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ORIGINAL ARTICLE

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Developing mental health services in Nigeria

The impact of a community-based mental health awareness programme

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■ **Abstract** This grass-roots level mental health awareness programme considerably increased use of a community-based mental health services in a part of Nigeria where knowledge about treatability of mental illness was limited. The benefits of the programme were sustained for a significant period after the initial awareness programme. In order for attitude changes to be reinforced, similar awareness programmes must be repeated at regular intervals.

1 ■ **Key words**

Introduction

Providing effective psychiatric services in low and middle income countries is beset with practical difficulties. Despite a growing body of evidence for cost-effective intervention [7], a major hurdle to implementation is the attitudes of the population towards mental illness and their beliefs about treatment options [10, 12].

The parlous state of mental health services in Nigeria has been well documented [5, 11]. Annual expenditure on health in Nigeria is just 3% of Gross Domestic Product, with mental health taking only a small part of this total health budget. There are 0.4 psychiatric beds per 10,000 population [14]. Nigeria is the most populous country in Africa, with around 140 million people [1]. There are around 100 working psychiatrists in the whole of Nigeria and four psychiatric nurses per 10,000 population [6, 14]. Almost all of the psychiatrists are based in one of the country's eight Federal Psychiatric Hospitals or 12 Teaching Hospital Psychiatric Departments. Due to lack of facilities, many trained psychiatric nurses do not actually work in the field but return to general nursing once they finish their training. In our three states of operation; Abia and Ebonyi State Teaching Hospitals each have a part-time visiting psychiatrist, and Imo State has no state sector psychiatrist. The south-east of Nigeria is relatively well served in terms of psychiatric nurses, with more available than in the north of the country. This allowed all the nurses to be recruited from their own states (with most transferred out of a general nursing context into this service). The existence of a psychiatric nurse training school in on of the states (Abia) should help to ensure a supply of nurses in the future as the programme expands.

■ Beliefs and their effect on pathways to care

High levels of stigmatisation towards those with symptoms of mental illness have been recorded across many cultures. Nigeria is no exception, with low levels of knowledge and negative attitudes both common [8]. This has been shown to have an impact on pathways to care in other African contexts [13]. Strikingly low proportions of those with diagnosed mental health needs receive any form of mental health care (orthodox or traditional) [9]. Higher levels of public knowledge have been found in Europe, and this public knowledge has been shown to have increased in recent years (particularly understanding about *prognosis* and *treatability*) [4]. This has been attributed in part by awareness campaigns such as that run by the Royal College of Psychiatrists in the United Kingdom.

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Most of the research in Nigeria has been done in the western part of the country. The south east shares many of the same problems (having more religious, geographical and demographic similarities to western Nigeria than the north of the country for example). The predominant tribal grouping in this area is Igbo, one of the three main ethnic groups which make up 60% of the population of Nigeria.

As in other parts of Nigeria, there is a strong sense of responsibility for sick family members in Igbo culture. The situation is complicated in the case of mental illness by prevalent beliefs about the nature and causes of mental illness [8]. The traditional understanding of mental illness in this part of Nigeria is of a spiritual attack—often in the form of a curse placed by enemies through a traditional healer (using either incantations or poison). The two main avenues to deal with this form of spiritual attack are the traditional healer, and "prayer houses" (Pentecostal Church establishments specialising in exorcising spirits). Both of these methods of treatment may involve herbal remedies, chaining, beating, cutting of the skin, acid burning or starvation ("fasting") and serve a purpose as a means of containment.

The orthodox psychiatric option may also be pursued, but in many communities this is a very difficult path to take. The reasons are legion; cost of medicines or transport, lack of accessible clinics, lack of professionals etc. Compounding this is a lack of knowledge about (or belief in the value of) a medical model of mental illness (that mental illness is often treatable with medication). Some attitudes are at variance with concepts of universal human rights usually applied when providing mental health services in the West, such as that the person should not be blamed for their sickness, or that people deserve to be treated with dignity even when mentally ill.

Context

The advantages of community-based services are well recognised and have strong research evidence of effectiveness [2, 7]. The 2001 World Health Report, Mental Health: New Understanding, New Hope [15], recommends replacing large mental hospitals with community psychosocial rehabilitation services, which "can provide better and earlier care, are more respectful of human rights and can help limit the stigma of mental health treatment". These messages were strongly reinforced in the Lancet series of papers on Global Mental Health [3]. In 1991, Nigeria adopted Mental Health as the ninth arm of primary health care (PHC) [5]. The responsibility for PHC delivery lies with the third tier of Government [local government areas (LGA)]. The policy has yet to be put into practice in any part of the country. While there was some initial development of infrastructure for PHC clinics, political wrangling over resource allocation has meant that most are unable to fulfil their purpose. Each LGA has a PHC Co-ordinator who overseas activities in the clinics within the LGA. It is through this structure that activities such as vaccination take place, but there is generally a lack of effectiveness outside of these externally funded efforts. Some effort was made to develop a mental health training package for PHC nurses in the 1990s, but this was never enacted. There is very little provision of mental health care at District Hospital level. This level of health care is the responsibility of states and where it does exist, it is of a highly variable standard. There are no specialist wards in District Hospitals in the three states that this programme covered, and the two state institutions that did exist served mainly as containment facilities—not appropriate for referral.

The community psychiatric programme (CPP) was established in 1995 as a partnership between Amaudo Itumbauzo (an NGO running a centre for rehabilitation of homeless mentally ill people in Abia State), and Government Primary Healthcare Departments at local level. The NGO administers a drug revolving fund (DRF), provides motorcycles, and co-ordinates supervision and training while the government pays the staff, and provides clinic space. Its aim was to provide accessible, affordable services for those in need of mental health care and their families. Patients pay for drugs prescribed only (which are provided by the clinic through the DRF, so the costs transferred to the patients are just above cost price). It has grown gradually (though faster after the awareness programme), and now operates in three states of south-eastern Nigeria—Abia, Imo and Ebonyi States. The combined population of the three states is just under nine million people [1].

There are now 57 community psychiatric nurses (CPNs), with each placed in a PHC clinic across the three states. This particular model developed (rather than that of training PHC nurses) due to the availability of these specialist nurses, difficulties of referring further afield, and the need to ensure availability of quality drugs in an environment where they are not generally available. It was also found that the busy PHC nurses were unable to undertake community work. Each CPN divides his or her time between clinic days and providing a community service using a motorcycle to visit more remote areas. These nurses visit patients in their homes for assessment, prescribe basic psychotropic drugs, and address major social and psychological issues arising from the patient's condition. All services are provided in the community, with no inpatient facilities, though referrals can be made to local hospitals where they exist (often many hours drive away). Nurses receive monthly supervision and quarterly training from Amaudo Itumbauzo. The nature of the partnership, with the government taking on most of the burden of cost helps the programme remain sustainable. There has also been a greater willingness for the government to financially support some of

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the activities carried out by the NGO (for example paying for training).

This paper uses a simple proxy measure (referral statistics to established psychiatric clinics) to assess the effectiveness of a mental health awareness campaign carried out in south-eastern Nigeria as a partnership between Government Health Departments and Amaudo Itumbauzo, a Nigerian/British NGO. Our aim is to assess the impact of an awareness programme on the subsequent use of a service. While data was collected about the nature of the referrals (generally showing appropriate referrals of people with severe mental illness), we do not attempt to explore the more complex outcomes of the awareness programme in this paper.

Method

A mental health awareness programme was held in each of the three states of operation over the course of 4 years. Its main focus was on highlighting human rights of the mentally ill and to challenge misconceptions about mental illness. It also specifically aimed to present positive health messages about treatability, blameworthiness, prognosis and dangerousness to members of the communities in each LGA in a state. As well as improving the way mentally ill people were treated from a human rights perspective, we aimed to increase the numbers of people receiving appropriate psychiatric care by promoting referral to the network of clinics across the three states.

The main tool used was training of village-based health workers (VHWs). VHWs are volunteers who make themselves available to improve the health of their communities usually in a health promotion, monitoring and educational capacity. They are already used by a variety of PHC programmes in Nigeria such as the National Programme on Immunisation and Guinea Worm Eradication Programme. They are deliberately chosen as people who hold a position of respect in their communities. They are usually literate and knowledgeable about local culture and beliefs. In addition, other media (radio announcements and jingles, newspaper coverage) were used to reinforce health messages and increase awareness of the existence of clinics. Key PHC staff and LGA health co-ordinators also attended the training to ensure acceptance of the programme and to promote better integration between the programme and other PHC clinic activities.

Following preparatory training of the clinic psychiatric nurses and local PHC Co-ordinator, they delivered a week of training in their respective LGAs. Advice about the clinic location, opening days, how to refer, and costs involved was included in the training given to the VHWs. We expected them to take all suspected cases seen in their communities to the nearest clinic, and to work with the nurse to maintain contact and provide follow-up monitoring.

The training was carried out for 50 VHWs in each of 17 LGAs in Abia State (total 850) in 2001, 30 VHWs in each of 27 LGAs in Imo State (total 810) in 2003, and 50 VHWs in each of 13 LGAs in Ebonyi State (total 650) in 2004. 2310 VHWs were therefore trained in total over a period of 4 years.

Data collection

Since 2003, monthly statistics have been systematically collected from all clinics by Amaudo Itumbauzo staff on a standard form, allowing them to monitor the impact of the training on numbers of patients coming for treatment in Imo and Ebonyi States. Data collected from each clinic includes total number of patients seen, number of new referrals each month, source of referrals, and brief information about diagnoses.

The Statistical Package for the Social Sciences was used to compare the data for new patients seen during the months preceding the training in each state, and then following the training. As a comparison, the same analysis was carried out for the years when there was no training done.

Results

There were statistically significant increases in the number of patients who attended the community psychiatric clinics in the last 2 months of the year following the campaign in each state (in both cases held in October of the respective year). These increases carried over into the following year and remained at this relatively high level. A linear model fit of the counts showed that the Awareness Campaign accounted for between 33 and 48% of the increase in attendance (Fig. 1, Table 1).

For the year 2003, the distribution of the counts (new patients seen) was not statistically different from month to month between the months of January to October 2003 ($\chi^2 = 9.50$, $df = 9$ and $P = 0.39$). However, the distribution of counts for the whole year, following the awareness campaign, was statistically significant ($\chi^2 = 149.82$, $df = 11$ and $P < 0.05$).

Again, this basic conclusion held when a linear model fit on this time series was carried out. The model incorporating the first 10 months yielded an R^2 of 0.001 with a P value of 0.93. In sharp contrast was the model that incorporated the 2 months of November and December following the awareness campaign. It yielded an R^2 of 0.33 and a P value of 0.05. Thus, the awareness campaign accounted for about a third of the increase in the presentation of new cases to the community clinics.

The results of a linear model fit for the year 2004 (when no training was held in Imo) was instructive. There was no statistical difference for the fit of the first 10 months and that of the whole year. This is a consistent finding, with no years (outside of training years) showing a similar sudden increase in numbers suggesting another cause for the effect at that time of year.

Also these two models were not different from that of 2003. They yielded an R^2 value of 0.33 and P value of 0.05 (Fig. 2, Table 2).

The distribution of the counts (new patients seen) was not statistically different from month to month between the months of January to October 2004 ($\chi^2 = 4.27$, $df = 9$ and $P = 0.83$). However, the distribution of counts for the whole year, following the awareness campaign, was statistically significant ($\chi^2 = 683.89$, $df = 11$ and $P < 0.05$).

This basic conclusion held when a linear model fit on this time series was carried out. The model incorporating the first 10 months yielded an R^2 of 0.14 with a P value of 0.28. In contrast, the model that incorporated the 2 months of November and December following the awareness campaign yielded an R^2 of 0.48 and a P value of 0.01. Thus, the awareness campaign accounted for

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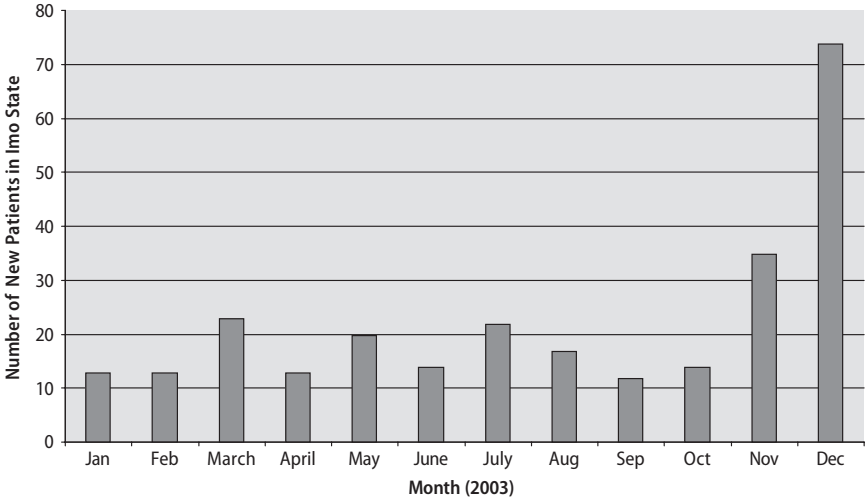

Fig. 1 New patients seen by month in Imo State (2003). The awareness programme was held in October 2003

Table 1 New patients seen by month in Imo State (2003)

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Okigwe	1	1	1	4	5	2	1	0	1	1	1	10	28
Oguta	3	4	6	5	3	2	4	5	4	1	10	21	68
Owerri	2	2	3	0	1	0	2	2	0	3	2	2	19
Orlu	1	0	3	0	3	0	5	1	0	0	3	3	19
Ehime Mbano	1	1	2	2	2	4	4	4	4	2	0	2	28
Obowo[a]	1	1	1	0	0								3
Mbaitoli[b]						1	1	1	1	1	0	1	6
Oru west[b]							1	0	0	1	0	8	10
Owerri West	0	1	2	1	0	0	1	1	0	1	1	1	9
Ahiazu Mbaise	0	2	2	1	3	2	2	2	2	1	10	20	47
Ngor Okpala	0	0	2	0	1	1	1	1	0	1	1	4	12
Ihitte Uboma	4	1	1	0	2	2	0	0	0	2	7	2	21
Total	13	13	23	13	20	14	22	17	12	14	35	74	270

[a]Obowo; no nurse from June 03
[b]Mbaitoli and Oru West opened in June and July 2003

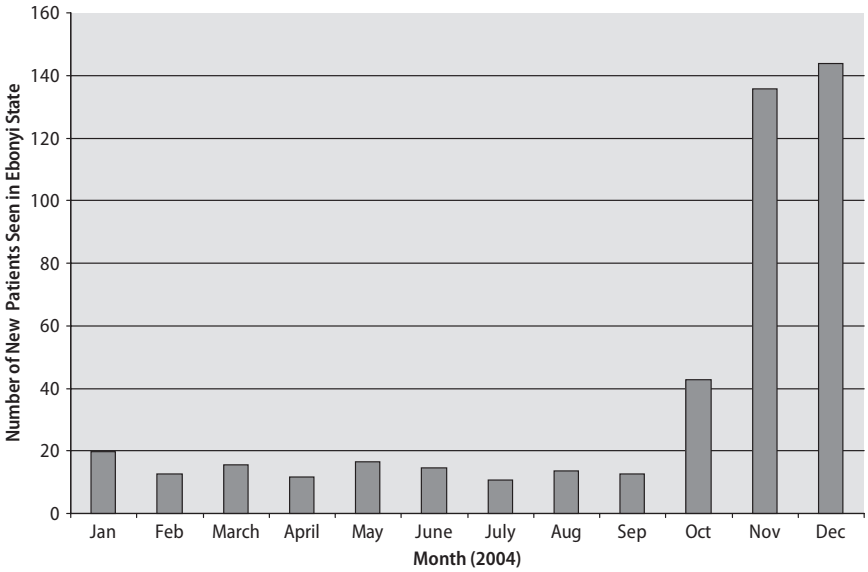

Fig. 2 New patients seen by month in Ebonyi State (2004). The awareness programme was held in October 2004

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Table 2 New patients seen by month in Ebonyi State (2004)

2004	January	February	March	April	May	June	July	August	September	October	November	December	Total
Afikpo N.	7	3	2	4	2	0	1	1	0	8	12	8	48
Ikwo[a]										4	2	30	36
Imoha	1	1	2	1	3	2	3	2	2	2	22	22	63
Ohaozara	4	2	4	3	4	6	4	5	4	4	4	4	48
Ishielu	0	0	0	0	0	0	0	1	2	20	30	18	71
Ngbo east	4	3	3	1	3	3	2	3	3	3	36	30	94
Afikpo S.	2	0	1	1	0	1	1	2	2	2	4	5	21
Abakaliki	2	4	4	2	5	3	0	0	0	0	16	17	53
Onitsha[a]											10	10	20
Total	20	13	16	12	17	15	11	14	13	43	136	144	454

[a]Ikwo clinic opened October 04, Onitsha November 04

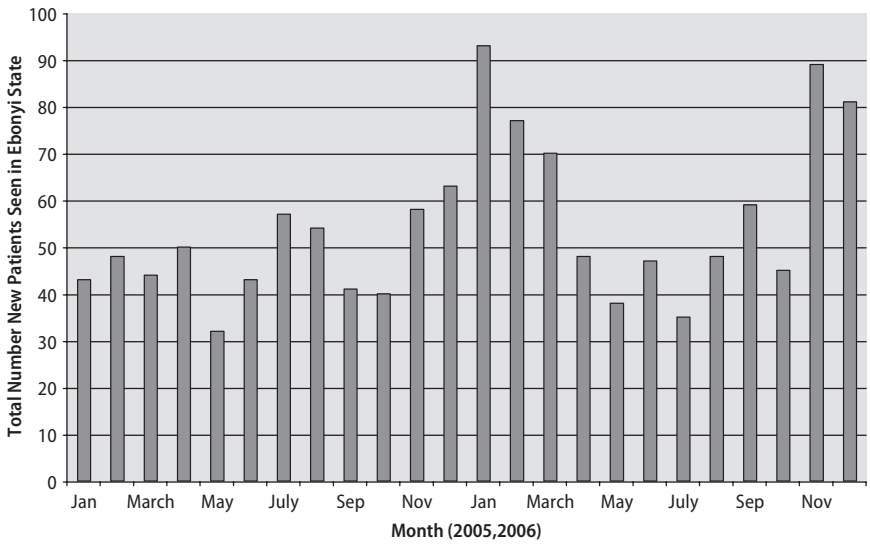

Fig. 3 New patients seen in Ebonyi State by month during the years subsequent to the training (2005 and 2006)

about half the sudden rise in presentation of new cases to the community clinics.

Is the increase in patients sustained?

Data was collected for the numbers of patients seen in the clinics in Ebonyi State for the years 2005 and 2006 (the 2 years after the awareness programme) (Fig. 3, Table 3).

The increased referral rates gradually tailed off following the initial increase, but remained significantly higher than prior to the training being carried out in Ebonyi State (when new patients never exceeded 20 per month). The increased numbers seen is partly related to the opening of two new clinics in 2005, partially hiding the fact that most of the already established clinics returned to a stable number of new patients seen each month which was lower than immediately after training, but significantly higher than prior to it. The opening of new clinics in itself though is a consequence of the awareness raised during the training.

Discussion

The increased referral rate to the psychiatric clinics was marked, and seems to occur with a strong temporal relationship to the training of VHWs. Although the most likely reason for this can be attributed to the effective work of VHWs following the training, attitudes are notoriously difficult to change, and the connections between attitudes and changes in behaviour are complex. We cannot, for example draw conclusions about the effect of the programme on the levels of human rights infringements in the area—the primary aim of the programme.

An intense burst of activity may be the easiest way to deliver this kind of health message for a rapid impact to be felt, but is it not necessarily the most effective. Strongly held cultural beliefs may appear to be amenable to measurable change in the short term in before-and-after questionnaires, but the change may not be resilient in the longer term. Once new ideas are exposed to the challenging environment of a community with strong and dif-

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Table 3 New patients seen in Ebonyi State by month during the years subsequent to the training (2005 and 2006)

2005	January	February	March	April	May	June	July	August	September	October	November	December	Total
Afikpo N.	8	5	4	8	4	5	4	5	2	2	3	5	55
Ikwo	4	12	3	3	0	1	3	3	2	3	0	4	38
Ezza S.[a]							3	3	4	4	1	2	17
Imoha	11	5	8	11	8	9	3	0	3	4	2	3	67
Ohaozara	3	1	1	2	2	1	3	2	1	2	3	4	25
Ishielu	11	11	12	0	1	0	3	2	1	2	3	0	46
Ngbo east	12	7	18	1	2	5	2	5	3	1	3	0	59
Afikpo S.	13	3	2	0	1	2	2	0	2	1	2	2	30
Abakaliki	4	16	11	7	4	8	4	11	20	5	8	9	107
Ivo[a]				4	3	7	3	4	7	13	15	11	67
Onicha	27	17	11	12	13	9	5	13	14	8	49	41	219
Total	93	77	70	48	38	47	35	48	59	45	89	81	730

[a]Ivo clinic opened April 05, Ezza South in July 05

Table 4

2006	January	February	March	April	May	June	July	August	September	October	November	December	Total
Afikpo N.	1	2	2	8	3	3	4	4	4	1	3	5	40
Ikwo	0	0	5	0	1	2	1	0	0	0	0	0	9
Ezza S.	2	1	4	0	4	2	4	3	3	2	4	5	34
Imoha	0	0	0	1	1	1	2	1	14	1	1	3	25
Ohaozara	2	1	2	0	2	1	1	1	2	2	1	1	16
Ishielu	1	0	1	1	1	1	0	1	1	0	0	0	7
Ngbo east	2	2	2	4	2	5	4	3	2	4	3	1	34
Afikpo S.	2	3	2	3	2	3	5	3	0	5	2	0	30
Abakaliki	3	12	4	5	5	5	2	3	4	4	7	9	63
Ivo	7	4	10	6	1	8	7	5	5	5	9	7	74
Onicha	23	23	12	22	10	12	27	30	6	16	28	32	241
Total	43	48	44	50	32	43	57	54	41	40	58	63	573

ferent views, it is likely that people who have been trained only briefly will become less effective advocates of new ideas in time.

Although increases in referrals were sustained during the following months, there was a tail off from the very high levels immediately following the training. This initial jump in referrals may be attributable to a mixture of early VHW enthusiasm and the opportunity to refer long-standing cases in the communities. The rate of discovery of new cases to refer will inevitably provide fewer patients to refer in the subsequent months. Reinforcement of ideas, and the encouragement that comes from training is necessary to sustain the effectiveness of the work. Without retraining, VHWs are likely to cease to be effective in monitoring their communities and referring relevant cases. Commitment of volunteers clearly tailed off as time went on, and initiatives to address this problem (booster training, incentives, paid workers, etc.) have been included in subsequent work to address this problem.

Creation of a public demand for new clinics and the political impetus to invest necessary resources to do this by local leaders was an unexpected benefit of the training.

Conclusion

Belief systems are important components of health and illness behaviour. They influence the choices that people make when they or their relations fall ill. Simple awareness programmes can modify them to encourage service use. Consequently decisions that make optimal use of available effective remedies are more likely to be made by patients.

A mental health awareness programme, and particularly one that makes use of established resources such as Village Health Workers is an essential component of any community psychiatric service that is going to have a significant impact on a population in the developing world context. Without it, those in need are likely to continue using the traditional pathways to care, usually opting for the services they know best in preference to a new alien service, however effective it may be.

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Declaration of interest None.

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