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An Assessment of An Integrated Multiphasic Community Outreach in A Local Government Area in Northern Nigeria.

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Abstract

In 2015, the National Agency for the Control of AIDS (NACA) in partnership with the Subsidy Reinvestment and Empowerment Program (SURE-P) conducted an integrated multi-disease HIV counselling and testing outreach campaign in Tudun Wada LGA of Kano State, Nigeria to assess the prevalence of HIV and other communicable and non-communicable diseases in that local council. Data on different aspects of the screening and treatment campaign were collated using a Federal Government of Nigeria outreach client data form and analyzed using Statistical Package for Social Sciences. A total of 3114 members of the community registered for the outreach but only 2869 accessed services. While 51.6% of all the clients were females, 29.9% were in full employment, 8.9% had a body mass index above 25kg/m^2, 52.1% engaged in very active exercise and only 7.9% ate fruits daily. About 40.8%,12%, 8.6% and 0.7% tested positive for malaria, HBsAg, HCV and HIV/AIDS on screening with rapid diagnostic kits. Even though 25.4% and 25.1% had a family history of hypertension and diabetes only 4% and 6.5% had abnormal readings using standardized WHO recommended cut-off points. Malaria and peptic ulcer disease were the most prevalent diseases seen and managed by the medical teams with rates of 59.8% and 22.8% respectively. The integrated multi-diseases outreach carried out in this local council was well attended. Clients were screened for both communicable and non-communicable diseases and referred to the general hospital in the area for follow-up and further management. Political support from the National Agency for the Control of AIDs, the state government and from relevant line ministries, robust advocacy, communication with electronic and print media, training of teams and sustained social mobilization were veritable tools to the overall success of the campaign in Kano State.

Keywords: Kano State, Integrated, Outreach, Community, Disease

INTRODUCTION

The World Health Organization defines outreach as "any type of health service that mobilizes health workers to provide services to the population or to other health workers away from the location where they usually work and live." (WHO, 2011)This emanated from the chronic undersupply of health workers globally especially in rural areas in both developed and developing countries.(Sharma, 2015) Persistent inequalities in the social determinants of health between urban and rural areas has greatly influenced the need for healthcare. (Aboagye et al. 2014) Health outreach programs play a great role in improving and extending the reach of health care through activities such as health education, case management, screening exercises and facilitating access to essential health services. (Winters et al. 2011) These activities directly or indirectly improve health outcomes among individuals and communities. Nigeria with an estimated total population of about 180 million has 67% of its populace living in rural areas with an acute shortage of required healthcare workers (NPC, 2006). This has led to difficulties in effectively addressing the high rate of communicable and non-communicable diseases and their complications particularly in remote communities where the proportion of indigenous people are high and where geographical distances are extremely large.(Canadian Health Services Research Foundation, 2008) Studies have shown that implementing an integrating screening exercise for communicable and non-communicable diseases in such hard to reach communities can promote the uptake of both types of screening

and increase the detection and management of chronic diseases especially HIV/AIDS (Gruen et al. 2006; O'Sullivan et al. 2014)

To this end, the National Agency for the Control of AIDS (NACA) instituted a free multi-disease and voluntary HIV counselling and testing (HCT) medical campaign that held in 20 States and Abuja. A multi- disease strategy implementation was used to stimulate uptake of HCT in the chosen local states based on their high burden of HIV/AIDS. It is believed that unlike the sentinel surveys, this would give a true prevalence of HIV/AIDS in the community since it will incorporate men, youths and children. Kano State with a HIV prevalence of 1.3% as reported by the National HIV/AIDS reproductive health survey of 2012 was chosen as one of the beneficiaries of this semi-national campaign. The present study is aimed at assessment of the integrated HCT outreach in Kano State. This will help to assess the outcome of the outreach.

MATERIALS AND METHODS

Study Setting:

Kano State is the 2nd largest industrial city in Nigeria, situated in North Western Nigeria with a population of 11 million. Its capital is Kano and it boasts of a large trade market for textile, tanning, footwear, plastics and agricultural implements. Kano State has 44 local government areas and 484 political wards. All the wards have a ward focal person and the LGAs have Primary Health Care Coordinators who work with the local government action committee on AIDS (LACA) officers to deliver HIV services to the grass roots. Tudun Wada is an LGA in Kano State with administrative headquarters in Tudun Wada. The LGA is made up of several towns and villages with an estimated population of 179,004 people which are mostly occupied by the Hausa/Fulaniethnic groups. They speak Hausa and Fulfulde languages while the religion of Islam is predominantly practiced here.

Pre-Implementation and Implementation Activities:

Planning and Coordination

An entry meeting was held in Kano, the State capital to deliberate on how to implement a successful outreach. It was chaired by the NACA Global Fund senior representative. Other people in attendance included; the representatives of the vendors, the acting Kano State Agency for the Control of AIDS (KSACA) State Coordinator, the community mobilization officer, Local Government Agency for the Control of AIDS (LACA) representatives, Partnership for Transforming Health Systems (PATHS) representatives and other relevant stakeholders. Issues deliberated upon were possible sites for the outreach, how to pay advocacy visits to community leaders, deliberations on the adequacy and suitability of the personnel for the outreach, as well as other documentation issues of stocks and supplies for the activity.

Advocacy:

Official letters were written by the vendor in collaboration with KSACA informing all relevant stakeholders in the State and local council about the free medical outreach to the opening. All stakeholders were paid official visits inviting them to the opening ceremony and soliciting for their support throughout the duration of the medical outreach at Tudun Wada LGA.

Community Mobilization*:*

Relevant stakeholders were mobilized to create awareness in the local council. Community and Religious leaders, heads of schools, representatives of hospitals, leaders of unions and political units were mobilized to cascade awareness activities for the campaign. The general hospital in the area was visited to establish referral pathway for possible HIV positive cases and other chronic medical conditions.

Personnel Recruitment:

This was largely carried out by the implementing vendor who liaised with the personnel manager at the Family Health International, Kano State to recruit already trained personnel. All health workers were called up to ascertain their availability for the entire duration of the outreach. Volunteers for the medical outreach were invited for one day

training session at the instance of the technical lead.

Demand creation:

The sponsors approved the jingle for the outreach which was aired on different occasions to create awareness and mobilize the community for the outreach. All volunteers were also mobilized to participate in a road show around the Tudun Wada community. Banners and flyers were distributed during the road shows. Town criers were also mobilized 3 days prior to the program to sensitize the different communities of Tudun Wada.

Medical outreach/Opening Ceremony:

The medical outreach proper was kicked off after an opening ceremony was conducted with the members of the community in attendance. This was well attended by Ministry of health officials, relevant stakeholders, and community leaders. It lasted for 6 days.

Analytical Techniques:

***Anthropometry*:** The weight was recorded to the nearest gram using standard weighing scale on a horizontal surface. Height was measured with beneficiaries standing erect on a flat surface without shoes or headgear. Body Mass Index (BMI) was calculated using the formula: BMI = weight (in kilogram)/ height (in metre^2) on a Microsoft Excel sheet.(WHO, 2013)

Blood pressure measurement: This was carried out using a standard mercury sphygmomanometer (ACCOSON) with cuff size of about 30 x 12.5 cm. Any client with a reading above 140/90 mmHg were classified as hypertensive. (WHO, 2006)

***Diabetes Mellitus (DM)*:** DM was classified using the WHO parameters of Random plasma Glucose measurement of ≥ 200mg/dl or 11.1mmol/l).(WHO, 1975)

***Physical activity*:** Physical activity was graded according to occupation: (1) Very active: (carrying or lifting heavy loads, digging or construction work). (2) Active (with work slightly lighter than 1 above) (3) Moderately active (work involving brisk walking or ng for carrying light loads such as housework, trade work and nursing) and (4) Not active (sitting or reclining for most part of the day in a week such as office work and unemployment).

Data Analysis: A template was created on Microsoft Excel for data entry and cleaning. All data collected was analyzed using computer based Statistical Package for Social Sciences (SPSS) version 19.0. Simple frequencies were calculated for all parameters documented on a standardized outreach proforma template.

***Ethical Approval*:** Since this was part of a national outreach program, approval was given by the Federal Ministry of Health through the National Agency for the Control of AIDS. Beneficiaries of the outreach gave their verbal consent before any testing could be carried out on them.

RESULTS:

Of the 3114 clients that presented themselves during the outreach, only 2869 (92.1%) registered and obtained health services. A greater proportion of the clients was females (52.3%), in full employment (29.9%) and had a normal body mass index (76.7%). (Table 1).

Table 1: Socio demographic characteristics of the Beneficiaries

Variables	Frequency (n=2869)	Percentage (%)
Gender		
Male	1368	47.7
Female	1501	52.3
Employment status		
Fully employed	859	29.9
Part-time employed	427	14.9
Unemployed	688	24.0
Students ≥	826	28.8
Not indicated	69	2.4
Body mass index		
Subnormal	380	13.2
Normal	2200	76.7
Overweight	49	1.7
Obese	208	7.2
Not indicated	32	1.1

Only a small proportion of the beneficiaries of the outreach project had abnormal blood pressure (4.0%) and random blood sugar readings (6.5%). Less than half (40%) of all clients were found to be positive for malaria on rapid diagnostic testing. While about 10% were HBV and HCV positive only a few persons were found to be HIV positive (0.7%) on screening. (Table 2).

Table 2: Medical Profile of Beneficiaries

Variables	Frequency	Percentages (%)
Blood pressure status	**n =2869**	
Normal	2754	96.0
Abnormal	115	4.0
Random blood sugar status	**n=2869**	
Normal	2683	93.5
Abnormal	186	6.5
Malaria test by RDT	**n=1182**	
Negative	700	59.2
Positive	482	40.8
Hepatitis B status	**n=2142**	
Negative	1885	88.0
Positive	257	12.0
Hepatitis C status	**n=2142**	
Negative	1957	91.4
Positive	185	8.6
HIV status	**n=2869**	
Negative	2848	99.3
Positive	21	0.7

Symptoms and signs of malaria and peptic ulcer disease were the most common causes of ill health encountered during clinical consultations with qualified physicians. Musculoskeletal pains, scabies and conjunctivitis were fewer causes of morbidity among the beneficiaries). (Table 3).

Table 3: Common health conditions experienced by beneficiaries

Variables	Frequency (n=1666)	Percentages (%)
Malaria	997	59.8
Peptic ulcer disease	380	22.8
Musculoskeletal pain	158	9.4
Scabies	82	4.9
Conjunctivitis	49	2.9

A quarter of all the clients had a family history of hypertension (25.1%) and diabetes (25.4%). Less than 10% of all clients had gone for screening for hypertension (8.3%) and diabetes (6.6%) in the past year. Only about 5% had gone for screening for HIV and sexually transmitted infections within the 6 months prior to the study. Some physical activity was undertaken by majority of the beneficiaries. (Table 4)

Table 4: Prevalence of risk factors for disease

Risk factors	Frequency (n=2869)	Percentage (%)
Family history of DM		
Yes	620	25.1
No	1903	60.9
Not sure	346	14.0
Family history of hypertension		
Yes	730	25.4
No	1793	62.5
Not sure	346	12.1
Screened for BP in the past year		
No	2632	91.7
Yes	237	8.3
Screened for blood sugar in past year		
No	2682	93.4
Yes	187	6.6
HIV testing in the past 6 months		
No	2730	95.1
Yes	139	4.9
Undergone treatment for STI in the past 6 months		
No	2752	95.9
Yes	117	4.1
Daily Physical Activity		
Very active	1378	48.0
Active	876	30.5
Moderately active	546	19.0
Inactive	69	2.5
Daily fruits consumption		
Daily	249	8.7
Occasionally	2613	91.1
Never	7	0.2

DISCUSSION

In this study, only 4% of the beneficiaries had abnormal blood pressure measurements even though 25.1% of the population had a documented family history of hypertension. This finding was only found to be comparable with earlier studies carried out by (Oviasu et al. 1977; Jain et al. 1977) where the hypertension prevalence was 2.1% and 3.8% but dissimilar to all other community-based studies carried out in the Kano, Sokoto and Kwara states with rates of 7.2 %, 24.8% and 30.2% (Mujinyawa et al. 2008; Hendricks et al. 2012; Makursidi et al. 2013). Other early community-based studies carried out in the Northeast and the Northcentral regions of Nigeria also revealed rates in the range of 15.2% - 19.3% (Ejike et al. 2010; Ekezie et al. 2011; Okpara et al. 2015). However, these rates are lower than national rates and differ by geopolitical areas with ranges from 34.2% in the south south zone to 60.4% in the North East zones of the country (Murthy et al. 2013) The difference in the prevalence of hypertension in the seventies and currently could be attributable to lots of factors including aging populace, dietary, sedentary life-style, lack of physical exercise and abuse of alcoholic beverages and other substances.

The prevalence of Hepatis-B infection in this study was 12%, this prevalence rate though much higher than earlier studies carried out in Jos and Kano with rates of 1.3% and 7.9% is comparable to findings from studies reported between years 2008-2012 in Jos, Nasarawa and Zaria with rates as high as 11%- 20.8% (Sirisena et al. 2002; Ibrahim et al. 2011; Jombo et al. 2004; Forbi et al. 2007; Adoh et al. 2008). Even though it is expected that HBV rates in the country should be reducing as a result of the introduction of the HBV vaccine into the Expanded Programme on Immunization (EPI), mandatory screening of blood before transfusion, advocacy for using barrier protection against sexually transmitted infections and HIV/AIDS, availability of new and inexpensive drugs for treatment as well as availability of the HBV immunoglobulin for already exposed individuals and babies, this has not been so, largely as a result of the lack of awareness of the infectivity of hepatitis B virus in the population.

Diabetes mellitus (DM) is a chronic condition that is endemic in the country. This study revealed that the prevalence of DM was 9.4% using random blood glucose testing. Even though the oral glucose tolerance test (OGTT) is the gold standard for making a diagnosis of DM, the RBS tests have been commonly used to make such diagnosis in rural areas or during outreaches like this since it is an inexpensive, accurate and a fast method of diagnosing diabetes. The finding that DM prevalence rate is 9.4% in this study is similar to rates obtained in the South-South region of the country with crude rate of 9.0% but dissimilar to findings from different studies carried out in Kano, Jos, and other states in Northern Nigeria, with rates ranging from 0.81%- 8.0% (Puepet et al. 2008; Omorogiuwa et al. 2010; Adeniyi et al. 2010; Sabir et al. 2013; Ramalan et al. 2016). While the results from two Pan- Nigerian studies revealed rates as low as 2.0% and 3.3% respectively, another similar study carried out in Kano in 2017 revealed a crude national rate of 5.8% with the North west region being the zone with the lowest prevalence of DM in the study (Dahiru et al., 2008; Kyari et al. 2013). The high prevalence rate of DM obtained in this outreach exercise could have been as a result of lifestyle factors or the testing techniques used.

While Nigeria is the country with the second highest prevalence of HIV/AIDS in Africa following South Africa, the National HIV/AIDS Reproductive Health Survey of 2012 recorded different rates for the different states in the country. NACA reports that Kano, Kaduna, Akwa Ibom, Benue, Lagos and Oyo states account for 41% of people living with HIV (NACA, 2017). The 0.7% prevalence rate of HIV in this study was found to be lower than the national sentinel surveillance HIV rate of 1.3% in Kano State. This rate was found to be comparable to the HIV rates in 10 states in Nigeria but not comparable to rates in the remaining states where the rates ranged from 1.4% in Kogi and Kwara to 10.5% and 15.2% in states like Taraba and Rivers. Countries in North Africa and the Horn of African typically have similar rates as obtained in this study because these populations typically engage in less fewer high-risk cultural practices that have been -

implicated in Sub-Saharan Africa (Velayeti et al. 2007; UNAIDS, 2010). The low prevalence reported in this outreach could be as a result of the community-based nature of this study or that HIV positive clients who already knew their status did not deem it necessary to attend the multi-disease outreach or that this study.

Modifiable and non-modifiable risk factors have been implicated in the causation of non-communicable diseases. This study reported that even though a quarter of all the clients had a family history of hypertension and diabetes, less than 10% had gone for any screening in the past year. The finding that 21.5% of the client in this rural community had a BMI greater than 24.9 kg/m^2 portends grave danger on the health status of the populace. A hospital-based study conducted in Katsina State in Northern part of Nigeria found high prevalence of CVD risk factors among apparently healthy adult Nigerians with truncal obesity in 43.7%, hypercholesterolemia in 28.3%, HTN in 25.7% and DM in 5% (Sani et al. 2010). A rural community of Hausa Fulani's in Northern Nigeria also found obesity and impaired glucose metabolism to be major factors for pre-hypertension and hypertension (Iseuzo et al. 2011). These findings highlights the importance of early screening for disease which invariably leads to treatment and a reduction in the complications of the disease thereof.

Rapid diagnostic tests for malaria is a cheap and fast method for diagnosing malaria especially in tropical countries where malaria is endemic. The prevalence of malaria in this populace using rapid diagnostic studies was 40%.This finding is comparable to other similar studies carried out in Kano and Katsina states with prevalence of 34.1%and 36.5% in clients above 18 years and up to 87% among clients less than 10 years old (Bawa et al. 2014; Nas et al. 2017). However another study carried out among Hausa Fulani's in Kano State recorded rates as high as 61.2% and 57.2% when prevalence was disaggregated by gender (Dawaki et al. 2016). The high prevalence of malaria in this community could be explained by the topography of the area, the time of the year when the outreach was carried out, poor environmental conditions and possibly resistance to the known artemisinin combination therapies. This finding has implications on the potential consequences of severe malaria infection among the populace. There is a need therefore to adopt a comprehensive strategy in order to reduce the high transmission rate of malaria among the populace in Kano State.

CONCLUSION AND RECOMMENDATION

This medical outreach was a huge success since members of Tudun Wada local government area responded to the community mobilization by participating in the screening exercises for communicable and non-communicable diseases. The outreach revealed that the prevalence of these diseases were within the normal range for the area. Health education measures must be intensified in this local council in order to reduce the prevalence of diseases in the community and improve health outcomes.

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Conflicts of Interests: The authors hereby declare no conflict of interest.

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