Free Maternal Healthcare Programme under the Successful Delivery Programme in Jigawa State, Nigeria

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Abstract----In the state effort reduce the number of maternal deaths, a free child and maternal healthcare programme were introduced called Successful delivery. This main aim of this research is to evaluate if women registered with the programme had a better chance of accessing the services in the state. A cross-sectional quantitative study involving household interviews of all women of the reproductive age group (15–49 years) residing in Jigawa state from February to April 2019. Logistic regression analysis at 95% confidence interval was used to determine the independent associations between the scheme and use of antenatal care, hospital delivery and postnatal care services. successful delivery program influenced the antenatal care visit as women registered with the schemes are more likely to have maximum of six visit 39.5 times than those who did not and also more likely to have four visit 2.6 times than those without scheme. Hospital delivery is also attached to the scheme as women registered with the scheme is 5.3 times likely to deliver at hospital when compared to those with not. Successful delivery program influences antenatal care visit and hospital base delivery. Nevertheless, many of the pregnant women after delivery did not attend postnatal care.

Keywords---Successful delivery, Antenatal care visit, Hospital base delivery, postnatal care, Jigawa

I. INTRODUCTION

The Millennium Development Goals (MDGs) advocate for the reduction of world ratio of the maternal mortality by 75% from 1990 to the year 2015(Dieleman et al., 2015; Hogan et al., 2010; Organization, 2010) The ratio of the maternal mortality almost reduced by 44% with an estimated figure of 216 in 2015 and uncertainty interval of 80% maternal mortality. The lifetime risk of global maternal mortality is significantly reduced from 1 out of 73 to 1 out of 180(Dieleman et al., 2015) The target of Millennium Development Goals was not achieved by any country in the world but however the ratio of the maternal death was reduced to 3% after the MDGs declarations.

The Sustainable Development Goals (SDGs) build on the effort of the Millennium Development Gaols therefore it calls for the speeding up of the situation in order to achieve a global ratio of the maternal mortality of 70 per live births

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by the year 2030 by ending mortalities that are preventable (Asafo & Adoma, 2019; Assembly, 2015; Organization, 2004). The ratio of the maternal mortality needs to be reduced by the countries yearly by 7.5% from 2016 to the year 2030. Appropriate programme and interventions must be put in place in order to achieve this ambitious target which includes financing the interventions, access to the health care and provision of skilled care (Chou et al., 2016; Organization, 2015) The major obstacles to healthcare in many countries especially low and middle income nations is financial constraints. Many countries in Africa have introduced policies of free child and maternal and health in their effort to reduce the mortality(infant and maternal) (Witter, Adjei, Armar-Klemesu, & Graham, 2009)

In many developing countries the main source of financing health care are user fees(Acharya et al., 2017; Basu, Andrews, Kishore, Panjabi, & Stuckler, 2012) In the late 1980 and early 1990 the user fees was introduced as a policy for structural adjustment by the World Bank(Dzakpasu, Powell-Jackson, & Campbell, 2013; Lozano et al., 2012).The user fees in Africa was introduced in 1987 during the Initiative programme of Bamako, jointly financed by United Nations Children Fund and World Health Organisation and this was unanimously adopted by Health Ministers of African Forum(Benjamin, Chineny, Ogochukwu, & Obinna, 2015; Silva et al., 2011)The policy become accepted and popular in many low income countries because is one of the loan condition set by International Monetary Fund and World Bank for any nations looking for the support of funding. The rationalization for the introduction of user fees in many African Countries was to reduce funding problems and health policy shift ideology which emphasize efficiency (Hardon, 1990).Government budget for the Ministry of Health in many African Countries and Nigeria in particular is not meet up with peoples and population health care needs which led to the introduction and implementation of patient user fee

Financing of health care in many countries in Africa is reasonably low especially in allocating of 15% of total expenditure of the government to the sector of health as agreed in Abuja by the African Heads of state in the year 2001(Govender, McIntyre, & Loewenson, 2008; Odeyemi & Nixon, 2013; Uzochukwu et al., 2015) .Evidently, user fees generate huge revenue to the government and health institutions and this affected the people disproportionally(Uzochukwu et al., 2015). The fees also reduces accessibility to the health care services and hence the utilization of health service is grossly reduced(Mæstad & Mwisongo, 2011; Ridde & Morestin, 2010)

The abolition of the user fees in Africa and reasons for that (abolition) varies from one country to another, in some countries is motivated politically while in some other countries is donor influenced (Hercot, Meessen, Ridde, & Gilson, 2011; Meessen et al., 2011; Ridde & Diarra, 2009). Many countries scrap the user fees just to bring essential services closer to the poor population. In 1994 South Africa abolish all user fees for under- 5 children, nursing and pregnant women. Uganda in 2001 suddenly scrapped user fees in all government health institutions. Zambian government abolished fees in facilities in rural areas while government of Burundi scrapped the user fees for child and maternal health (Benjamin et al., 2015; Hutton, 2004; Sharma, 2012). When these fees were abolished there were increased in the utilisation and patronage of the health institution by the patient (Chuma, Musimbi, Okungu, Goodman, & Molyneux, 2009; Gobah & Liang, 2011; Riman & Akpan, 2012)

Jigawa State government of Nigeria make a policy that local government council has to contribute to the state to make fund available for the improvement of health facilities, free ambulance services provision, recruitment of qualified and specialised medical doctors in the field of obstetrics and gynaecology, all this is an effort and attempt to

minimise the level of maternal mortality in the state, and the programme is tagged HAIHUWA LAFIYA (successful delivery)

The Free Maternal and Child Health (Successful delivery) Programme in Jigawa State

Jigawa state government in 2007 launched a programme which tagged as HAIHUWA LAFIYA (successful delivery) the scheme is aiming at providing services for free to all pregnant women and child in the state provided they registered with the programme. This was as a result of high maternal and burden of disease profile in the state. The scheme is to cover all the services ranging from antenatal visit to laboratory test during the pregnancy period to 42 days after the termination of the pregnancy. The main aim of the scheme is as follows:

- 1. To achieve child and maternal mortality in the state by increasing the accessibility to health institutions and scarping the service fees.
- 2. Provision of skilled and qualified health attendant during pregnancy and after the delivery
- 3. To provide free ambulances services which will convey the patient from the home to the health institution
- 4. To help in achieving the goals of Millennium Development Goals.

The pregnant women were exempted from paying all user fees provided have registered with the programme(Okereke, Tukur, Aminu, et al., 2015). The rationale of this research therefore is to determine the effectiveness of registration with the programme on access to maternal healthcare services. The study hypothesises that pregnant women who are registered with the Successful delivery program have more access to antenatal care facility-based delivery and postnatal care.

II. Materials and methods

Study area

The state of Jigawa was removed from the State of Kano on 27 August 1991 as one of the additional nine states by the then military government. The state is situated in the north-western region of the country, it has share boarders with Katsina and Kano from the west, from the north east it share boarder with Yobe state and from the east is Bauchi state, the state share international border with Niger republic from the north (Figure 1). The state has two seasons, October - May is dry seasons while June-September is a rainy seasons with high temperature of about 42° c while the state experienced lower temperature during the rainy season with 10° c (Okereke, Tukur, Oginni, & Obonyo, 2015). According to the population census of 2006 the state is 8th in terms of population with the 2,215,897 (51%) as males and 2,132,752 (49%) as female (Commission, 2006) Jigawa State is a rural state with about 85% of its population live in rural environment.

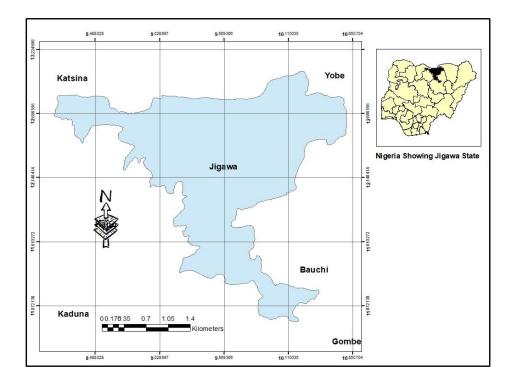


Figure 1: Jigawa State Nigeria

In terms of health care services, the state has three ties of health facilities, the tertiary health facilities which is under the jurisdiction of the federal government (With only one federal Medical Centre) and secondary health facilities which under the supervision of the state government (The state has 16 general hospital and one specialist hospital) while the primary health care is under the jurisdiction of the local government (Dogara & Ocheje, 2016; Makinde, Sule, Ayankogbe, & Boone, 2018).Due to the poverty nature of the state, there were less private health facilities in Jigawa state. The ministry of health and agency for Primary Health care are responsible for executing and formulating policies related to health in the state and also translating federal government health policies for implementation. It worth noting that the state now operate under one roof system which a primary health (centre) is expected to be provided in each ward of the state (Makinde et al., 2018)

III. Study design and Sampling Procedure

The study was conducted using a cross sectional study which is quantitative in nature from the month of February to April 2019. The study make used of women of reproductive age of 15 to 49 years and have children of 12 months to 3 years of age. 343 women were administered with house hold questionnaires

The multistage sampling was adopted as a method by the study. The towns headquarter of Hadejia of North east district and Dutse of Central district were selected purposely. A four sub district was selected using a stratified method of sampling base on their categorisation. Simple random method of sampling was used to select one each from the compiled name of communities. In order to select the houses, the systematic method of sampling was used. The research selected nursing mothers within every third house fell within the target group and thereby interviewed. If there is above one entitled respondent the research randomly selected one of them by balloting. In the absence of

the suitable (eligible) respondent the researcher moves to the next house. Hausa local language was used for the interview.

Sample size determination

In order to determine the size of sampling hospital base deliveries (66.3%) was used where:

t= confidence interval (95%)

n= sample size

p= estimated of 66.3% hospital deliveries

The sample size of nursing mothers (343) is estimated below

 $n=t^{2} \times p (1-p) m^{2}$ $n=(1.96)2 \times 0.663 (1-0.663)/0.05^{2}$ 1.962=3.8416 1-0.663=0.337 $0.05^{2}=2.5 \times 10^{-3}$ $(3.8416 \times 0.663 \times 0.337)=0.8583325296$ $0.8583325296/(2.5 \times 10-3)=343.33$ n=343

Instruments for Data collection

The research designed questionnaire and pretested in Gumel, headquarter of North-west district. The pretesting is to ensure reliability and validity and ambiguities checking. The choice of Gumel district was because it has similarity in terms of characteristics with the area of the study. Before the application of the questionnaire on the field, the researcher addressed all the weaknesses revealed as a result of pretesting. Two research assistant were recruited and trained in local language of Hausa. An interview on average took approximately 25 minutes per respondent. The questionnaire consist of 3 sections: section of socio-demographic variables, section was on registration with the programme and the last section was question on the antenatal visit accessibility and delivery place and postnatal service. The researcher informed and sought consent from the respondent before the commencement of the interview

Outcome variables

In order to assess the effectiveness of successful delivery programme on the maternal health care usage three variables out comes were used: Hospital base delivery, Antenatal care and postnatal care. Hospital base delivery is the delivery supervised and attended by skilled and professionals in the hospital. Antenatal care is the routine medical attention receiving by pregnant women, antenatal care include receiving folic and tetanus injection while postnatal care is the medical care which women received after the termination of the pregnancy. Hospital base delivery coded as delivery place and home or hospital and antenatal was coded yes/no (means that women received the care or not). Questions was ask in order to know and measure if pregnant women satisfy with the services provided in the hospital, a three level question was asked with high satisfaction, average satisfaction and dissatisfaction.

Data entry and statistical analysis

The result of the interview were later coded and in put in to excel (Microsoft 2016) and exported into Statistical software (SPSS), out of 343 questionnaires only one is rejected because it is uncompleted. The result was later

subjected into statistical analysis which consists of descriptive and inferential statistics. The research used Binominal and multinomial logistic regression in order to correlate the scheme (Successful delivery) and antenatal visit, postnatal care and hospital base delivery. The confidence interval of 95% was used by the research and 0.05 significant values as P.

Ethics and consent to participate

The ethical procedure was fully observed by the research as the study has undergo through the ethical committee of state ministry of Jigawa state, and the ministry were satisfied, and approval were granted. The confidentiality of the respondents was guarantee. In addition, participants werealso assured that, this will not affect their relationship with institutions or the Successful delivery programme. The respondents were participated voluntarily.

IV. Results

The result of the study indicates that 83% of the pregnant women are married and 50% are living in urban areas. The study also shows that (Table. 1) 40% of the pregnant women are workers and about 37% never gone to school. Education, marital status, residence and employment influence also access to the scheme (Successful delivery) P=0.000 as shown in Table. 1

Pregnant women engaged in labour intensive are more likely 2.149 times to registered and participated from the scheme than the unemployed women while those with professional job registered and benefited with the scheme 3.039 times. Additionally, Table 2 shows that non married pregnant women do not have access and registered with the scheme than the married pregnant women (12.288 times).

Table 1: Association between socio-demographic variables of respondent and Access to free maternal Service

Variables	Frequency	Registered with Not Registe	red
Age			P=0.058
15-24	104 (30)	30 (23)	74 (35)
25-34	166 (49)	71 (54)	95 (45)
35–49	72 (21)	30 (23)	42 (20)
Residence			P=0.000
Urban	195 (57)	97 (74)	100 (47)
Rural	145 (43)	34 (26)	111 (53)
Status			P=0.000
Married	283 (83)	125 (95)	158 (75)
Single	59 (17)	6 (5)	53 (25)
Employment			P=0.000
Unemployed	112 (32)	27 (21)	85 (40)
Labour intensive	95 (28)	28 (21)	67 (32)
Skilled job	135 (40)	76 (58)	59 (28)
Education			P=0.000
Never	126 (37)	23 (18)	103 (49)
Primary	106 (31)	36 (27)	70 (33)
Secondary	92 (27)	55 (42)	37 (17)
Tertiary	18 (5)	17 (13)	1 (1)
Religion			P=0.348
Christian	241 (71)	98 (75)	143 (68)
Muslim	80 (23)	27 (20)	53 (25)
Traditionalist	21 (6)	6 (5)	15 (7)
Programme status			
Yes	131 (38)		
No	211 (62)		

						-	95% CI FOI	RVEXP(B)
Variable	Binary Logistic	SD	NE	d/f	Significance	EXP(B)	Lower	Upper
Education		· ·	46.542	3	0			
Primary*	-4.388	1.141	14.784	1	0	0.012	0.001	0.116
Secondary	-3.362	1.132	8.821	1	0.003	0.035	0.004	0.319
Tertiary	-1.999	1.13	3.13	1	0.077	0.136	0.015	1.24
Marital status (Married/not)	2.509	0.532	22.251	1	0	12.228	4.333	34.845
Employment (Unemployed)			10.463	2	0.005			
Un skilled job	0.765	0.38	4.063	1	0.044	2.149	1.021	4.522
Skilled job	1.112	0.347	10.273	1	0.001	3.039	1.54	5.997
Residence (Rural/urban	1.112	0.307	1.711	1	0.191	0.67	0.367	1.221

 Table 2: Binary Logistic regression of marital and Educational status, Women's resident and

 Employment with Successful delivery Programme

Table 3 shows that pregnant women registered with the successful delivery programme 39.5 times are more likely to have access and received at least four antenatal care or more than four than those pregnant women not registered with scheme. The antenatal care includes tetanus injection and receipt of folic acid during pregnancy. Pregnant women registered with the scheme are 62-71 times likely to receipt folic acid and get tetanus injection than those pregnant women not registered with the scheme

In terms of hospital delivery, pregnant women who registered with the scheme are more likely to deliver at hospital 5.281 times than those pregnant women not registered with successful delivery programme ad depicted in Table 4. The percentages of pregnant women registered with the scheme for postnatal care as indicated in Table 5 was very low at 8.5%. The negative association was shown in Table 6 between the scheme and postnatal care as pregnant women not registered with the Successful delivery programme are 1/0.83 (12.04) times to attend postnatal care compared to those pregnant women registered with the scheme.

		•						
Variables	В	CD	NE	Significa	nceExp(B)	95% CIforexp(B)		
Antenatal care visit								
>4 visits								
Yes	5.979	0.659	82.2	0	39.5	10.84 to 72.553		
No*	0							
<4 visits								
Yes	0.937	0.411	5.196	0.073	2.553	1.14 to 5.714		
No*	0							
Receiving Folicacid								
Yes	-5.852	0.737	62.989	0	0.03	0.001 to 0.07		
No*	0							
Receiving Tetanus								
Yes	-4.632	0.864	71.754	0	0.045	0.023 to 0.245		
No*	0							

Table 3: Binary logistic regression of antenatal and Successful delivery Programme

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29 (8%)

102 (30%)

131 (38%)

Yes

No

Total

		0 0		5	1	-
Variable	В	CD	NE	Significanc	Exp(B)	95% CI for exp(B)
				e		
Place of						
elivery						
Hospital	3.967	0.42	89.34	0	5.281	
Home*	0					
	Table 5: A	ssociation betw	veen Successful	delivery program	ne and postnata	l care
Variables	Ins	sured	Notinsu	ired	Total	P values
Postnatal						

92 (26.5%)

250 (73.5%)

342 (100%)

0.007

 Table 4: Multivariate Logistic Regression between Successful Delivery and Hospital based
 delivery

Table 6: Binary Logistic Regression between Successful Delivery programme and postnatal care

63 (18.5%)

148 (43.5%)

211 (62%)

Variable	В	CD	NE	Significan	Exp(B)	95% CI for
				ce		exp(B)
Postnatal						
care use						
Yes	-2.492	0.266	88.023	0.014	0.083	0.049 to 0.139
No*	0					

Variable	В	CD	NE	d/f	Significance	Exp(B)	Lower	Upper
Education			14.171	3	0.003			
Primary (1)	-	2.116	7.592	1	0.032	0.011	0	0.679
	4.535							
Secondary (2)	-	2.081	3.075	1	0.08	0.026	0	1.536
	3.649							
Tertiary (3)	-	2.091	1.003	1	0.317	0.123	0.002	7.427
	2.094							
Employment			7.767	2	0.022			
Professional (1)	1.693	0.692	5.979	1	0.014	5.435	1.399	21.109
Unskilled (2)	1.226	0.565	4.72	1	0.03	3.409	1.128	10.307
Marital status (married)	2.991	0.831	12.957	1	0	19.902	3.905	101.419
Residence (Urban)	0.839	0.556	2.276	1	0.131	2.313	0.778	6.875
Antenatal Care(Yes)	5.526	0.825	44.87	1	0	2.004	0.375	4.02
Place of Delivery	2.141	0.789	7.362	1	0.007	1.117	0.725	2.552
(Hospital)								
Postnatal (Yes)	0.356	0.622	0.327	1	0.567	1.427	0.422	4.831

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V. Interpretations

Table 6 also takes confounding factors (Variables) into consideration and interpreted as, pregnant women with professional jobs have access and registered with the successful delivery programme than those pregnant women who are unemployed 5.435 times, labour intensive pregnant women have registered with the scheme compared to women who are unemployed 3.409 times, pregnant women registered with the successful delivery programme compared to those who did not are 2.004 times access and attend antenatal care, whereas pregnant women registered with the programme compared with those not registered with the programme are 1.117 times to deliver at hospital. Table 7 confounding factors are socio-demographic variables (Residence, employment and marital status and women's education)

VI. Discussion

The research aimed at finding if pregnant women who have registered with Successful delivery (HaihuwaLafiya) programme of Jigawa state, Nigeria have access to the services of the health care at the health institutions. Health seeking behaviours is largely influence by socio-demographic variables of the pregnant women, variables like employment and marital status, women's level of education, women's age, residence and religion are greatly affect the pregnant women decision. This study found that successful delivery programme is directly associated with the married women, women with professional job, and who are employed. This is because most of the pregnant women involved in this study are live in the city and are educated and therefore they the existence and benefit of the scheme (Dixon, Tenkorang, & Luginaah, 2013)

The research evaluated on how the free maternal and child health programme of Jigawa state, Nigeria under the Successful delivery programme (Haihuwalafiya) can be use to improve the participation and accessibility of women to the use of health institution during pregnancy for maternal services. Free maternal health services play an important role in the woman's health seeking behaviour. Pregnant women who registered with scheme have access to routine medical attention (Antenatal), delivery at hospital and care after delivery (Postnatal) while women who did not registered with the scheme are not. This is because of the scrapping of the service fees which normally denied women's accessibility to the maternal services.

This study corroborated with the previous studies which reported that pregnant women who have access to free maternal health have higher chance of attending and receiving antenatal care, deliver at hospital and service after delivery. A study by (Comfort, Peterson, & Hatt, 2013) which support this research finding indicated that pregnant women who have access to free maternal services compared to those who have not are 47% to have access with routine medical attention, deliver at hospital and service after delivery.

For the health of the child and mother the routine medical care (Antenatal) is very important. The complication signs are normally detected during the visit and to know right action to take, it is at the routine medical check up by the pregnant women that any diseases which are danger to the health of mother and the child are treated. Even the food types which pregnant women need to takes in addition to the numerous precautionary measures which will help in successful delivery. Therefore, safe delivery is directly related with the receiving antenatal care (Twum, Qi, Aurelie, & Xu, 2018). Many studies have examined the relationship between free maternal health services and antenatal visit accessibility, hospital delivery but were unable to study the four antenatal care visits. Therefore this

study is contribution to the branch of knowledge by finding that pregnant women who registered with the successful delivery program have higher chance of receiving maternal services

The finding of this study is not unique to Jigawa state, Nigeria only, the declaration of free maternal services by Kenya, the hospital delivery rose to a significant rate(Lang'at & Mwanri, 2015) Comport and co conducted a systematic review in Africa ,Asian, Europe and South American regions which they evaluated the effectiveness of free maternal services have found a very good and positive relationship between hospital base delivery, routine medical care (Antenatal) and service after delivery (Postnatal) (Comfort et al., 2013)

The finding of the study indicated that the relationship between free maternal service and postnatal, the possibility of mothers to come for the service (postnatal) was very low when compared with the hospital delivery and antenatal visit. This is because mothers registered with free maternal service encounter not complications during childbirth; therefore they assumed no need to attend postnatal care. Note that for the good health of the child and that of mother the postnatal care service is very important.Unfortunately many mothers in Sub Saharan African did not bother to attend medical service after delivery but they prefer to attend antenatal and deliver at hospital. A study in Congo found that pregnant women as high as 93% do received and attend antenatal and deliver at hospital, surprisingly only 35% attendmedical service after delivery(Bayu, Adefris, Amano, & Abuhay, 2015; Mannava, Durrant, Fisher, Chersich, & Luchters, 2015) Studies in Kenya also reported that only 20% of mothers do attend postnatal service(Finlayson & Downe, 2013; UNESCO, 2012)

This research strength is therefore, it gives highlight of the effectiveness of the successful delivery programme on maternal services (which cover all aspect). Multistage sampling was used by the research which enables the researcher select participant among the communities who participated in the study. The limitation of the study is that the research did not consider the quality of the services provided.

VII. Conclusions

The result of this study shows that women who have registered with Successful delivery programme (Haihuwalafiya) in Jigawa state at least had four routine medical attentions (Antenatal), and most of the registered women deliver at hospital by the skill personnel. Sadly, many of the women did not go service after delivery (Postnatal). The study recommended that there need to enlighten the women on the benefit of the programme and also educate them about the importance of receiving postnatal care.

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