

Experience with the use of community health extension workers in primary care, in a private rural health care institution in south-south Nigeria

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Best Ordinioha^{1,2}, Chinyere Onyenaporo²

¹Community Medicine Department, University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria and Programme Director, Rural Health Services Center Programme and ²Rural Health Forum, Port Harcourt, Nigeria

Correspondence to: Dr. Best Ordinioha, P. O. Box 162 Omoku, Onelga – Rivers State, Nigeria.
E-mail: ruralhealthforum@yahoo.com

Abstract

Background: The difficulty in recruiting and retaining doctors in rural areas has encouraged the use of substitute health workers in the provision of primary care for undiagnosed patients with undifferentiated health problems. This study was performed to report the experience of the use of Community Health Extension Workers (CHEWs) in the provision of primary care in a private rural health care facility in a community in Nigeria.

Methods: The study was carried out over a 6-month period in a private health facility in a semiurban community. The CHEWs were recruited through the recommendation of their schools and were retrained and deployed incognito, but with a clear job description. Their performances were monitored using the level of patient satisfaction, the type of cases seen, the number of telephone consultations made with the doctors of the NGO, the length of prescriptions and the number of adverse events that followed the consultations.

Results: A total of 1,028 patients were seen in the health facility during the 6-month study period, of which 294 (28.6%) telephone consultations were made with the doctors of the NGO, 215 (20.9%) of the patients were admitted in the hospital, while 81 (7.9%) were referred to other health facilities. Most of the cases were malaria (54.2%), typhoid (6.9%) and minor injuries (12%). The average length of the prescriptions given to the patients per encounter was 6.3, and most of the patients (86.5%) were satisfied with the quality of care provided by the CHEW. A total of 7.6% of the patients seen by the CHEWs were readmitted as emergencies, mainly with severe anemia (47.4%) and the deterioration of previously treated ailment (24.4%).

Conclusions: CHEWs, working under the direct supervision of doctors can provide safe and good quality care, to the satisfaction of most of their patients, when required to provide primary care. It cannot however be assumed that similar results would be obtained if the health workers are used in different settings or with more complicated patients.

Keywords: Community Health Extension Worker, primary care, rural healthcare, substitute health worker

Résumé

Arrière-plan: La difficulté de recrutement et de maintien de médecins dans les zones rurales ont encouragé l'utilisation de remplacer les travailleurs de la santé dans la prestation de soins de santé primaires pour les patients souffrent avec un problème de santé indifférenciés. Cette étude est de rendre l'expérience de l'utilisation des travailleurs extension de santé communautaire (CHEWs) dans la prestation de soins de santé primaires dans un établissement de soins de santé ruraux privé dans une Communauté au Nigéria.

Méthodes: L'étude a été menée sur une période de six mois dans un établissement de santé privés dans une communauté semi-urbaines. Les CHEWs ont été recrutés par le biais de la recommandation de leurs écoles, reformés et déployés incognito, mais avec une description de poste claire. Leurs performances ont été surveillées avec le niveau de satisfaction des patient, le type de cas vu, le nombre de consultations de téléphone avec les médecins de l'ONG, la longueur des prescriptions et le nombre d'événements indésirables qui a suivi les consultations.

Résultats: Un total de 1028 patients étaient vus dans l'établissement de santé pendant la période d'étude de six mois; les 294 (28,6%) des consultations téléphoniques ont été faites avec les médecins de l'ONG; 215 (20,9%) des patients

ont été admis à l'hôpital; tandis que 81 (7,9%) étaient visés aux autres établissements de santé. La plupart des cas étaient le paludisme (54,2%), la typhoïde (6,9%) et des blessures légères (12%). La longueur moyenne des prescriptions données aux patients par la rencontre était 6,3, et la plupart des patients (86,5%) était satisfaite de la qualité des soins fournis par le CHEW. Un total de 7,6% des patients vus par les CHEWs ont été réadmis en cas d'urgence, principalement avec l'anémie sévère (47,4%) et de la détérioration des maladies précédemment traités (24,4%).

Conclusions: Communauté santé extension travailleurs, travaillant sous la supervision directe de médecins, peut fournir des soins en toute sécurité et de bonne qualité, à la satisfaction de la plupart de leurs patients, lorsque requis pour fournir des soins de santé primaires. Elle ne peut toutefois être supposé que des résultats similaires pourraient être obtenus si les travailleurs de la santé sont utilisés dans des paramètres différents, ou avec plus compliquée patients.

Mots clés: Communauté santé extension opérateur, substitut travailleur de la santé, soins de première ligne, des soins de santé rurale.

Introduction

The difficult terrain of the Niger delta region of Nigeria makes the provision of medical care in the various communities a big challenge. The lack of medical doctors and the reluctance of many of them to work in the rural areas of the region make the problem even worse. According to the statistics of the Rivers State Ministry of Health, of the 219 medical doctors under the employment of the Rivers State Hospitals' management board, 91 (41.55%) were in the State's tertiary health care facility in Port Harcourt, the State city. Even with this maldistribution, gross dereliction of duty was noted to be a major problem with the doctors posted outside Port Harcourt.^[1]

This is also the situation around the world, as indicated by the 2006 World Health Report. According to the report,^[2] countries with the lowest relative need have the highest numbers of health workers, while those with the greatest burden of disease make do with a much smaller health workforce. For example, the WHO region of the Americas has only 10% of the global burden of disease, but has almost 37% of the world's health workers, and spends more than 50% of the world's financial resources for health. In contrast, the African Region suffers more than 24% of the global burden of disease but has access to only 3% of health workers and < 1% of the world's financial resources – even with loans and grants from abroad.

The maldistribution of health workers has been attributed to various reasons, including the better living standards, higher income, more social recognition and greater job satisfaction associated with work in developed countries and the urban centers of developing countries.^[3]

The difficulty of attracting doctors to rural areas has prompted the use of other health workers as the first point of contact in primary care, even for undiagnosed patients with undifferentiated health problems. This

has been tried not only in the developing countries^[4,5] but also in developed and affluent countries like the United States of America and Britain.^[6] Nigeria's national policy on health tacitly recognizes the Community Health Extension Workers (CHEWs) as primary health care providers, but the utilization of the Primary Health Care (PHC) centers where they practice has been very poor, and is blamed on poor-quality care.^[7] This study however reports the use of CHEWs in the provision of primary care in a rural, private, not-for-profit health care institution in south-south Nigeria. The importance of this study is emphasized by the priority rating given to studies that assess the substitution of professional tasks by lower-cadre health workers by the Lancet Alma-Ata Working Group.^[8]

CHEWs are health workers specially trained to provide primary health care in Nigeria. They are trained to spend a good percentage of their time in the community, but are also expected to perform tasks limited to consultation, writing prescriptions and basic treatment and undertaking of relatively minor procedures in the health center, all guided by standing orders.^[9] The training and practice of the CHEWs are regulated by the Community Health Practitioners' Registration Board of Nigeria, established by Decree 61 of 1992.

The results of this study would provide vital information on the use of CHEWs in health care delivery in Nigeria, particularly in the vibrant private health care facilities, especially in the rural areas where doctors are difficult to recruit and retain. This possible career deviation is sorely needed as the PHC facilities that are the traditional employers of these health workers continue to loose their absorptive capacity.^[10]

Materials and Methods

Study site

The study was carried out in 2008 in the primary health care facility of the Rural Health Forum

at Mgbede, Egbema, a small semiurban, oil-bearing community in the Ogba/Egbema/Ndoni Local Government Area of Rivers State. Mgbede has a projected population of about 9,000 people (projected with the 2006 national census), made up mainly of farmers, artisans and workers in the companies engaged in oil exploration and exploitation activities in the community.

The Rural Health Forum is a local, nongovernmental organization committed to the improvement of the health status of rural dwellers in the Niger delta region of Nigeria, through service, advocacy and training. Its rural health center programme was designed to provide affordable health services in poorly served communities in its catchment area. The decision to try the use of CHEWs as the first point of contact in primary care in the health facilities was borne out of the difficulty it faced in recruiting and retaining medical doctors in the health facilities. This seems to be the usual practice for most not-for-profit health care institutions, as indicated by the websites of several faith-based health service providers in Africa.^[5]

The CHEWs were recruited following the recommendations of their schools. They were further retrained using specially developed manuals and deployed with a clear job description that is consistent with the level of competence expected from that cadre of health worker. They were also made to telephonically consult with the doctors of the NGO whenever difficult cases were seen. They were however deployed incognito to members of the community because members of the community might be reluctant to consult them simply because of the mere fact that they were not medical doctors. The performances of the health workers were monitored through a staff that was not blinded as to their real status and communicated on a daily basis to the Programme Manager. The performances were then reviewed on a weekly basis with the health workers, with special emphasis placed on the deaths recorded and the patients that were readmitted to the health facility as an emergency after consulting the health worker.

Study design

A descriptive cross-sectional study design was used, with a review of records and an exit interview of the clients of the health facility as the study instruments.

Data collection

The exit interview was performed to assess the level of satisfaction of the clients with the quality of services provided. This was accomplished simply by asking the clients if they were satisfied with the services provided as they exited the health facility.

The performance of the health workers was further assessed by reviewing the records of the patients seen. The information extracted from these records include: the type of cases seen, the number of telephone consultations made with the doctors of the NGO, the length of prescriptions, the number of investigations ordered, the number of return consultation prescribed, the number of deaths that followed the consultations and the number of cases that were admitted as an emergency within 3 days of the consultation.

Ethical considerations

Although the CHEWs are legally sanctioned to provide primary health care services in Nigeria, further precautions were taken to ensure the safety of patients through the close monitoring of the activities of the health workers.

Data analysis

The collected data were manually checked for consistency and completeness before being entered in the EPI-INFO database. Analysis and presentation of results were performed using EPI-INFO version 2002, Microsoft word, and also manually. Summary measures were calculated for each outcome of interest.

Results

A total of 1,028 patients, including 544 (52.9%) children below 5 years in age and 53 (5.2%) pregnant women, were seen in the health facility in the 6-month study period, of which 294 (28.6%) telephone consultations were made with the doctors of the NGO, 215 (20.9%) of the patients were admitted in the hospital, while 81 (7.9%) were referred to other health facilities [Table 1].

The health problems seen during the study period are presented in Table 2. Most of the cases were malaria (54.2%), typhoid (6.9%) and various injuries (12%) sustained from road traffic accidents involving motorcycles.

The average length of the prescriptions given to the patients per encounter was 6,476/1,028 (6.3), with an average of 2,776/1,028 (2.7) Investigations were ordered, while 637 (62%) patients were asked to return for another consultation. Most of the patients (889 [86.5%]) were satisfied with the quality of care provided by the CHEW.

Table 3 shows the patients that were readmitted as emergencies after consulting the CHEWs. A total of 78 (7.6%) patients were admitted as emergency in the hospital within 3 days of the consultation, mainly

Table 1: Frequency distributions of some of the parameters measured during the study

Characteristics	Number (n = 1,028)	Percentage
Under-five children	544	52.92
Pregnant women	53	5.16
Telephone consultations made	294	28.60
Patients admitted at the end of consultation	215	20.91
Referral to other facilities	81	7.88
Number of return consultations prescribed	637	61.96
Patient satisfaction with consultation	889	86.48

Table 2: Cases seen at the health facility during the study period

Health condition	Number (n = 1,028)	Percentage
Malaria	557	54.18
Typhoid fever	71	6.91
Diarrheal diseases	19	1.85
Respiratory tract infections	42	4.09
Minor injuries	123	11.96
Nonspecific diagnosis	185	18.00
Others (including surgical conditions)	31	3.02

Table 3: Health conditions of patients readmitted as an emergency within 3 days of consulting the health worker

Health condition	Number (n = 78)	Percentage
Severe anemia	37	47.44
Febrile convulsion	11	14.10
Deterioration of previous condition	19	24.36
Labour (second stage)	3	3.85
Breathlessness	6	7.69
Dehydration	2	2.56

with severe anemia (47.4%) and the deterioration of previously treated ailment (24.4%). Interestingly, three women previously seen by the health worker came back to the hospital a moment later in second stage of labour.

A total of 13 (1.3%) patients who consulted the health worker died while still being treated in the health facility. Those who died were mainly children below the age of 5 years, who died from severe anemia (46.2%) and febrile convulsions (30.8%).

Discussion

The results of the study show that CHEWs in Nigeria can provide safe and good-quality care to the satisfaction of most of their patients when required to provide primary care to undiagnosed patients with undifferentiated health problems. This is consistent with studies carried out with equivalent health workers in other countries,^[5,6] but contrary to the popular opinion in Nigeria.^[7] The possible reasons for this good performance could be attributed to the type of patients seen at the primary care facilities in Nigeria^[11] and the better motivation of the health workers to perform well, linked to a clear job description,^[12] proper matching of their skills to the tasks in hand,^[11] the supportive supervision^[13,14] and infrastructure provided^[15,16] and the better social recognition they received while performing the job.^[3]

Most of the patients seen at the health facility during the study period mainly had endemic diseases like malaria, which is consistent with the pattern of diseases seen in other Nigerian communities.^[17] The proper management of these diseases forms the major part of the training received by the CHEWs.^[9] The competences of the CHEWs used in the study were however further boosted by the extra training they received before they were deployed^[14,18] and the backup provided through the telephone consultations with the doctors of the NGO. Although telephone consultation is perhaps the most basic form of telemedicine technology, it has been found to be effective in primary care as demonstrated by the “NHS Direct,” the national telephone advice service of the United Kingdom.^[19]

Clear job description and proper matching of the competence of the CHEWs to the tasks given to them also played a big part in their performance. The need to stick to the cases within their competence and to refer, or consult, the doctors of the NGO in the event of difficult cases were seriously emphasized during their predeployment training and during the weekly review of their activities. This was reflected in the number of telephone consultations made and the number of patients referred out. The observance of these instructions no doubt reduced the number of adverse events that followed their consultations. About 7.6% of the total patients seen came back to the facility in a worse condition, while 1.26% died in the facility. This compares well with the 3.6% error rate recorded with nurse practitioners in a British accident and emergency department,^[20] and even better than the study in Malawi that found that only 22% of the observed Medical Assistants used “adequate diagnostic process” when examining a child below the age of 5 years.^[21]

The supportive supervision and infrastructures available at the health facility also enhanced the performance of the health workers. The weekly reviews of their activities were supportive and educational, which alone have been found to improve motivation, performance and job satisfaction.^[14] This is further complemented by the facilities available at the health facilities. Several studies have indicated that the performance of the health workers can be seriously hampered by lack of drugs, working equipment and supportive laboratory services.^[15,16] The average length of the prescriptions written by the health workers was 6.3, which is long, and perhaps reflective of possible irrational drug use, but can also be indicative of the availability of drugs in the health facility.^[22] Also, the average number of investigations ordered was 2.7, which is indicative of the availability of laboratory services in the health facility, particularly as the use of laboratory investigations was not emphasized in the training of the CHEWs.^[9]

It is interesting that most of the patients attended to by the health workers were satisfied by their performance. It is not clear whether this level of satisfaction would have been attained had the patients known the true status of the health workers. This is because the absence of a doctor has been consistently mentioned by patients for the poor utilization of health centers in Nigeria.^[7] In climes where this image problem is not a big factor, doctor substitutes like nurse practitioners have been found to have better consultation skills than doctors.^[6,23] Reasons given for this include that nurse practitioners have longer consultations, better communication with their patients and offer more advice on self-care and management than doctors.^[6,23]

However, this high level of patient satisfaction had to be taken with caution, lest the health workers become emboldened into managing more complicated cases. A Nigerian study had suggested that health workers desirous of maintaining their prestige among their patients are less likely to refer patients in need of higher-level care.^[24] This was beginning to creep into the practice of the health workers in the study as they increasingly began to divert for private treatment, patients they were not allowed to treat in the health facility as their reputation grew in the community.

Conclusion

This study has shown that CHEWs, working under the direct supervision of doctors, can provide safe and good-quality care to the satisfaction of most of their patients, when required to provide primary

care. It cannot however be assumed that similar results would be obtained if the health workers are used in different settings or with more complicated patients.

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