdom, I saw nurses competently using sophisticated equipment at every level of eye care management. The most important thing is to identify the skills deficiency and design appropriate solutions. In a recent qualitative study in our unit, nurses found motivation to be the most important reason for being part of the programme and this was attributed largely to training and recognition.

What we need to do is to break the myth around ophthalmic instruments and impart more quality knowledge and technical skills to the nurse. This of course must include periodic reviews for quality assurance. In this way, we shall be making our nurses more useful partners in our collective drive to eliminate avoidable causes of blindness by the year 2020.

Eye Unit Bawku Hospital

Ophthalmic nurse at Bawku hospital eye unit examining the optic disc on the slit lamp using a fundus-viewing lens. GHANA

A low-cost, slit lamp-based video-photodocumentation system

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Editor's note

We are aware there are many different methods of capturing images for teaching and other purposes, most frequently using the existing optics of the slit lamp. Dr Nizvi has sent us details of his own method. We would emphasise the need for background illumination in the majority of images.

Introduction

Video display of the slit lamp view of the eye is useful for various purposes in ophthalmology, such as teaching, record keeping, and teleophthalmology. However, commercially available photo slit lamps are quite expensive. In this short article, I describe a low-cost system providing fairly good quality video images using an ordinary camcorder. I have been using this system for teaching community eye health workers and educating patients for ten years.

Basic principle

This can be considered in two parts.

1. Changes in the optics of the camcorder such that its focus is adjusted at a distance equal to the working distance of the biomicroscope. The magnification changes accordingly.

2. Attachment of the camcorder besides the biomicroscope such that the optical axes of the camcorder, the biomicroscope, and the slit beam are in the same plane, meet at the same point, and share the same rotational axis in all positions. During normal working position, the camcorder shows the view at some angle with that of the examiner's view (Figure 1a). If an exactly frontal view is desired, or gonioscopy or slit lamp ophthalmoscopy needs to be done, the camcorder has to be shifted to the centre (Figure 1b), and the examiner looks through the viewfinder or the monitor.

Diagrammatic representation of the relative positions of the biomicroscope, the camcorder, and the slit beam reflecting mirror, all in one plane

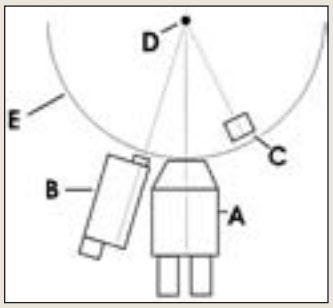

Figure 1a. Biomicroscope in the centre

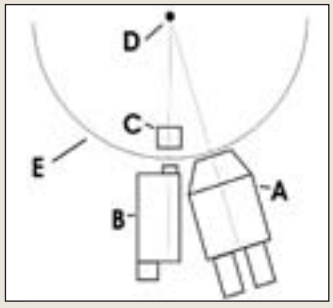

Figure 1b. Camcorder in the centre

A = Biomicroscope; B = Camcorder; C = Reflecting mirror of the slit beam; D = Central axis of rotation of all the three optical systems; E = Imaginary arc at which the front surface of all the three optical systems lie in all positions

Any camcorder can be used provided that manual focus and exposure options are available. The smaller the camcorder in size the less obtrusive it will be. In this study a JVC GR-DV1 (Victor Company of Japan, Limited) was used. The slit lamp was manufactured by Haag-Streit.

Part 1 of the principle is achieved by fixing, in front of the camcorder's optics, a +9.0 dioptre lens taken from the trial frame, as the optics of a camcorder resembles that of the surgical microscope with the objective lens removed.

To achieve part 2, a metal adaptor was made by the author.

The camcorder is fixed to it by means of a screw into the tripod mounting socket. The adaptor is fixed to the arm of the biomicroscope carriage (Figure 2). The screws are not fully tightened yet.

The camcorder is shifted in the centre and the focusing rod provided with the slit lamp is inserted in place. The manual focus mode is set and the slit beam is turned on. Fine adjustments are made to bring the slit beam image in the centre of the viewfinder, and the screws are tightened in this position. Next, the fine focusing is done and the rod is removed. A source for diffuse light (Canon video camcorder flash) is attached beside the reflection mirror of the slit beam for background illumination. (Any diffuse light source can be used). The video-out lead is attached to an ordinary colour television. (The video-out lead can also be attached to a video capture card in a personal computer).

Syed Amjad Nizvi

Slit lamp video system, as seen from the examiner's side. The forehead rest band has been removed to show the essential structures more clearly

Discussion

Images obtained by this system are of reasonably good quality. The use of a photographic quality objective lens can greatly improve image quality, and with some basic knowledge of photography and some experience, most of the clinical conditions can be documented clearly.

The system has the extra advantage of wide range zoom magnification with an ordinary slit lamp. It also obviates the need of a separate video recorder (VCR) for recording. The camcorder can be used for general purpose at any time just by loosening a screw and removing the objective. A professional manufacturer can design an adjustable, universal adapter that can fix different camcorders to slit lamps of various models.

Visual status of deaf school students in Kathmandu, Nepal

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Aim: To evaluate the visual status of deaf students in Kathmandu, Nepal.
Methods: This was a descriptive cross-sectional study. All students in the school for the deaf in Kathmandu were examined over a six-month period, starting on 1st January 2005. A thorough ocular examination was done by an optometrist and the following information was recorded on a standard proforma: history, cause and duration of deafness (if known); family history of the same problem; associated systemic problems, and history of eye examinations. Visual acuity was measured in each eye using an illuminated Snellen chart with multiple optotypes. A cover test was performed to identify strabismus, and Ishihara plates were used to assess colour vision. A torch was used to examine the external eye, and a direct ophthalmoscope was used for posterior segment examination. Retinoscopy was performed where indicated. Students were referred to the eye hospital for further evaluation and management if necessary.
Results: Out of the total 253 deaf students, 56 per cent were male, and their ages ranged from from 6 to 25 years (mean 13.75 years). Over two thirds (68 per cent) had been deaf since birth but only 40 per cent knew why they were deaf. At least one other family member was also deaf in 36 students (14 per cent). Thirty students had a visual acuity of <6/9 in the better eye, but no child was bilaterally blind. Out of the total of 253, 57 students (23 per cent) had at least one ocular problem, including strabismus (7 students, exotropia>esotropia), refractive error (32 students: 22 per cent were myopic, 41 per cent were hyperopic and 38 per cent were astigmatic), corneal ulcer or scar, glaucoma suspect, and amblyopia. Six were found to have abnormal colour vision. Nine students gave a history of night blindness, but there was no evidence of retinitis pigmentosa, and all those with reduced vision were referred for assessment. No student had the typical retinal changes of congenital rubella. Only 26 students (10 per cent) had had an eye examination at any time in the past.
Conclusions: Although ocular problems were common amongst these deaf students, only a few had previously had an ocular examination. Vision is very important in deaf students, as a means of communicating and learning about the world, so they should be included in vision screening programmes. Many attend special schools and can be readily assessed by an eye care team.

Stamping out blindness

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South Africa has joined forces with the rest of the world to create awareness of the prevention of blindness by issuing a stamp and commemorative envelope on World Sight Day (13 October 2005). This was achieved with the support of the chancellor of the Mthatha post office. The stamp was unveiled by the Chief Executive Officer of the South African Post Office at a function held at Nelson Mandela Academic Hospital Complex in Mthatha on 14 October 2005.

Designed by Saskia van Wyk, the stamp design is minimalist with only a coloured outer frame and white inner area. The word "hello" is embossed in Braille. Melvyn Minaar, an art critic in South Africa, described this stamp as the most elegant postage stamp issued by the South African Post Office. He further describes this stamp as a powerful statement about sight and visibility. The stamp makes a subtle statement about the interplay of sighted and unsighted, the very essentials of what a printed stamp is really about.

This is the first ever postage stamp issued by South Africa on the theme of prevention of blindness and it is hoped that it will assist in creating awareness of VISION 2020 and blindness prevention programmes in the country.

The Department of Ophthalmology at the Nelson Mandela Academic Hospital also organised a 'Cataract Blitz' during the same period which was supported by the Bureau for the Prevention of Blindness and the Lions Club of Mthatha and was sponsored by Pick 'n Pay (a large supermarket group) and the Rotary Club of Kempton Park. Two hundred and eighty free cataract operations were performed over 11 days.

The Minister of Health, Dr Manto Tshabalala-Msimang, lent her support to the annual Cataract Blitz and the member of the Executive Council for Health (Eastern Cape), Dr Bevan Goqwana, presented long service certificates to staff in the Ophthalmology Department.

The South African stamp includes the word 'hello' in Braille