Traditional eye practices: a facility-based study in North Central Nigeria

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ABSTRACT

Aim: To determine the magnitude and the types of traditional eye treatments among new patients attending COCIN Rehabilitation centre, Mangu, Plateau State, Nigeria.

Materials and Methods: This was a cross-sectional, facility-based study conducted between July 2013 and June 2014 on new patients seen in the eye unit of Church of Christ in the Nations (COCIN) Rehabilitation Centre, Mangu. Data was collected on all new patients attending the outpatient eye unit of the hospital using a structured open-ended interviewer questionnaire. Information on patient demographics; use of traditional eye medication and manipulations and factors that determine choice of traditional treatment was recorded.

Results: A total of 3,113 consecutive patients who attended the eye unit participated in this study. The use of traditional eye treatment was reported by 134 (4.3%) participants. There was a statistically significant association between the use of traditional eye treatment and residence (χ=33.658, p<0.001), age (χ=17.785, p<0.001) and occupation of patients (χ=423.9, p<0.001). The main type of traditional eye medicine used was the extract from crushed leaves/roots (40; 37.1%) that is instilled into the conjunctiva sac. The providers of traditional eye treatment were mainly traditional healers (88; 65.7%). The main reason reported for the choice of traditional eye treatment was the belief in its potency.

Conclusion: Considerable numbers of patients still use traditional eye treatment to meet their eye health needs. There is a need for health education of the general public about the deleterious effects of traditional eye treatment. There is also the need to upgrade primary eye care programs with greater emphasis on eye care during the training of nurses, community health officers (CHO) and community health extension workers (CHEW).

Key words: Traditional, Eye, Medication, Education.

INTRODUCTION

Worldwide, a lot of patients are going outside of conventional medicine in search for help for their various health needs. Healthcare delivery in sub-Saharan Africa is pluralistic, consisting of both traditional and orthodox medicines. According to the World Health Organization (WHO), 80% of the African population use some form of traditional medicine for their primary health care. Patients often move back and forth between self-care, orthodox medicine and traditional healers.

In Nigeria and most of the developing countries, patients tend to also seek alternative medical care first in the treatment of eye diseases before conventional medicine. The undesired effect of this practice is an important cause of avoidable blindness, especially in cases where early detection and treatment would have prevented the victim from blindness.

Factors responsible for the increase in avoidable blindness in any community are often related to limited or lack of eye care human resources, difficulty in accessing appropriate and adequate eye care services within the

community. People living in communities with scarce or inaccessible eye care services are mostly inclined to look for other alternatives.

Traditional Eye Medicines (TEM) and manipulations are used for a great variety of eye diseases. The result of their use is often a more complicated clinical picture because the local remedy may cause further harm to an already abnormal eye. The TEM could simply be a "home remedy", or substance used at the suggestion of a traditional healer.

In Nigeria, as at 2006, it was estimated that the number of eye care personnel and their ratio to population were as follows: there were 400 ophthalmologists (ratio 1:350,000), 1,500 optometrists (ratio 1: 93,000) and 946 ophthalmic nurses (ratio 1: 148,000). In Plateau State, there are 11 ophthalmologists, who were all in the state capital (two in private and 9 in government hospitals), 8 optometrists all in Jos (3 in government hospitals and 5 in private centers) and 3 ophthalmology diplomates (one in Jos and 2 in Mangu Local Government Area). There are 52 ophthalmic nurses in the state, 32 of whom are in the state capital, while the remaining 20 are spread across the other parts of the state. Mangu Local Government Area (LGA) with a population of 291,521(2006 census) has 5 ophthalmic nurses and 2 ophthalmology diplomates providing eye care for the people in Mangu LGA and other LGAs around including neighboring states. There are no eye care workers in the surrounding LGAs. This uneven distribution leaves most of the inhabitants of these other LGAs without access to eye care hence the need to seek alternative eye care.

The World Health Organization (WHO) defines traditional medicine (TM) as "the total combination of knowledge and practices, whether explicable or not, used in diagnosing, preventing or eliminating physical, mental or social diseases and which may rely exclusively on past experience and observation handed down from generation to generation, verbally or in writing".Traditional Eye Medicines (TEMs) are a form of biologically-based therapies or practices that are instilled or applied to the eye or administered orally to achieve a desired ocular therapeutic effect.

In the developing countries where the practice of the traditional healers is most common, it has been observed that they are generally men, with a few are women. They often do not have formal education but some do get training from other traditional healers. Many elderly people may also be labeled as "traditional healers" since they have some measures of knowledge of how to treat common ailments using herbs by reason of experience. For complaints other than the minor, however, "real" traditional healers are consulted.

Products or procedures used in the traditional eye care activities vary from country to country and healer to healer. Different parts of the plant (leaves, bark, roots, etc.), the juice of squeezed plant leaves, lime juice, palm wine, shea butter, kerosene, toothpaste, breast milk and urine (either animal or human); sometimes animal parts or dropping are used to make concoctions for face wash, "fume baths" or direct application to the eye.[3]

An important traditional manipulation for the treatment of blinding cataract is the use of traditional operative couching of the lens (TOCL). Couching dates back to the Assyrian Code of King Hammurabi around 1700 BC and the Hindu surgeon Susruta around 700 BC. For the Greek, Romans as well as Egyptians, Arabs and Europeans, couching was the only choice for treatment of cataract for more than three thousand years until the late 19th century.

Although TOCL is now obsolete in the Western world, it still exists in certain parts of Asia, Africa and especially in Northern Nigeria.[3] Two methods of couching are reported: (a) the 'sharp method': The eye is penetrated and the lens is pushed backwards into the vitreous with a sharp instrument. (b) The 'blunt method': The lens is pushed backwards into the vitreous, either by massage or possibly by a 'magic drop', which causes zonulysis.[3]

MATERIALS AND METHODS

The study was carried out in Mangu LGA located 72 kilometers south of Jos, in the central zone of Plateau state with land area of 1,250 Km.

This was a descriptive, cross-sectional study. It comprised of all new patients that were seen at the eye unit of Church of Christ in the Nations (COCIN) Rehabilitation Centre, Mangu. The study center was purposively selected from all the 17 LGAs of Plateau State because it is the only hospital with an eye care facility located outside the state capital Jos and located in a semi urban area. The study was conducted between 1st July 2013 and 30th June 2014. All newly presenting patients seen for consultation at the eye clinic of the hospital who gave consent to participate in the study were recruited. Ethics approval was granted by the Medical Ethics Committee of Jos University Teaching Hospital, Nigeria. An informed written consent was obtained

from each recruited patient.

Data collection

All newly presenting patients who met the inclusion criteria had an interviewer administered questionnaire filled out. The visual acuity was tested with unilluminated Snellen's chart in a well illuminated room, where this was not possible because of poor vision; visual acuity was tested at varying distances and with a +10 dioptre sphere lens in aphakic patients. Anterior segment was examined with slit lamp biomicroscope or magnifying loupe (X8), while patients with corneal ulcers had their corneas stained with flourescein dye. The fundus was examined using Heine direct ophthalmoscope while those who required further detailed fundal examination had their eyes dilated with 0.5% tropicamide and 2% phenylephrine. Discomfort was relieved by giving patients a pair of sunshade or face cap; while patients with corneal ulcers were given antibiotic ointment. The intraocular pressure was measured with Goldman Applanation Tonometer (GAT) or schoitz tonometer when GAT was not available. Patients who had couching and their vision improved with refraction had secondary anterior chamber intra ocular lens (ACIOL) implanted at subsidized rates and aphakic spectacles for those who were not ready for surgery. Other patients who could not afford the cost of their medications were given at a subsidized rate.

Study materials

Snellen's chart	Flourescein dye	Sunshade
Pinhole +10DS lens	2% phenylephrine	Face cap
Schoitz tonometer	0.5% tropicamide	Magnifying loupe (X8)
Slit lamp biomicroscope	Heine direct ophthalmoscope	Antibiotic eye ointment

Data Analysis

Data was doubly entered into Microsoft excel spread sheet with consistency checks. The data was analyzed with the Statistical Package for Social Sciences (SPSS) software, version 16.0. Frequency distribution tables, contingency, association tables, means and standard deviations were generated, based on which the findings of the study were discussed. P values (significant at the $P < 0.05$ level) were calculated.

RESULTS

Socio demographic characteristics of the respondents

Three thousand, one hundred and thirteen (3,113) new eye patients consisting of 1,425 (45.8%) females and 1,688(54.2%) males, aged between 7 months to 105 years (mean age was 38.8years±21.9 SD), were recruited for the study. One hundred and thirty-four (4.3%) participants reported the use of TET for their current eye disease comprising 80(57.7%) males than females. Their age ranged between 7 months - 85 years (mean age = 45.2 years ±20.0 SD). Most TET users 29(21.6%) were within the age range of 51-60, closely followed by those aged 41-50 with 28(20.9%) participants (Table 1).

Table 1: Age and sex distribution of all patients

Age group (years)	TET USERS				NON-TET USERS					
	Female		Male		Female		Male		Total	
	No	%	No	%	No	%	No	%	No	%
<1	0	0.0	2	2.5	21	1.5	27	1.7	50	1.6
1-10	4	7.4	3	3.75	173	12.6	215	13.4	395	13.2
11-20	6	11.1	6	7.5	135	9.8	198	12.3	345	11.4
21-30	7	12.9	10	12.5	217	15.8	259	16.1	493	16.5
31-40	4	7.4	7	8.6	210	15.3	229	14.2	450	15.1
41-50	10	18.5	18	22.5	194	14.2	231	14.4	453	15.1
51-60	11	20.4	18	22.5	193	14.1	185	11.5	407	13.6
61-70	9	16.7	11	13.6	142	10.4	155	9.6	317	10.6
71-80	2	3.7	4	5.0	68	5.0	90	5.6	164	5.5
81-90	1	1.9	1	1.25	15	1.1	18	1.1	35	1.1
91-100	0	0.0	0	0	1	0.1	1	0.1	2	0.0
101-110	0	0.0	0	0	2	0.1	0	0	2	0.0
Total	54	100	80	100	1371	100	1608	100	3113	100

Most of those who used TET had no formal education making up 73(54.5%), 3(2.2%) were children yet to commence any form of education. Farmers constituted the highest occupational group accounting for 86(64.2%), whereas artisan and clergy were the fewest as shown in Table 2. Only 9(6.7%) of those who reported the use of TET were living in urban areas, 22(16.4%) resided in semi-urban areas while 103 (76.9%) were residing in rural areas.

Table 1: Distribution of TET users according to educational level and occupation

Variables	No	%
Education		
None	73	54.5
Minor	3	2.2
Primary	33	24.6
Secondary	15	11.2
Tertiary	10	7.5
Total	***134***	***100***
Occupation		
Farming	86	64.2
Students	14	10.4
Unemployed	14	10.4
Civil servant	9	6.7
Trading	6	4.5
Artisan	1	0.7
Clergy	1	0.7
Not applicable	3	2.2
Total	***134***	***100***

Most participants who used TET, 98(73.1%) were married while 12 (9%) widowed and 24 (17.9%) single. Based on the unadjusted logistic regression, respondents between ages 40-59 and 60+ were 2.5 and 2.7 times more likely to have used TET than those aged 0-19. Semi-urban dwellers were about 0.4 times less likely to have used TET. Farmers were over 10 times more likely to have used TET than students and pupils. But with adjusted logistic regression, the major independent predictor of TET use was farming.
Various types of TET were used, 101(75.4%) respondents used TEM only, 26(19.4%) had TOCL while 7(5.2%) used both TEM and had their lenses couched. The most common symptom necessitating the use of TET was poor vision in 73(40.3%) participants, followed by inflammatory symptoms in 65(35.9%), white spot in the eye 20(11.0%), trauma 19(10.5%) while the least complaint was whitish discharge in 4(2.2%) participants.
Plant products 40(37.1%) from leaves, flowers, fruits, stem or roots and chemicals in the form of powder 32(29.6%) were the most common form of TEM (Table 3).
The most reported route of administration of TEM was topical 62(57.4%), face wash 20(18.5%), topical and face wash 11(10.2%), use of TEM as vapour and oral intake were 15(13.8%).

Table 1: Types of TEM used

Nature of TEM	No	%
Plant product		
Leaf extract	31	28.7
Roots	2	1.9
Dry leaves	7	6.5
Sub total	**40**	**37.1**
Chemical		
Powder	32	29.6
Eye pencil	4	3.7
Salt solution	1	0.9
Cigarette smoke	1	0.9
Sub total	**38**	**35.2**
Animal products		
Human saliva	2	1.9
Human urine	1	0.9
Human breast milk	1	0.9
Cow milk	1	0.9
Sub total	**5**	**4.6**
Others		
Concoction	7	6.5
Unknown	18	16.7
Sub total	**25**	**23.2**
Total	**108**	**100.0**

Prior to presentation, 45(41.6%) participants used TEM within a month, 34(31.6%) within 1-6 months, 26(24.1%) within 7-12 months while 3(2.8%) used it for more than 1 year before presentation.

Among the 33 participants who had TOCL, 15(45.45%) thought their manipulation was with sharp object while 18(54.55%) thought it was blunt object that was used. Unlike those who used TEM, only 1(3.3%) participant had TOCL within a month prior to presentation, 6(18.2%) had couching within 1-6 months, 3(9.1%) within 6-12 months while most of them 23(69.7%) had couching over a year prior to presentation. Traditional healers were the main prescribers of TET and prescribed for 88 (65.7%) participants. Other prescribers were relations 23 (17.2%), friends 9 (6.7%), Mallam 6 (4.5%), clergy 2 (1.5%) and self-prescribed 6 (4.5%).

Factors that determined the choice of TET were belief in its potency 54(40.3%), ignorance of orthodox medicine 24(17.9%), unaffordable orthodox medicines 23(17.2%), others benefitted 14 (10.4%) among other factors. Despite belief in traditional treatment for eye disease, most of the participants 114(85.1%) would not use traditional medicines for their other health conditions.

DISCUSSION

The use of Traditional Eye Treatment (TET) is common in African urban, semi-urban as well as rural areas. Despite advances in cataract surgery, many people in the Sub-Saharan region are still treated by the traditional lens couching technique. The result obtained from this study shows that TEM/TOCL is patronized by patients prior to seeking available eye care services in this semi-urban area-a common practice in Africa. Only 4.3% of all the new patients seen during the study period reported having used TET, of which 3.2% used TEM and 1.0% had TOCL. This prevalence of TET was lower than was expected in this area. It is lower than studies in Enugu where 5.7% reported TEM use and Onitsha with 13.2%.[7] It is also lower than that obtained from studies in South India where 47.7% of patients with corneal ulcer used TEM prior to presentation at the hospital, in Tanzania with 49% TEM use in patients with ocular injuries, in Malawi where 33.8% of patients with corneal disease reported TEM use and Congo where 17.9% reported the use of TEM.[7,9] But it is slightly higher than in Benin city where 1.57% TEM use was reported. One percent had couching which is lower than 42.7% seen in a clinic-based study and 12% in a population based study in Plateau state.**This shows a decline in number of patients using TOCL who presented to the hospital as was found in this study.** The variations in the proportions may be attributed to the differences in the study settings, study populations, and the specific use of TEM for certain eye diseases such as trauma or corneal ulcers.

The prevalence of TET users in this study may have been underestimated. Patients are generally scared that the health worker might be displeased with them; hence they keep the use of traditional treatment prior to presenting at the hospital a secret. Studies have shown that almost half of TEM users either do not disclose it at all or withhold relevant information relating to its use.[17]

This study revealed that traditional eye treatment can start as early as 7 months to 85years, with a mean age of 45.2 years. The highest group of TET users were those within age group 41-70 as was also obtained in studies in Benin City and Onitsha but unlike Enugu where those over 60 years were the highest TEM users.[7] Increasing age being a factor for TET use was statistically significant. Individuals in this middle age group make up the powerful segment of any society and family since they take decisions on how family resources are disbursed. As custodians of culture the elderly advise on health care remedies especially in settings where there are no trained health personnel. Therefore, this suggests that promotive and preventive eye care activities aimed at discouraging TEM/TOCL use must have the older population as prime targets, to deter them from passing down these harmful practices to younger generations. Though not statistically significant, more males used TEM/TOCL like that seen among TEM users in Benin city, among those who had couching in Ilorin, in the Nigerian National Blindness and visual impairment survey and in Mali.[7,9] This is unlike the predominance of females who used TEM in Enugu, Onitsha and Uyo.[17,18,25] Male predominance might be attributed to men being more daring and less fearful.

Most of the TET users were farmers as was also observed by Ukponmwan in Benin city, unlike in Uyo where most TEM users were pupils, and civil servants in Enugu.,, Majority were rural dwellers which is not surprising because in Nigeria, a large proportion (about 70%) of the population reside in rural areas while eye care facilities are mostly in urban areas. This is consistent with the findings of other previous studies done in Nigeria with 54.8% in

Oman where the rural population used different types of traditional medications prior to hospital presentation."

Though not statistically significant, rural residence imposes both geographic and economic barriers to access eye care services, which at present, in Nigeria, are concentrated in urban areas. This leaves the rural dwellers with no other alternative eye care provider except the traditional medical practitioners who are closer to them in the rural areas.' The higher tendency to use TET among rural dwellers implies either rural non-availability or reduced uptake of available promotive and preventive eye care services in the rural areas. As the investigator observed in many of the Local Government Areas where very beautiful healthcare facilities were in place, but the locals do not go there for their health needs and would prefer to use alternative medicines. Therefore, health education programs with emphasis on safe eye care practices need be intensified among the rural dwellers.

The most commonly used TEM were plants and chemicals which is consistent with that found in studies in Enugu, Uyo, Benin City, Congo, Malawi and Tanzania."" This is at variance with a study in India where breast milk was the most commonly used TEM and in Oman where kohl(traditional eye pencil) was the most commonly used.' These plant products are made up of dried plant or roots crushed into powder, boiled in water, and made into aqueous solution. The common use of plant products is in keeping with the African trend and may also be due to the fact that majority of those who use TEM are farmers and readily have access to leaves and herbs. Some of the participants apart from using the roots and herbs also had TOCL. This confirms the report of the Nigeria's National Blindness and Low Vision Survey which revealed that most of the cataract in the country was treated by herbalists who couch the affected eyes.

Majority (65.7%) of the TET users obtained their prescriptions from traditional healers while only a few participants got it from caring friends, relations or by themselves as self-medication. This is unlike the Enugu and Congo studies where non-traditional medical practitioners (self, relations or friends) were the common prescriber of TET.' This implies that, the traditional medical practitioners are still being revered as the originator of TET and the society also plays a crucial role in the perpetuation of the practice. The symptoms necessitating the use of TET as seen in this study are mostly due to symptoms of poor vision (most likely from cataract), followed by inflammation, whitish spot in the eye (probably from congenital or age related cataract), trauma, then whitish discharge an ophthalmologist could have treated with good visual outcomes. This is the similar to studies in Enugu and Benin where the commonest symptom was diminution of vision.

The commonest ocular condition among TET users was glaucoma unlike conjunctivitis seen in Onitsha, Congo and ocular anterior segment disease in Enugu. Glaucoma was more among those who had couching. This could be as a result of the desperation for vision restoration by patients with glaucoma who are told that vision lost cannot be restored. At presentation, most TEM users had been on the treatment for four weeks or less; the treatment modality was mainly topical instillation into the conjunctival sac (46.3%) which is generally the mode of application as seen in similar studies done in Enugu and Tanzania.'

In conclusion, a wide range of traditional remedies were still being patronized by a number of patients with eye problems because they believed in the potency of the traditional treatment. Considerable numbers of patients still use traditional eye treatment to meet their eye health needs. There is a need for health education of the general public about the deleterious effects of TET. There is also the need to upgrade primary eye care programs with greater emphasis on eye care during the training of nurses, community health officers (CHO) and community health extension workers (CHEW).

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