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Effect of Government-Community Healthcare Co-Financing on Maternal and Child Healthcare in Nigeria

L'effet Du Cofinancement Des Soins Par Le Gouvernement Et La Communaute Sur La Sante Maternelle Et Infantile Au Nigeria

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ABSTRACT

BACKGROUND: **Effective maternal and child healthcare delivery requires a proper and adequate funding of the health sector.**

OBJECTIVE: **To determine the effect of government-community healthcare co-financing on maternal and child healthcare services' delivery.**

METHODS: **A descriptive, cross-sectional study with an intervention component, conducted amongst 240 women from Igboukwu (intervention area), and Ekwuluobia (control area), of Anambra State of Nigeria.**

RESULTS: **The biosocial characteristics of the respondents were essentially similar. Better utilization of health services occurred in the intervention area post-intervention. Quality of service from intervention clients' perspective showed significant improvement post-intervention. Distance less than five km, transportation cost less than ₦40, and maternal education above secondary level impacted positively on utilization of maternal and child health services. Acceptability of the scheme was better for the intervention facility evident from the higher number of respondents showing "willingness to join", and "willingness to pay".**

CONCLUSION: **Health sector funding partnership, positively impacts on maternal and child health services. Government's total commitment, backed with legislation, and community mobilization, will sustain the scheme. WAJM 2011; 30(1): 35–41.**

Keywords: **Government/Community Healthcare Co-Financing, Maternal and Child Healthcare, South Eastern Nigeria.**

RÉSUMÉ

CONTEXTE: *la prestation efficace des soins de santé maternelle et infantile nécessite un financement approprié et adéquat du secteur de la santé.*

OBJECTIF: *Déterminer l'impact du cofinancement des soins de santé par le gouvernement et la communauté sur les prestations des services de soins de santé maternelle et infantile.*

METHODES: *il s'agit d'une étude descriptive transversale avec une composante interventionnelle , réalisée auprès de 240 femmes de Igboukwu (zone d'intervention) et Ekwuluobia (zone de contrôle) de l'Etat d'Anambra (Nigeria).*

RESULTATS: *les caractéristiques sociobiologiques des répondants étaient essentiellement similaires. La meilleure utilisation des services de santé était liée à l'intervention de la région. La qualité de service du point de vue des utilisateurs a connu une amélioration significative après l'intervention. La réduction des distances à moins de cinq kilomètres, la diminution du coût de transport à moins de N 40 et l'éducation des mères au-dessus du niveau secondaire ont positivement influé sur l'utilisation des services de santé maternelle et infantile. L'adhésion au programme a facilité cette intervention auprès d'un nombre élevé de participants comme l'a montré leur « volonté de participer» et «de s'acquitter des coûts».*

CONCLUSION: *le partenariat pour le financement du secteur de santé a un impact positif sur les services de santé maternelle et infantile. L'engagement total du gouvernement, soutenu par la législation et la mobilisation de la communauté, soutiendront le programme. WAJM 2011; 30(1): 35–41.*

Mots cles: *Cofinancement Des Soins De Sante Par Le Gouvernement Et La Collectivite, Soins De Sante Maternelle Et Infantile, Sud-Est Du Nigeria, Utilisation*

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Abbreviations: LGA, Local Government Area; **NHIS,** National Health Insurance Scheme; **WHO,** World Health Organisation.

INTRODUCTION

Over the years, the provision of adequate and affordable healthcare to the citizenry in Nigeria has remained elusive largely on account of an overall poor health systems management, and in particular inadequate healthcare financing which on its own has continued to present an enormous challenge to key actors in healthcare delivery management % government, academics, and policy experts.[1]

In virtually all States in Nigeria, the decay in health services has become palpable, evident from dilapidated physical infrastructure, aging and broken down equipments, inadequate number of personnel % often with accompanying poor motivation on account of poor incentives and work environment. Drugs and consumables are often insufficient, creating a visible service gap that has rendered the public health facilities unattractive to most of the people, while creating the catalysis for the proliferation of sub-standard private health facilities and even several un-orthodox health care delivery centres operated by quacks. This poor health service situation in Nigeria has lead to a reduction in quality of life of the average Nigerian, visible from the progressively declining life expectancy.[2] Maternal and child health are perhaps worst hit evident from the abysmally poor maternal and child health statistics in Nigeria, which rank as one of the world's poorest. The National Demographic and Health Survey of 2003 indicated that 60% of women received antenatal care at least once from a trained health care provider, and two out of every three births occured at home; 17% of women had no assistance during delivery while 26% deliveries were assisted by an untrained person; maternal mortality ratio was as high as 800–1500 per 100,000 live births. Infant mortality rate in Nigeria was as high as 100/1000 live births (10%) and child mortality rate was 201/1000 total births (20.1%); only 13% of children aged 12 to 23 months had received the recommended course of immunization while 23% had received no immunization at all.[3]

Public health sector funding in Nigeria has remained low.[4] In 2000 the Federal Government of Nigeria estimated public funding of health to be in the range of 1–2% of the GDP.[5] The World Bank estimated a lower value of 0.2%. These are very low estimates when compared with the 2.6% given for the sub-Sahara Africa by the World Bank, and the 5% recommended by World Health Organization (WHO).[6]

Overall low public health sector funding had informed the Federal Government of Nigeria's development of the National Health Insurance Scheme (NHIS). This scheme which had apparently undergone a long period of gestation is believed to have dated as far back as the 1960s, became formally articulated in 1985 when the Federal Ministry of Health set up a committee that recommended the adoption of a social insurance scheme for the country.[7] The NHIS was eventually launched in 2005 although its operation is presently still restricted to the formal sector, which is only a minuscule of its envisaged scope of coverage. Health insurance schemes have sprung up sporadically mostly from private and non-governmental organisations.

The Anambra State of Nigeria government-community healthcare co-financing scheme represents an insurance scheme targeted at all the communities in the State, with emphasis on maternal and child health, amongst other health services.

This study reviewed the effect of the newly introduced joint Government-Community health care financing scheme on maternal and child health services in one of the pilot communities in the State, with respect to the acceptability of the scheme, utilization of the facilities for maternal and child health services, and the quality of the maternal and child health services rendered under the scheme. The findings in the study are expected to be utilized in the modification and further fine tuning of the maternal and child health services programme and protocol under the scheme prior to its State-wide implementation after the pilot project.

Study Background

Anambra state, one of the 36 states in Nigeria, is located in the southeast geo-political zone. It has a population of approximately four million and harburs a homogenous group of Igbo speaking people. The Igbos constitute one of the three major ethnic groups in Nigeria. The others are Hausas in the north, and the Yorubas in the southwest. These ethnic groups exhibit differences in culture, religion, and economic enterprise. Anambra State has 21 Local Government Areas (LGAs) of which Aguata, the location of the two study communities, Igboukwu and Ekwulobia, is one. (Fig. 1).

The Anambra State of Nigeria community healthcare financing scheme was initiated in 2003 essentially to augment health sector funding and improve the health status of the people.[8] It is a community based, community friendly, and community driven healthcare initiative that harnesses all available

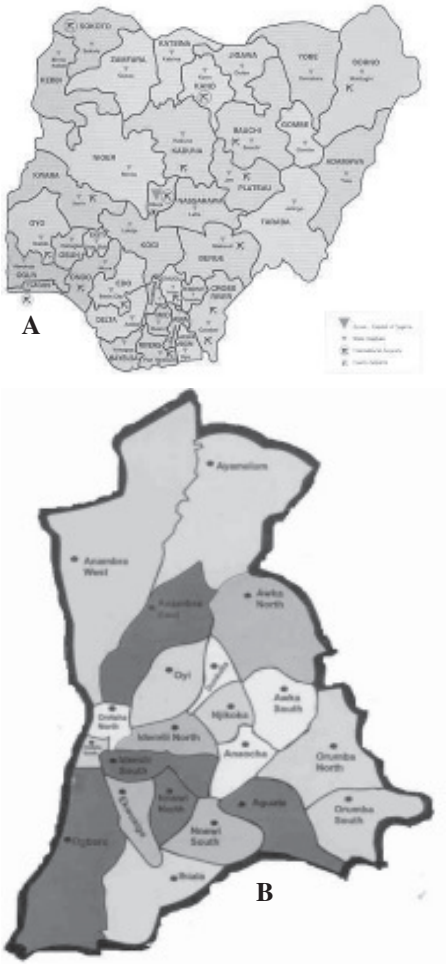

Figure Location of Study – Fig. 1A: Map of Nigeria showing Anambra State; Fig 1B Map of Anambra State showing Aguata Local Government Area that cotnain the two communities (Igboukwu and Ekwulobia) studied.

human, material, and financial resources in health to facilitate an accessible and affordable healthcare delivery to the community making use of an articulated government-community healthcare partnership. The scheme had an overall goal of achieving an improved and sustained health status of the people evident in improved maternal and child morbidity and mortality rates, and specific objectives of improved community access to quality health services; affordable healthcare to everybody, rich and poor irrespective of socioeconomic status; effective incorporation of communities into health policy development, planning, provision and management of healthcare services; and fostering of effective partnership between government and communities. The scheme commenced as a pilot project in ten communities of which Igboukwu, the study community, is one.[8, 9]

SUBJECTS, MATERIALS, AND METHODS

This was a descriptive, cross-sectional study with an intervention component, undertaken at Obiuno health centre, Igboukwu and with Ihuokpala health centre, Ekwuluobia as control. Both communities are located at Aguata local government area of Anambra State of Nigeria. The target population of study was females of reproductive age group (15–49 years) each with at least one under five-year old child, from each of the study communities.

Using appropriate statistical formula for intervention study[10] as shown below, a sample size of 120 were calculated for selection from each of the study areas, given a total of 240 participants. With a sampling frame of all the pilot sites participating in the scheme, obtained from the Anambra State Ministry of Health, Igboukwu community was chosen as the experimental group for the study by simple random sampling technique. Ekwulobia community, a town in the same LGA as Igboukwu was the control group, having been chosen also by simple random sampling technique from a list of all the other communities in Aguata LGA with primary health centres. The two communities are culturally and socio-economically similar.

The study population was selected from among all the eligible female adults (15–49 years, each with at least one under five year-old child) in each of the two communities. Since it was impracticable to compile an exhaustive list of all eligible female adults composing the target population, the WHO Cluster Sampling Technique[11] was used in this study to select the required 120 participants from each of the intervention and control communities.

Informed consent was obtained from each of the study participants, while ethical clearance was received from the ethical committees of the Nnamdi Azikiwe University Teaching Hospital (NAUTH), Nnewi, and the Anambra State Ministry of Health.

Both qualitative and quantitative methods of data collection were employed. The qualitative method involved in-depth interviews of key stakeholders % the State Commissioner of Health, the Director of Primary Health Care, and the community leaders, to elicit their perception and input on, as well as enlist their co-operation to the project. There were also two focus group discussions (FGDs) with women of childbearing age (15–49 years) from the study communities, each with at least one under five year old child, employing a 'questioning guide' i.e. a discussion format, that elicited information on participants' general perception on maternal and child healthcare in the community; problems encountered when seeking health care together with their suggested solutions to such problems; their views towards participation in community health insurance scheme; and the role of solidarity associations, if any, in their communities. The information obtained from the FGDs was used as guide for the development of the quantitative data collection tool – the Consumer Questionnaire.

The quantitative survey involved the review of relevant case records from the health facilities, and the use of consumer questionnaire. The maternal and child health care records reviewed included out-patient consultation, antenatal, delivery, and immunization services records of the facilities. The consumer questionnaire schedule elicited information from the respondents in respect of the following variables % bio-social characteristics (age, marital status, educational level, and occupation); specific utilization of health facilities for maternal and child health services; general health service utilization; quality of services; acceptability of the scheme; and the influence of socio-demographic variables on utilization of services.

The evaluation of the different variables in this study was by structure, process and final outcome (impact) assessment using the results over the three month period prior to the commencement of the scheme (pre-intervention period) which was then compared with the results over a corresponding three-month period after one year of the commencement of the scheme (post-intervention period). Data obtained were analyzed using EPI-Info software. Tests of significance were carried out where necessary using student's t-test and Chi-square test. Summary data are displayed as Tables.

RESULTS

Table 1 shows the distribution by bio-social characteristics of respondents for both the intervention and control health centres. Overall age ranged from 18–44 years, although the 26–30 years age range predominated, accounting for 44 (36.7%) and 46 (38.3%) respectively for the intervention and control groups. Mean ages of the intervention, and control groups were 30.5±6.0 years, and 30.7±9.4 years respectively. Forty eight (40%), and 41(34.2%), respectively of intervention and control groups were of post secondary educational status; 44 (36.7%) and 57 (47.5%), respectively, of secondary educational status; and 28 (23.3%) and 22 (18.3%), respectively, of primary education status. One hundred (83.3%) and 108 (90.0%) respectively of the intervention and control groups were married; 12 (10%) each of both intervention and control respondents were single. Four (3.4%) each of the respondents, are widowed, and separated while none of these groups (widowed, and separated) occurred in the control group. Table 1 also shows that majority of the respondents were civil servants, constituting 60 (50%) of the intervention

Table 1: Distribution by Bio-Social Characteristics of Respondents

Characteristics	Number (%) Intervention Group	Control Group	Total (N)
Age Group (Years)			
16 – 20	4 (3.3)	6 (5)	10
21 – 25	20 (16.7)	6 (5)	26
26 – 30	44 (36.7)	46 (38.3)	90
31 – 35	20 (16.7)	43 (35.8)	63
36 – 40	28 (23.3)	17 (14.2)	45
>40	4 (3.3)	2 (1.7)	6
Total	**120 (100.0)**	**120 (100.0)**	**240**
Educational Status			
Primary Education	28 (23.3)	22 (18.3)	50
Secondary	44 (36.7)	57 (47.5)	101
Post-secondary Education	48 (40.0)	41 (34.2)	89
Total	**120 (100.0)**	**120 (100.0)**	**240**
Marital Status			
Married	100 (83.3)	108 (90.0)	
Single	12 (10.0)	12 (10.0)	
Widowed	4 (3.4)	0 (0)	
Separated	4 (3.4)	0 (0)	
Occupation			
Civil servants	60 (50.0)	54 (45.0)	
Petty traders	31 (25.8)	36 (30.0)	
House wife	20 (16.7)	19 (15.8)	
Farmer	5 (4.2)	7 (5.8)	
Corper/Student	2 (1.7)	1 (1.0)	
Typist	2 (1.7)	3 (2.5)	

* Mean age intervention v controls 35.5(6.0) v 30.7(9.0) years; $p > 0.05$

Table 2: Distribution of Clients by Health Utilization at the Two Primary Health Centres for the period of March to May 2004, and March to May 2005

	Number of Clients			
	Igboukwu		Ekwuluobia	
	2004	2005	2004	2005
Out-patient Department	119	301	107	104
Immunization	180	184	125	122
Antenatal Care	72	129	66	51
Delivery	33	74	27	22

group and 54 (45%) of the control group. This is followed by petty trading – 31(25.8%), and 36 (30%) respectively of the intervention and control groups; while the least occupation is corpers/ students accounting for 2 (1.7%) and 1 (1%) for intervention and control groups respectively.

Utilization of maternal and child health services, for the intervention group, pre intervention was 32 (26.7%), and 95 (85.6%) after the introduction of the scheme. For the control group however, utilization of maternal and child health services was 33 (27.5%) pre-scheme introduction, and 34 (29.6%) post-scheme period.

Table 2 shows the distribution by health services utilized by clients at the health centres for number of clients during the pre intervention period (March to May 2004), and post intervention period (March to May 2005). Utilization of services for the control group showed no significant difference for all the services prior to and following the introduction of the scheme.

The distribution by quality of service from intervention clients' perspective, for pre- and post- intervention period is shown in Table 3.

The distribution by the influence of socio-demographic variables on the utilisation of maternal and child health services in the primary health centres indicates that distance less than five kilometers, transportation fares/visits less than ₦40, and post secondary educational level impacted significantly more positively on the utilization of maternal and child health services than distance greater than five kilometers, transportation fare per visit greater than ₦40 and educational level below secondary. ($P<0.05$). Amongst the socio-demographic variables studied, only maternal age less than 30 years, and greater than 30 years show no significant difference in the utilisation of maternal and child healthcare services ($P>0.6$) Table 4.

The number of clients indicating the acceptability of the community-based health care financing scheme through "willingness to join" and "willingness to pay" during the pre and post intervention periods, for the intervention and control

Table 3: Distribution of Clients by Quality of Services from Intervention Clients' Perspective, for the Pre- and Post- Intervention Period

Quality Item	Before (120)	After (111)	P-value
Good Quality of Service	52 (43.3)	90 (81.0)	P<0.001
Availability of Trained Personnel	18 (15.0)	90 (81.0)	P<0.001
Nearness to Home	44 (36.7)	63 (56.8)	P<0.003
Availability of Drugs	12 (10.0)	63 (56.8)	P<0.001
Prompt attention	20 (16.7)	37 (33.3)	P<0.004
Consultation with Doctor	48 (40.0)	95 (85.6)	P<0.001
Consultation with Nurse	20 (16.7)	16 (14.4)	P>0.6

Values are number (%).

Table 4: Distribution of Clients by the Influence of Socio-demographic Variables on Utilization of Maternal and Child Health Services in the Primary Health Care Centres

Variable		N	Utilization N(%)	P-value
Distance	≤5km	168	50 (29.8)	P < 0.05
	>5km	72	15 (20.8)	
	>₦40	48	10 (20.8)	P < 0.05
Transportation Cost/Visit	≤₦40	192	55 (28.6)	
	≤ 30 yrs	126	33 (26.2)	P > 0.6
Age	>30 yrs	114	32 (28.1)	
	PSE	89	51 (57.3)	P <0.001
Education	SE & below	151	14 (9.3)	

PSE, Post Secondary Education; SE, Secondary Education.

Table 5: Distribution of Subjects by Acceptability of Community-based Health Care Financing Scheme

	Intervention Group			Control Group		
	Before (N=120)	After (N=111)	p-value	Before (N=120)	After (N=111)	p-value
Willingness to join	80 (66.7)	100 (90.1)	P>0.01	65 (54.2)	64 (55.7)	P>0.80
Willingness to pay	68 (56.7)	95 (85.5)	P<0.01	70 (58.3)	66 (57.4)	P>0.8

Values are N(%).

groups, as shown in Table 5. Intervention group [pre and post intervention, 68 (56.7%) vs. 95 (85.5%), p<0.01] vs control group [pre and post intervention, 70 (58.3%) vs. 66 (57.4%) p>0.80].

DISCUSSION

The mean age of attendees to the health centre under the scheme, 30.5±6.0 years, was not different from that of the control health centre, 30.7±9.4 years, and furthermore represents the mean reproductive age group in various communities. A study conducted amongst Botswana rural mothers highlighted the unlikelihood of age of the clients being a predictor of utilization of maternal and child health services.[12] Our study shows that the predominant age range of attendee clients to both health centres was 26–30 years, accounting for 36.7%, and 38.3% respectively for the intervention and control health centres. The finding from our study agrees with that of Nwakoby in the report of his study on the use of obstetric services in rural Nigeria.[13]

In this study, about 57% of the subjects who had post secondary education utilized maternal and child health services, whereas only about 9% of the subjects with secondary education and below used such services. The attainment of post secondary education is therefore associated with better utilization of maternal and child health services in health facilities. This finding agrees with the observation from a Jordianian study[14] and also similar studies in Nigeria by Brieger and Luchok,[15] Okafor,[16] Nwakoby[13] and the report of the Nigerian Demographic Health Survey (NDHS) of 2003.[3] In addition, Harrison has shown that female literacy is not only one of the indicators of assessing socio-economic development but is also positively associated with utilization of maternal health services.[17]

Marital status has profound influence on utilization of community health facilities from this study. Majority of the respondents, 83.2%, at our intervention health facility, and 90% from the control facility, were married. Only 16.8% and 10% of respondents respectively from the intervention and control facilities were without husbands. A study conducted in a rural area of Zimbabwe showed that most of the deliveries amongst women without husbands occurred at home or in the non-formal health sector.[18] It is possible, therefore, that this situation also exists in Nigeria.

Utilization of maternal and child health services was shown in this study to be generally more amongst civil servants and least amongst students, in both the intervention and control facilities. Civil servants by virtue of their being assured of their wages seem to be more disposed to utilization of this scheme for maternal and child healthcare.

Quality of health service delivery is considered to be a major determinant of utilization of health centres. Poor quality of services offered at most government hospitals have been found to be a predisposing factor for delivery at home even without a trained birth attendant, among women in Maharashta, India.[19] All the items employed in the assessment of the quality of health service from the intervention clients' perspective were statistically significant except "consultation by the nurse". The availability of trained personnel was percerved to have contributed towards the improvement of health services at the intervention facility. This is in spite of the low position that "consultation by the nurse" seems to have occupied in the study. It is not clear as to the reason for this low place of consultation by the nurse. It is possible that the nurses to whom the respondents had been consulting prior to the commencement of the scheme may not have been routinely trained on patient consultation. The introduction of Medical Officers, usually trained on routine medical consultation may have constituted an added attraction that encouraged patient consultation evident from the significant influence of "consultation by the doctor" to the overall improvement of quality of care in the facility. Furthermore, the Medical Officer might have introduced new initiatives that may have motivated the facility staff to giving prompt attention to clients therby reducing their waiting time, with a resultant contribution also to an overall improvement in the quality of services rendered.

The overall increase in the utilization of the various services was marked in general out-patient, antenatal clinic attendance, and delivery, each of which exhibited a significant increase post intervention compared to the pre-intervention period. These post intervention values were furthermore, even significantly better for the intervention group compared to the control group. This situation may not be unrelated to the improvement in the quality of service at the intervention health facility. The utilization, surprisingly however, was only marginal for immunization. The reason for this is not clear but may be attributable to the presence of too frequent National Immunization Days (NIDs), which may have diverted the attention of several mothers away from routine immunization.

This study showed that the availability of drugs at the intervention health facility contributed significantly towards the improvement of quality of services rendered in the health facility. This agrees with previous reports. [20–22]

Studies conducted on the relationship between travel distance and the rate of utilization of maternal and child healthcare services showed that with increasing distance there was an associated lower utilization of health services.[14, 23–27] Participants in this study who traveled more than five kilometres to reach the health facility utilised the maternal and child health services less than those who traveled less than five kilometres. Distance has also been found to affect clinic attendance especially in rural areas where transportation may be a problem for some people who come from distant villages.[28] In contrast to the above observation, other reports[15,19] indicate that provision of relatively accessible health services did not guarantee utilization; rather other socio-economic factors should be considered. Cost of travel has also been identified to influence attendance to and utilization of maternal and child health care services.[25] In this study, there was a significant improvement in maternal and child health care services utilization with reduction in transportation cost per visit. However, some studies have shown that costs, of not only travel but also of drugs and services, become a less consideration by clients once the services being offered are adjudged to be of good quality.[30–33]

This study shows a better acceptability of the healthcare financing scheme amongst clients at the intervention health centre compared to the control health centre evident from significant increase in the number of respondents showing "willingness to join", and "willingness to pay". This willingness is undoubtedly related to the improved quality of services rendered at the health centre following the introduction of the community health financing scheme, and augurs well towards the improvement of maternal and child healthcare from the scheme.

Community co-financing of primary health care services, as seen in this study, is a tangible demonstration of community participation which is in tandem with the Alma Ata declaration of 1978.[34] There is ample evidence from this study to show that health sector funding partnership has a tremendous effect on the improvement of maternal and child health services judging from the increased acceptability and utilisation of the intervention health facility. This increased utilization was made possible through an obvious overall improvement in the quality of health services rendered at the centre. Government commitment to schemes such as this should be total and undiluted and backed by legislation to ensure its sustainability, and continuity beyond the lifespan of the index government.

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