

SPECIAL ARTICLE

Communicating with photographs in a leprosy hospital in Nepal

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Introduction

Many of the devastating health problems of the developing world could be prevented by adequate health education about sanitation, diet, living conditions and seeking early medical advice. The people most in need of this education present a major communication problem as the majority of them are illiterate. Health educators are increasingly using pictures to give information to these illiterate village people. Recent cross-cultural research^{1,2} suggests, however, that the type of information that can be delivered through pictures needs careful examination. There is a great danger in assuming that pictures and symbols which convey certain information in the developed world will convey a similar message in a Third World setting. Communicating with pictures is not independent of the people they are aimed for and ethnocentricity must be avoided at all costs.

Photographic teaching aids for health education about leprosy were made for use in Anandaban Leprosy Mission Hospital, 12 miles south of Kathmandu, the capital of Nepal. The effective treatment of leprosy requires considerable education of medical staff, the general public and patients. The major educational needs are the recognition of the early lesions by medical staff allowing early treatment and the education of the patient with the disease. By these means the mutilating deformities can be avoided. In Nepal 1% of the population suffer from leprosy, frequently with appalling physical, social and economic consequences. The fact that patients suffer severe deformity represents in part a failure of communication by medical personnel.

There are considerable barriers to the communication of health information in Nepal. The 15 million population are scattered among the formidable Himalayan mountains in a country that has never been colonized and until the middle of this century was cut off from outside influences. The vast majority of the population are subsistence level farmers, with an average annual income per capita of less than \$100/year and only 10–20% of the population are literate. Until effective vaccination against *Mycobacterium leprae* is developed educators will have to continue to battle against the terrain, widespread illiteracy, under-development and poverty of Nepal.

The projects involved producing aids for leprosy health education using photographs. This made us aware of the great difficulty in producing appropriate teaching materials in the developing world. Photography offers an accurate representation of a subject which can either be used for recognition or imparting information.

The function function of recognition was used in taking clinical photographs to help educate

medical staff to recognize leprosy in its early stages. Arataeus in AD 94 said of leprosy that 'The physician, from inattention or ignorance of the patient's ailment, does not apply his art to the commencement when the disease is very feeble.' Today early diagnosis is more important because advances in drug therapy mean the disease is rapidly controllable.

To give information using photographs is more difficult. The aim of the second project was to produce a set of teaching aids to help inform a patient on how to look after his anaesthetic feet, which is a major cause of deformity in leprosy. The series of teaching aids was assessed by staff at the hospital and by experienced health educators attending a conference at the hospital. They made many valid constructive criticisms of the teaching aids and considered that photographic teaching aids were more suitable for medical staff than patients. This illustrates the difficulty in trying to create communication aids for a different cultural group than your own and the importance of a pre-test with an educational aid.

Project 1: Colour clinical photographs

AIM

Anandaban Hospital is involved in teaching all levels of medical personnel from senior doctors to trainee basic level health workers. The best way of learning about leprosy is to see patients and be actively involved in their management. There is, however, a role for photographs to reinforce and supplement this practical experience especially when time is limited. One problem in Nepal is the display of photographs: bright sunlight and limited electricity make it difficult to use slide projectors. Our aim was to take colour transparencies that would then be used to produce 20" × 30" prints that would be mounted in plastic coats to improve their durability.

METHOD

Consenting in-patients and out-patients at clinics with suitable lesions were photographed using a Pentax ME Super 35 mm camera. A standard 50 mm lens was used for most of the photographs, with a 2 × close-up lens stopped at f8-f11 for close-up shots. To ensure sufficient detail in the final prints Kodachrome 25 transparency film was used. It was found that frequently the shade offered the best light for photographs avoiding the very intense shadow of direct sunlight. A neutral background was achieved by stretching a large light blue sheet over a 6 ft × 6 ft screen. It was intended to produce a clear, sharply focussed, picture of the particular lesion in front of the blue screen which was itself out of focus.

RESULTS

About 150 photographs were taken of which about 80 were technically good. Of these, 30 were made into postcard-sized prints and sent to Anandaban Hospital so they could choose which, if any, they wanted copies of. The superintendent requested copies of all 30 and thought they would be of use in the health education of staff. These were produced using money provided by Lepira.

Project 2: Producing teaching aids to help with health education and the care of anaesthetic feet in leprosy patients

AIM

Many of the horrific deformities of the hands and feet of leprosy patients could be prevented if adequate precautions were taken by the patient. Teaching patients to look after their anaesthetic feet and hands is one of the greatest challenges of health education in leprosy.

The danger of anaesthesia is quite a difficult topic to understand. The recently diagnosed leprosy patient who has normal-looking but insensitive feet, causing him no problem, may see no reason for time-consuming foot care. Even patients with severe ulceration of their painless feet may only seek medical help because of the smell of rotting flesh!

Anandaban Hospital is a referral centre for ulcer care and so has a large number of patients with foot ulcers and is very actively involved with health education about foot care. Prototype teaching aids were produced using photographs. The aim of these was to help communicate to patients the important points of anaesthetic foot care, supporting the talks and practical demonstrations with a visual input. It was hoped that accurate representation by photographs would help people to understand difficult concepts such as how neglect of foot care would lead to deformity.

Teaching aids are a fashionable area of health education. There is a tendency to produce them without evidence that they are helpful or needed, often assuming that high quality glossy pictures must be advantageous. For this reason it was decided to produce prototypes and assess them before making the final version.

METHOD

Time was spent helping treat patients on the ulcer wards, seeing at first hand the problems of anaesthetic feet. Staff and patients were asked what they considered to be the most important problems before deciding what information to communicate with the teaching aids.

Each teaching aid was 18" × 16" and consisted of between 2 and 6 mounted black and white photographs. Black and white had the advantage that we were able to develop the prints ourselves. This reduced the cost and also allowed considerable manipulation of the size and composition of the final prints.

To get feedback on the teaching aids 9 were displayed and comments were requested from members of staff of the hospital. Special attention was given to the answers of paramedical workers who would be likely to use them. Further comments were obtained from questionnaires completed by people attending a conference held at the hospital entitled 'The training of middle level health workers in Nepal'. Many attending this conference had considerable experience of health education in Nepal.

The photographs were only accompanied by one- or two-word titles. It was hoped that avoiding detailed captions allowed the best assessment of how effective the pictures were in conveying the message. It was intended, however, that the teaching aids would always be accompanied with an oral explanation by staff.

The teaching aids were modified according to the comments made on them and mounted in a large album, as this offered both protection and portability. The final assessment of their value will come from long term use by patients and staff.

RESULTS

The teaching aids were enthusiastically received at the hospital, 20 out of 25 questionnaires completed and many valid and constructive points made:

(i) *Value of teaching aids.* Eighteen people replied that they considered the teaching aids to be useful and said they would use them themselves if they were teaching about anaesthetic feet.

(ii) *Useful for patients or medical staff?* People were asked whom they considered the teaching aids were suitable for. The results are shown below:

| | | Middle | | Basic | |
|---------|--------|---------------|---------------|----------|--|
| Doctors | Nurses | Health worker | Health worker | Patients | |
| 10 | 12 | 10 | 11 | 7 | |

(iii) *Comments on the teaching aids.* There was an initial reluctance to discuss or write down the problems of the teaching aids. When it was realized that criticism was genuinely wanted many people produced many constructive comments on the photographs, the teaching aids and the use of photographic teaching aids in general.

(a) *Photographs.* There were many favourable comments about the photographs. However, some were misinterpreted: many people thought the picture of sweating looked like blisters rather than sweat. Photographs showing only part of a person or part of a foot were considered likely to be misunderstood by patients.

(b) *Teaching aids.* The teaching aids with only 2 pictures and a minimum of symbols were preferred. As expected the teaching aids were not considered adequate on their own; many respondents requested written or oral explanation.

(c) *Concept of teaching aids.* It was questioned whether photographs were suitable for use with village people who were not used to photographic representation. Alternative approaches of education were suggested including puppets, clay models and drama.

Discussion

The 2 projects were both photographic but had very different aims in what and to whom they communicated. They met with varying degrees of success which reflected the value of photographs and teaching aids in the different situations.

The clinical photographs were rapidly accepted by the staff of Anandaban Hospital. Photographs can be an excellent way to accurately convey the appearance of a subject if the viewer is accustomed to pictorial and photographic representation. The aim of such 'identification' photography is simply to provide a clear picture of the subject against a featureless background. With modern photographic equipment and attention to detail this is a simple task.

The teaching aids were more ambitious, aiming to convey information to patients who were not used to pictures and photographs. When producing teaching aids it is vital to pre-test them. Hospital staff and other people involved in health education in Nepal were used for this. This was not a good sample as they represented the educated minority of the Nepalese population rather than the illiterate majority. Despite this, their considerable experience of giving health education to Nepali villagers did mean that they were able to point out many problems with the teaching aids. This enabled alterations to be made before a further trial with patients was done.

The teaching aids were considered to be more useful for staff than patients. The unsuitability of the aids for use with patients reflects the fact that they are based on western ideas of picture interpretation. Studies in Nepal and elsewhere^{1, 2} have shown that the rural villager in Third World countries interprets pictures in a very different way. This difference is principally attributable to reduced exposure to pictures. Educated members of Third World countries, such as the staff of the hospital, are exposed to more pictures and are more likely to interpret them in a western fashion.

To understand fully what a picture represents requires interpretation of certain visual clues. Many villagers in Third World countries have difficulties with depth perception in pictures. Hudson's classical work on Black South Africans³ showed that pictorial depth clues of object size, object superimposition and perspective were often not correctly interpreted. Questions on relative distances between objects were answered in terms of two-dimensional proximity only. The inability to interpret a picture three-dimensionally greatly alters a person's perception of what a picture represents. Example of this are: Nepalese villagers on seeing a line drawing of a cube showing 3 faces considered there to be 3 cubes¹ and over one-third of them when showed a picture of a man from behind stepping up on to a box considered that the raised leg was abnormally short.

Failure to see a picture as symbolic representation results in very literal interpretations. This can prove a great problem to health educators. A health worker in rural India used a 2 ft × 3 ft picture of a fly to illustrate a talk on the need for hygiene and the covering of food because of insect

transmitted contamination. When obtaining feedback about his talk the villagers said it was an interesting story but fortunately they did not have flies that big! Similarly Hudson⁴ found that posters not showing the whole person were misinterpreted as showing people with missing limbs. Many of the leprosy teaching aids produced showed only part of a person and so were likely to be misunderstood.

Teaching aids not only require an understanding of what the picture represents but also comprehension of the meaning of the picture. In a western society we are used to deriving meaning from a picture but this is not the case for the Nepali villager who rarely sees pictures. Even with posters in which villagers accurately recognized the individual components of a picture they did not link them together. Linking pictures together by arrows to suggest a causal relationship is unsuccessful as an arrow has an arbitrary symbolic meaning which is not understood.²

Analysing the substantial difficulties in communicating with pictures to villagers in Nepal, Fussel & Haaland concluded that pictures could not be used to convey information on their own but did have a role in supporting other means of communication.

What role, if any, do the teaching aids have in communicating education about living with anaesthetic feet? The response to the questionnaires and subsequent review of the literature shows that there were many shortcomings of the original teaching aids (e.g. multiple photographs, showing parts of people or limbs, linked by arrows, etc.). Considerable modifications were made and they are now being tested in the education of staff and patients. It is likely that they will be helpful for staff who are used to interpreting pictures and photographs. For patients, their role is far less certain. They do not have a role on their own, but they may form a useful addition to the educators' armoury of talks and demonstrations. Only long term use will decide this.

Whatever others learn from the clinical photographs and teaching aids, a great deal was learnt producing and testing them. A photograph is an accurate two-dimensional representation of a subject, but this does not mean it will necessarily be recognized and communicate information to the viewer. The vast problems of communicating to rural villagers in Third World countries are not simply overcome by western technology but will need continued assessment and modification of the teaching materials used.

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