ALTERNATE EYE CARE SERVICES IN A GHANAIAN DISTRICT

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ABSTRACT

Objective: To determine eye care services sought outside the regular hospital system and their providers.

Study setting: Akwapim South district

Method: Questionnaire survey and in depth interviews.

Results: We recruited 1,537 persons with a previous history of eye disease and alternate service providers (21 chemical shop attendants and 55 herbalists). There was no significant difference between patronage of the regular and the alternative providers (p value 0.78). Most of the herbalists were trained by relations; parents (29/55) and grandparents (10/55). Two thirds had some formal education and 96% practiced part-time. Over 75% claimed they treated cataracts, eye injuries, and "kooko" and 28% also treated red eyes. Chemical shop attendants were all literates, sold only antibiotic eye drops, and 64% practiced full time.

Conclusions: Herbalists and chemical sellers provided substantive eye care along the regular hospital services but some of their practices may be harmful.

Keywords: Primary eye care, cataract, traditional medicine, self medication, parallel care.

INTRODUCTION

One of the impediments to reducing blindness in any community is the limited access to appropriate eye care services within the community. People who live in communities with inadequate or inaccessible healthcare facilities tend to seek other alternatives. In developing countries like Ghana, with limited regular healthcare facilities, it is likely that substantial eye care information and services are sought outside this regular eye care system (hospitals and clinics).

At the time of this study the population of Ghana was 18.4 million[1], there were 43 ophthalmologists, 30 optometrists, and 200 ophthalmic nurses. About half of the ophthalmologists work in Accra, the capital. Some of the urban hospitals provide eye outreach services for the rural areas. There are 110 districts which form the basic health units in the country. The study was conducted in Akwapim South District in the Eastern Region. The population is multiethnic.

The Health institutions in this district are one government general hospital, 4 private general clinics, 2 private optical centres, 1 health centre, and 1 mission general and eye clinic. There is one ophthalmologist and two ophthalmic nurses. These facilities also serve people from adjacent districts. The principal author was a visiting ophthalmologist to the eye clinic from 1996 to 1998[2].

Anecdotal reports suggested that the number of alternate eye care providers living within the community were so high that it was difficult to disregard the role they played in eye care. The purpose of this study was to identify persons outside the regular hospitals and clinics who advise or prescribe medicines (orthodox medicine or indigenous plant medicine) to treat eye disease, and their patronage.

The first part of the study investigated what eye care services were sought by persons in the general population who had suffered from any eye disease(s) in the previous year. The latter part then determined the background characteristics, level of operation, eye diseases treated, and knowledge base of the eye care providers outside the hospital/clinics system.

MATERIAL AND METHODS

This study was carried out from December 2000 to January 2001 alongside a population study on the epidemiology of glaucoma. The towns and villages were selected as clusters based on ethnic diversity followed by simple random sampling of 14 out of

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18 as described elsewhere[3]. Members of the community, known herbalists and chemical shop attendants were informants who helped identify alternate eye care providers.

In addition to demographic details in the questionnaire participants were asked whether they had developed any eye disease or complaint in the previous year and, if they had, to indicate what eye care service was sought. The principal investigator had individual informal interviews with 21 chemical sellers and 10 randomly selected (out of 60) herbalists to determine what diseases they treated, the type and route of administration for their medication, and the plant sources of their medication. Passive participation in herbal clinics was abandoned because of impossible requests by the herbalists. Subsequently an independent questionnaire was administered by 3 field assistants to all service providers. The questionnaire contents were based on personal communications with key persons involved in the affairs of traditional healers from the Ministry of Health, the Centre for Research into Plant Medicine, Mampong-Akwapim, some herbalists, and the principal investigator's clinical experience from working in the district. The questionnaire was developed by postgraduate residents of the School of Public Health, University of Ghana, and piloted by the principal investigator and the research assistants. There were both closed and open questions. The local language, Akwapim, was used for communication.

The demographic details included age, sex, highest educational attained, and any additional occupation. Other details recorded were the numbers of trainers and trainees of the respondent, duration of training and practice, the types of eye disease and numbers of patients with eye disease treated within the previous year, and the route of administration of medicines used in treating eye disease. The herbalists were further asked whether they were willing to divulge the plant sources of their medicines. Chemical shop attendants were also asked about their training to date, the eye diseases treated, and what further training they aspired to in the future.

RESULTS

Community survey

In the past year 1537 (86%) of the interviewees gave a history of an eye disease. The types of eye care sought summarized in Table 1. A few applied assorted miscellaneous remedies. Usage of hospitals/clinic eye services was 47% and alternatives 49%. There was no significant difference between the 2 groups (chi square test, p value 0.78). Twenty-one (21) chemical stores and 60 herbalists were identified and contacted.

Table 1 Eye care sought

Service	No. of respondents	% respondents
Clinic	723	47.0
Drugstore	356	23.2
Self med-drug	205	13.3
Self med-herb	173	11.3
Herbalist	27	1.8
None of the above	53	3.4
Respondents	**1537**	**100%**

Interviews revealed that proximity, long waiting time in hospitals and some known successes of these alternative service providers made them more easily accessible to the community. Fear and uneasiness of going to a hospital in town when one is not a town dweller, and unfamiliar hospital staff were other negative barriers which militated against the hospital as the first choice. However, even where the hospital was not the first choice it was the final resort when these alternatives did not alleviate the problem or made the disease worse.

Chemical shop attendants

Only 67% (14/21) consented to respond to the questionnaire. The mean age of the respondents was 34 years (range 18-71, SD 15.35, median 30). All were literate (Table 2). They had practiced for a mean of 10 years (range 4 months to 49 years, median 7, SD 12.4). None of these attendants had received any training on eye diseases. All questionnaire respondents claimed that they had been instructed not to treat eye diseases and therefore did not comment on the treatment of eye diseases. However earlier informal in-depth interviews, revealed that they sold topical antibiotic eye preparations as first line drugs to all patients who consulted them with any eye problem and referred to hospital when there was no improvement. Furthermore, 2 people with eyes injuries being treated by the chemical sellers with antibiotic eye drops were found to have corneal perforations

Pharmacists or other chemical shop attendants trained 14 respondents on how to read prescriptions, treat malaria, and diarrhoeal diseases. All of them indicated that they would like further training in pharmacy, eye care, provision of first aid and/or

general health care, giving injections, medicine, and management. Five had an additional occupation; farmer (2), trader (2), and teacher (1).

Table 2 Educational background

Level of education	Chemical shop attendants	Herbalists
No education	0	18
Primary School	0	2
Middle school	4	17
Arabic(first cycle)	0	1
Junior Secondary	1	0
GCE O-Level	3	4
Senior Secondary	5	0
Vocational/Commercial	0	3
Teacher Training college	1	3
Adult literacy classes	0	7
No response	7	0
Total	**21**	**55**

Herbalists

Sixty herbalists were identified; 55 responded to the questionnaire and 5 declined participation. There were 11 females and 44 males giving a female to male ratio of 1:4. Their mean age was 57years (range 20 to 89, median 59). Thirty-seven had various levels of formal education while 18 had none. Majority had middle school education[1] whilst 3 were trained teachers (Table 2). They had practiced for 2-69 years with (mean 30 years, median 27 years). They learnt the practice mostly from relations: 29 from parents, 10 from grandparents, 3 from sibs, 2 from husbands, and 7 claimed they had received 'direct divine instructions'. The number of people each herbalist trained is displayed in Figure 1.

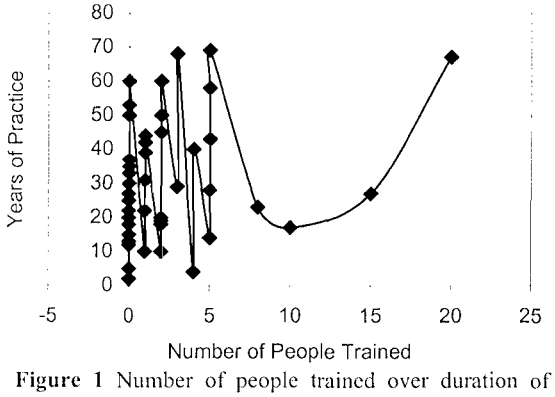

Figure 1 Number of people trained over duration of practice

[1] Middle schools education was 4 years after primary school education and before secondary school education. It no more exists in Ghana.

They charged money for their services and most had additional occupations; farmers (32), traders (6), Traditional Birth Attendants (5), teachers (3), artisans (5), and self-styled pastors (2).

Thirty- nine herbalists claimed they treated several ailments including eye diseases. The remaining 15 did not treat eye diseases. They treated an average of 5 eye cases per year but 4 herbalists claimed they treated 20 to 30 cases. Amongst the herbalists 82% claimed to have treated cataracts, 82% eye injuries, 75% "kooko" and 28% 'Apollo'. Eye injuries were diagnosed from a history of trauma. Nine out of the 10 herbalists interviewed classified cataracts according to size and ease of treatment. A "small cataract" referred to opacity in the center of the pupil which was easy to treat and a "large cataract" as an opacity which extended over the iris and is resistant to treatment. The routes of administration of the herbal medicine were direct instillation into the eye and nose in 50%, instillation into the eye in 25%, oral and eye administration in 10%, combined oral, nasal and eye in 10%, and oral only in 5% of respondents (Table 3). The herbalists preferred to provide only the processed herbal preparations and not the natural plants or the name. The herbalists felt they needed to be adequately compensated in cash before divulging their herbs. The practitioners claimed that the principal reason why knowledge of herbal medicine is not shared readily with other people is that some of the herbs could be very poisonous. The herbalist must, therefore, be convinced that whoever the knowledge is imparted to will not use it to cause harm. Furthermore, the practitioners thought that the principal investigator may use the knowledge of their practices to enhance her clinical practice to their disadvantage.

Table 3 Route of administration of herbal medicine

Route of administration	No. of Respondents	%
ocular & nasal	20	50
ocular only	10	25
ocular & oral	4	10
ocular, nasal & oral	4	10
oral only	2	5
Total	**40**	**100**

In addition to the practitioners described above, there were 'roving herbalists' who sold herbal medicine on public vehicles, at bus stations, and may move from house to house but are usually not based in the particular community. Some community elders also have varying degrees of knowl-

edge/expertise of medicinal plants used in treating "simple" eye diseases. Their services are non-pecuniary and provided to relations and friends. The real traditional healers are only consulted for complaints other than the most rudimentary.

DISCUSSIONS

This study confirms previous anecdotal reports that much eye care was sought outside the regular eye care system in the Akwapim South District of Ghana. The main alternatives to the regular eye-care service were chemical shops and indigenous herbal medicine. This phenomenon of alternative/parallel care is not surprising partly because of the relatively stronger numerical strength of chemical shops and herbalists in this district and the negative barriers against uptake of hospital services. There is an indication of relative inaccessibility of hospital eye services to the population. Reasons for this inaccessibility include the consumers' concept of who could provide eye care and their inability to distinguish between the different providers, and their perception of the hospital and its staff.

Although it was not possible to evaluate the accuracy of diagnosis and referral habits of the alternative providers it appears the herbalists made an attempt to classify the type of eye diseases they treated whilst the chemical sellers made no such attempt but rather sold antibiotic eye drops to everyone who consulted them with any eye problem. The ideal remedy would be the provision of an adequate trained eye care service providers . However, since this is not possible in the short to medium term, the education of chemical sellers to recognise eye conditions that require topical antibiotics and others which require early referral will help prevent avoidable visual loss.

Unfortunately, direct instillation into the eyes is the most popular route of administration of herbal preparations in this study and raises concern. Topical administration of the herbal preparation accounts for the undesirable effects on the cornea and conjunctiva[5]. A significant advance would have been achieved if the herbalists had revealed to the investigators the identities of the plants used in ocular herbal medicines.

Although the herbalists alleged they treated cataract, eye injuries, "Apollo" and "kooko" it was doubtful if their diagnoses were correct. "Kooko" was found to be a non-specific and the vaguest of the diseases supposedly treated by the herbalists. It is also the local name for piles but appears to be ill defined with myriads of symptoms from head to toe including ocular symptoms and signs.

Cataracts seem to be confused with corneal opacities since both of these conditions present as "a white spot" in the front of the eye. Out of the 55 herbalists, only 1 was clear that a true cataract is a 'small opacity' seen in the pupil. Although there are claims for herbal treatment of cataract further scientific studies are required to establish the effect of these herbs on the eye and confirm that they actually treat cataract[4]. Modern cataract surgery with intraocular lens implantation has good visual outcome. Traditional healers could significantly influence some of the barriers that prevent people from accepting cataract surgery if they are trained to recognise and refer cataract patients for surgery[5], of course with some incentives. They may be encouraged to refer patients who are curably blind. However, it seems cataract is the commonest cause of blindness from which these herbalists make a living. Unless there is a clear understanding of how the referral system would work to the benefit of the herbalists they may resent turning over patients and indeed their livelihood to the regular eye care system. Suspicion[6] and fear of not receiving adequate compensation for 'loss of business' are the main obstacles preventing herbalists from making the knowledge open. These possibilities are underscored by the reluctance of the herbalists to reveal the raw herbs from which they derived their various herbal medicines and their demand of adequate compensation from the principal investigator.

"Apollo" (acute haemorrhagic conjunctivitis [AHC]) presents with red eyes. In Ghanaian communities "Apollo" is often used as a synonym for red eyes. Herbalists and chemical sellers dispense the same preparation for all red eyes although there are different possible causes of the red eye. Elsewhere it is reported that the red eye is the commonest eye condition treated by traditional healers and it is one of the diseases the healers have the most potential for helping or harming[7,8]. The harm may occur if substances that lead to corneal destruction are instilled into the eye (e.g. contaminated herbal preparations) or when there is delay in referring patients for appropriate treatment. These authors suggest that potential harm can be reduced by educating the healers to understand the dangers of instilling substances directly into the eye and cases that need to be referred to the ophthalmologist. Such a scheme has been tried in Nepal[8]. Traditional birth attendants (TBA) who practice herbal medicine in addition may see more

childhood conditions like ocular infections in the newborn, congenital cataract, congenital glaucoma and retinoblastoma. In Ghana, TBAs already receive training from the Ministry of Health and additional training to understand early referrals of neonates with abnormal looking eyes may help in the prevention of childhood blindness.

The practice of herbal medicine seems to be passed on to family members. There is no correlation between the duration of practice by herbalists and number of people they trained. Some even practice for over 40 years without imparting their knowledge to anyone and this attitude does not promote development of herbal medicine.

The role of family/community elders who may have some knowledge of medicinal plants for treating "simple eye diseases" for relatives and friends has been previously documented in another study and supports the concept that the real traditional healers are only consulted for complaints other than the most rudimentary[5]. All identified service providers in the community (including the 'roving herbalists' and community elders with knowledge of herbal medicine) should be targeted in programs aimed at reducing blindness caused by traditional eye medicine. In the short term, it may be more cost effective to target these alternate eye care providers than to change public attitude.

This study has unmasked the substantial interference in eye care by alternate service providers. They are already in place and will remain with us until regular eye care becomes more accessible to the communities. Advantage may be taken of the strengths and weaknesses of these alternate eye care providers to give them some insight and encourage them to recognise cases that require referral (sometimes urgently) to the regular eye care system. It will also help inculcate the use of non-harmful practices and encourage a sustainable long-term cooperation between all those who share the burden of providing eye care. The differences in education between the herbalists and the chemical shop attendants implies differences in appropriate teaching materials and methods to be used.

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