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The Impact of Task-shifting Intervention on Retention-in-Care of PLHIV in North Central Nigeria

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ABSTRACT
The HIV/AIDS pandemic was first announced in Nigeria in Nigeria in 1986. Since then the prevalence rate has continued to rise and decline. The prevalence rate for 2019 in the North-Central Zone was 2.0 percent, which was considered to be higher than the national average. The fact that only a limited number of physicians are available to provide services also raised a serious social-health problem. Task-force intervention was therefore introduced to shift HIV/AIDS management from physicians to nurses in the hope that it will enhance retention of patients in care. This study was therefore, undertaken to see the extent to which task-shifting intervention has achieved that objective. Respondents were drawn from IHVN treatment sites in Benue and Nasarawa state, as well as the FCT, Abuja. Both qualitative and quantitative techniques of data collection were carried on 443 respondents, out of which responses from 362 were assessed. The findings revealed a positive significant relationship between task-shifting and retention of clients in care. However, only "reduction in workload" and "retention of clients" significantly influenced the satisfaction of patients with task-shifting intervention. There was likelihood that as many patients were now attending clinic due to task-shifting intervention, the "waiting time" will may increase, and may exert adverse effect on retention in care. The study, therefore recommended that more health care workers should be employed and trained on task-shifting skills.

Key words: PLHIV, Health care, Retention in care, Task-shifting, Waiting time, Workload

ABSTRAIT
La pandémie du VIH / sida a été annoncée pour la première fois au Nigéria au Nigéria en 1986. Depuis lors, le taux de prévalence n'a cessé d'augmenter et de diminuer. Le taux de prévalence pour 2019 dans la zone Centre-Nord était de 2,0%, ce qui était considéré comme supérieur à la moyenne nationale. Le fait que seul un nombre limité de médecins soient disponibles pour fournir des services soulève également un grave problème de santé sociale. Une intervention de groupe de travail a donc été mise en place pour faire passer la gestion du VIH / sida des médecins aux infirmières dans l'espoir qu'elle améliorera la rétention des patients dans les soins. Cette étude a donc été entreprise pour voir dans quelle mesure l'intervention de transfert de tâches a atteint cet objectif. Les répondants provenaient des sites de traitement de l'IHVN dans l'État de Benue et de Nasarawa, ainsi que du FCT, à Abuja. Des techniques qualitatives et quantitatives de collecte de données ont été appliquées à 443

répondants, parmi lesquels les réponses de 362 ont été évaluées. Les résultats ont révélé une relation positive et significative entre le transfert des tâches et la rétention des clients dans les soins. Cependant, seules la «réduction de la charge de travail» et la «fidélisation des clients» ont eu une influence significative sur la satisfaction des patients à l'égard de l'intervention de transfert de tâches. Étant donné que de nombreux patients fréquentaient maintenant la clinique en raison d'une intervention de transfert de tâches, il était probable que le «temps d'attente» augmentera et pourrait avoir des effets néfastes sur la rétention dans les soins. L'étude a donc recommandé que davantage de travailleurs de la santé soient employés et formés aux compétences de transfert de tâches. Mots clés: PVVIH, soins de santé, rétention dans les soins, transfert de tâches, temps d'attente, charge de travail

INTRODUCTION

The deficiency in Human Resources for Health (HRH) was acknowledged by the World Health Organization in 2006. Based on this acknowledgement, the decades of 2006 – 2015 was launced as the Health Workforce Decade to raise awareness of the looming crisis in Human Resources for Health (HRH) and to help raise an action platform for effective workforce policies and strategies (WHO, 2015). African response came in 2008, when an international conference on Task-shifting was held in Addis Ababa, Ethiopia, between 8-10th of January. In that conference, representatives of governments, multilateral agencies, development partners, civil society, professional associations, education and training centers, research institutions, care and support organizations, and People Living with HIV (PLHIV) adopted the Task-Shifting as an intervention programme that can cushion the effect of shortage of health workforce (UNAIDS/NACA, 2019). The programme recommendations include utilizing other cadres of health workers within the community to take up appropriate tasks and thus reduce the work load burden on the limited number of available medical professionals. In this context, nurses assumed new roles and responsibilities that were hitherto not within their scope of practice. Specific tasks are moved where appropriate, from highly qualified health workers to health workers with shorter training and fewer qualifications (FMOH, 2016).

In the explanation of the Integrated National Guidelines for Prevention, Treatment and Care (ICRP, 2004, p.119), the goal of Task-shifting is to get the right workers with the right skills in the right places doing the right things. Task-shifting, therefore, involves:

Health workers undertaking tasks that were not listed in their professional schedule of duties; thereby reducing the burden of work on a particular cadre of health worker. It helps to improve access to health care in the light of high patient to physician ratio, improve quality of care indicators, achieve client's satisfaction, efficient and cost effective… reduction in waiting time and congestion in clinics, allow most experienced physicians/clinicians to devote more time on evaluating and stabilizing new and ill patients, initiating ART and monitor patients better, develop more clinical decision making skills and clinical roles for nurses.

The Nigerian health sector is confronted with the challenge of how to ensure availability and retention of adequate pool of competent human resources in their right mix to provide health care in areas where their services are most needed. This challenge is further

complicated by many global and disease burden issues and changes in health trends, shifts in health needs and demands, declining resources, changes in global economic, political, and technological situations. The battle to control HIV/AIDS and ensure that all persons living with the virus have access to live saving medicines cannot be waged successfully without care providers and caregivers. In the context, therefore, the Federal Government directed all levels of health care from facility to community levels to provide adequate human resources to cater to the needs of PLHIV. The stress is more to train all health workers and lay providers involved in the provision of HIV treatment and care.

In addition to offering of services and periodic training and retraining of health workers, the Federal Government Directive also included staff recruitment and retention by responsible governments agencies to ensure that adequate number of health workers are deployed to all facilities providing HIV/AIDS prevention and treatment services. They should also provide suitable non-monetary incentives to health workers to encourage, motivate, adopt staffing and staff deployment policies that will enhance retention of personnel in HIV service.

The UNAIDS and National Action Control Agency - NACA (2019) observed that Nigeria has an estimated 1.9 million PLHIV, second only to South Africa. About 54 percent of the PLHIV were within 15- 49 age range. This data shows remarkable increase on the 2016 data where 220,000 cases of HIV infections were reported with approximately 160,000 AIDS related deaths in the same year. Analysis of the data revealed that Nigeria bears nearly 10 percent of the global burden of HIV/AIDS. In order to solve this problem, Government decided to introduce operational plan that includes treatment and broad ranges of care and support activities for PLHIV - making full use of increasing access to ART and care interventions. By 2018, the number of people that had access to ART had increased from 636,000 in 2013 1million people.

However, with an ever-growing HIV /AIDS epidemic, a high number of patients on ART, and an ever-growing population in the country, the situation is worrisome. Although care and treatment programmes in Nigeria have reached millions of HIV-infected patients, retention in care, which is defined as continuous engagement in appropriate medical care (FMH, 2016 b), has remained critical and challenging. Effort to optimize patient outcomes, and reach many PLHIV with ART, enhance retention in care with a view to preventing medication interruptions, is said to be hindered by lack of health care officers at facilities that should provide care for PLHIV. Such observation provoke question on the impact of Task-shifting intervention that has severally been lauded by the Federal Ministry of Health (FMH, 2016, p.119).

It is in view of the foregoing that this study seeks to examine the extent to which task-shifting intervention has been able to lessen health worker – client constraints in the treatment of PLHIV using the facilities that the Institute of Human Virology Nigeria (IHVN) provide for HIV services, called ACTION Plus Up sites, in North Central Nigeria.

CONCEPT CLARIFICATION, LITERATURE AND THEORY

The concept of task shifting

At the conception of task shifting, misconceptions and uncertainties abound among health care workers who thought it meant task “dumping” or “unauthorized delegation” of tasks

(Iwu et al, 2017, p.2). This is because, task shifting was seen as a temporary measure to address the gross inadequacy of human resources, and could be reversed to status quo when human resources improve. However, Haynes (2001) pointed out that task-shifting implied that tasks are shared with team members (health care workers) including nurses. In this context, task shifting, task sharing, and sometimes task delegation is used interchangeably. It means that specific tasks are moved, where appropriate, from highly qualified health workers to health workers with shorter training and fewer qualifications in order to make more efficient use of the available human resources for health. Task-shifting makes it possible for a new cadre of non-physician clinicians to assume the complex task of providing comprehensive emergency care resource-limited settings, after due training and by improving their skills on the job based on skills acquired on the job

Task-shifting has a long history in Africa, dating back to 1800 when local midlevel health providers known as *officiers de sante´* (health officers) were employed in the France-West African countries. Clinicians known as dressers and dispensers were employed to provide basic surgical and medical care (Mullan & Frehywot, 2007). Today this practice has continued, as many countries have relied on Task-shifting technique to address human resource shortages that militate against the provision of critical health services. For instance, in Malawi and Uganda, the basic care package for people living with HIV/AIDS (PLHIV) is designed to be delivered by non-specialist doctors or by nurses supported by Community Health Workers (Samb, Celletti, Holloway, Van Damme, Lawson, De Cock, & Dybul, 2007). Elsewhere in Australia and New Zealand, researches have shown that Nurse Practitioners and Physician Assistants are being used to augment shortage of medical doctors (Wilson, Zwart, Everett & Kernick, 2009). Task-shifting therefore, can be used to develop an effective cadre of non-physician clinicians to help address health workforce shortages (Hoyt & Proehl, 2010).

The shifting, sharing or delegation of tasks from one cadre to another, previously and often called substitution, is not a new concept (Callaghan, Ford, & Schneider, 2010). It has been used in many countries and for many decades, either as a response to emergency needs or as a method to provide adequate care at primary and secondary levels, especially in understaffed rural facilities, to enhance quality and reduce costs. However, rapidly increasing care needs generated by the HIV/AIDS epidemic and accelerating human resource crises in many African countries have given the concept and practice of task shifting new prominence and urgency. The urgency is that for HIV/AIDS to be controlled, all persons living with the virus should have access to live saving medicines; and this cannot be possible without care providers and caregivers at all levels, from the health facility to the community-based human resource catering for the needs of PLHIV (FMH, 2011).

According to Labiran (2011, that task shifting in Nigeria existed far back in the 1940s, when State-certified midwives and nurses trained numerous injectors that used to line us up in scores and give injections of penicillin in the fight against yaws. The British had built dispensaries all over the land and trained numerous dispensers that worked as doctors, making diagnoses, giving medicine, washing and dressing our sores. This shows that task shifting existed long ago and still exists in Nigeria. The status of task shifting as confirmed by the FMOH draft policy (2014c) is that informal task-shifting or task-sharing still exist due to gross shortages of human resources, especially in the Northern States of the country. It

demonstrate situations, where medical officers perform specialists' tasks, nurses/midwives undertake doctors' tasks, Community Health Extension Workers (CHEW) discharge nurse/midwives' and doctors' tasks. When some tasks shift from physicians to nurses, nurses also shift tasks among themselves when necessary, or/ and to other cadres in the care team. The roles for other health care cadres informed the development of the National task shifting policy in 2014, which stipulates different roles and responsibilities of other health cadres in care team. Task shifting policy, therefore, confirms that task shifting has been used effectively for specific emergency procedures in specialty fields such as obstetrics and surgery.

The Concept of Retention

The battle to control HIV/AIDS and ensure that all persons living with the virus have access to life saving medicines will not be waged successfully without care providers and caregivers to cater for the needs of PLHIV and be available for the continuous connectivity with the health system at all levels, from the tertiary and secondary facilities to the community. Retention in care has gained ground in recent years, as a fundamental gauge of progress or failure of HIV control programs. It acts as a system diagnostic tool that can provide practitioners, Programme managers and policy chiefs vital information on Programme impediments and consequently influence appropriate implementation response. The WHO (2015) defined 'Retention in HIV care' as continuous engagement from diagnosis in a package of prevention, treatment, support and care services.

Retention occurs from the moment of initial engagement in care, when a person with HIV is linked successfully to services, to assessment for eligibility, initiation on ART and retention in lifelong ART care. Yibeltal (2014) defined retention as retaining of patients in the HIV programme while on ART. It is calculated from dividing clients alive and on ART by the total number of patients started on ART. Buve et al, (2017) argued that system strengthening is a necessary prerequisite for improving the prevention of HIV infection and retention of patients in care. This places retention in care as the ability to adhere to critical aspects of care, attend regular follow-up appointments, scheduled laboratory tests, and other monitoring activities according to health system standards and as prescribed by a health care provider. However, across many settings but predominantly in resource limited backgrounds and principally sub-Saharan Africa, adequate retention in care rates is a hard to reach norm due to a mix of provider, client and environment shortfalls. A critical variable in this maze is the weak information chain that frustrates location and accountability of client outcomes.

Patient retention in care is an important measure of the quality of care provided to the end user – patient and also serves as a measure of quality of life, (FMOH, 2014d). Retention therefore refers to patients known to be alive, keeping all appointments and receiving regular checkups as planned to improve quality of life. Retention extends beyond the clinic to assuring that patients are adequately connected to a regular source of care that permits routine monitoring and referral for treatment. The WHO (2015) pointed out that 'Retention in care' can be defined from the moment of initial engagement of patient in care, when a person with HIV is linked successfully to services, to assessment for eligibility, initiation on ART and retention in lifelong ART care. However, in other studies and reports it sometimes includes the period from diagnosis to successful linkage to care. Following the WHO 2015 Geneva

meeting, four stages of retention in the continuum of care were clearly pointed out to include: positive HIV test, enrolment in care to ART eligibility, initiation of ART, and finally continuation of lifelong ART. Retention is critical to reduce HIV-related morbidity and mortality, reduce the incidence of new infections in children and adults, and reduce development of ART resistance. HIV prevention, treatment and care programmes comprise a range of interventions from support for increased diagnosis to the commencement of lifelong ART and beyond (Callaghan, Ford & Schneider, 2016).

Often times, patients drop off from retention in care - a break in the continuous connectivity with the health services. Lost to Follow Up (LTFU) is 90 days after the last scheduled appointment, therefore, failure to attend medication pick-up or clinic requires contacting the patient / family within a few days in order to prevent complications. There are many causes of LTFU along the continuum, including stigma in the community and from healthcare staff, patient costs (transportation, loss of income), service delivery factors (prolonged waiting times, high frequency of clinic visits, poor linkage between services, lack of or poor patient monitoring systems, poor integration, stock-outs) patient factors and beliefs (limited perception of treatment issues, denial, alternative health beliefs, lack of disclosure to partner/family), and most importantly, overburdened, under-staffed healthcare systems. Other risk factors for LTFU amongst special populations such as pregnant women, adolescents, children, people who inject drugs, and patients co-infected with HIV/TB are often more complex and reflect the greater vulnerability and multifaceted health and social needs of these group. Loss of patients from the care continuum – LTFU, often used interchangeably with 'attrition' including death (registered or unregistered), unknown outcome ('true' LTFU) and transfer to another facility. Some working group participants expressed discomfort with this term as no one is truly 'lost to follow-up' (Ajzen & Madden, 1986). Therefore, loss to follow-up could be defined more precisely as referring to patients with unknown outcomes. Patients who cease to engage in the continuum of care because of their own wishes or beliefs or because of barriers to continued access to care (due to transportation, sigma, and resources). Given this new observation LTFU could be called 'disengaged from care' (Baker, Benton, Friedman & Russell, 2007). Definitions of retention and loss - to - follow up (LTFU) vary greatly; some stakeholders refer to 'linkage to care' to describe a concept that others capture within the definition of 'retention (Bowling & Ebrahim, 2005).

Task-Shifting intervention and Client Load

The 2012 Nigerian Health workforce profile revealed that a total of 65,759 Nigerian medical doctors (physicians) were registered with Medical and Dental Council of Nigeria (MDCN). The same report posited that 11,235 additional foreign medical doctors have been registered over time with the MDCN, while 124,629 nurses registered in the country. Based on the projected size of the Nigerian population in 2012, the current number of medical doctors equated a ratio of 38.9 medical doctors per 100,000 members of the population; this means a doctor to population ratio of 1: 2,572 and 100 nurses per 100,000 populations (FMOH, 2011). These ratios are by no means better today given the high increase in the population (177.5 million as at 2014 estimate) and brain drain that encouraged the migration of medical professionals overseas (World bank, 2016).

As rightly argued by the WHO (2014), health workers are the core of the health systems and without them there is no health care. The inadequacy of number of health care workers and ineffective government policies explain partly the poor performance of the health targets of the Millennium Development Goals (MDGs) in Nigeria. Today, the MDGs which ended in 2015 is being replaced with the United Nations Sustainable Development Goals. The health targets are equally high, and can only be achieved if the health workforce is improved. HIV management is indeed labour intensive as it involves prevention, care, treatment, and support across the life-span of the patients.

The number of people living with HIV (PLHIV) is indeed increasing in Nigeria. In the last count the prevalent rate was given as 3.1 percent (www.advert.org), and approximately 180,000 people were said to have died of AIDS-related illnesses in Nigeria in 2015 (www.thecable.ng/rivers-tops-list-hi...). While the number of patients living with HIV/AIDS has increased, many providers have themselves been lost to the disease (FMOH, 2009). Barriers to HIV/AIDS prevention include legal barriers, structural barriers, economic barriers, and shortage of skilled health staff. Health professionals of all categories are overstretched, and this is compromising the quality of care as the work load of health professional has become really heavy. In response, donors and governments are involving other cadres of workers under the task-shifting arrangement to take up appropriate tasks in order to lessen the burden on the limited number of available medical professionals (WHO, 2011).

Task shifting can expand the human resource pool, and hence lesson client load (www.who.int/.../ent/). In Uganda, for instance, nurses have been trained and offered guidelines to manage HIV/AIDS patients who come for check-ups (Hoyt & Proehl, 2010).The report also revealed that, Nurses, who never used to insert intravenous lines, now insert them routinely, especially in up-country or rural facilities. The additional skills helped to reduce client load hitherto placed on the physicians. Due to staffing shortages, many hospital wards only have a nursing assistant on duty. Occasionally, there was only one nurse and one nursing aide to look after more than 100 patients (Mullan & Frehywot, 2007). The implementation of staff-shifting strategy therefore, has helped to reduce the work load and enhance effectiveness in attending to patients. Report of the usefulness of task-shift in reducing work load of health workers is not different. Many nurses who received only midwifery or only nursing training alone have been trained on additional skills and or a combination of skills through short trainings organized to equip them with the necessary skills and competence (Colin, Godfrey, Caetano, Calist, & Staffan, 2009). Thereafter, they are posted to health facilities to offer a combination of services.

In Nigeria, task-shifting is adopted as a sharing strategy to reduce the looming crisis of human resource shortage. It is extending beyond HIV services to include Maternal and Neonatal Child Health, Malaria, Tuberculosis and Pediatrics. The Institute of Human Virology, Nigeria is currently piloting Community Pharmacy in the FCT. This is a type of shifting of ART services from the tertiary or secondary facility pharmacies to the clinics, chemists or drug stores in the communities. In this strategy, the patients go to the registered pharmacy or chemist of their choice or nearest to them in the community for “drug pick up” at any time of the day or rather at their own convenience (Callaghan, Ford, and Schneider,

2016). These arrangements have helped to reduce client load among the physicians and also reduce stigma in the community.

Task – Shifting and Retention in Care

Retention of patients in HIV care is also known as retention in care. It is considered as a fundamental gauge of progress or failure of HIV control programs. In this context, retention expresses the proximity to, or remoteness from set optimal outcomes. It performs a quality and efficiency monitoring for ART programme in any given site, regional or national settings (Hoyt & Proehl, 2010). According to the World Health Organization (2007), retention in care can be defined from the moment of initial engagement of patient in care, that is, when a person with HIV is linked successfully to services, to assessment for eligibility, initiation on ART and retention in lifelong ART care. However, in other studies and reports it sometimes includes the period from diagnosis to successful linkage to care (Callaghan, Ford, & Schneider, 2016).

Retention therefore refers to patients known to be alive, keeping all appointments and receiving regular checkups as planned to improve quality of life. According to the Global Health Workforce Alliance (GHWA, 2015), retention extends beyond the clinic to assuring that patients are adequately connected to a regular source of care that permits routine monitoring and referral for treatment. High levels of retention in care and treatment are associated with declined attrition figures, slower advancement to end stage state, and increased patient survival rates (Haynes, 2001). Retention in care guides classification into eligibility for prophylaxis against opportunistic infections, clinical staging, prevention of mother-to- child transmission (PMTCT) and readiness to commence ART. Similarly, for those accessing ART, retention in care can help assess ongoing compliance to medication, profile adverse reactions and toxicities, and identify treatment failure, thereby guiding the decisions of switch committees.

According to WHO (2013), four stages of retention in the continuum of care have been identified. These include starting from a positive HIV test to enrolment in care, enrolment in care to ART eligibility, ART eligibility to initiation of ART, and finally continuation of lifelong ART. Retention in care is therefore critical to reduce HIV-related morbidity and mortality, reduce the incidence of new infections in children and adults, and reduce development of ART resistance. HIV prevention, treatment and care programmes comprise a range of interventions from support for increased diagnosis to the commencement of lifelong ART and beyond.

Task-Shifting and HIV/AID management

HIV management is labour intensive as it involves the different services offered to PLHIV including the provision of Antiretroviral Therapy (ART) services, Prevention of Mother to Child Transmission (PMTCT) services, pediatric ART services, laboratory services, prevention, care and support across the life of the patient. With a growing number of PLHIV, health professionals of all categories are overstretched, which can compromises quality of care. It is a known fact that with the advent of HIV and AIDS, PLHIV have been trained as Expert trainers, HIV counselors, Social Workers, Adherence counsellors, Treatment Support Specialists, Mentor Mothers, Peer educators, and Volunteers or Support Group members. The

trainings focus on providing ART services to PLHIV. These categories of health workers now work together as teams. The team work has brought unity between interdisciplinary cadres in the care team. This has led to a multiplier effect as other sections of health have adopted this strategy.

The health service points often experience congestions, and as a result of this, tasks must shift to ease congestion and reduce patient waiting time in the clinic or facility. In most of the facilities that practice task shifting visited by the investigator, it is observed that when roles are task shifted at the point of assessment within the clinics, these same patients again converge at the ART laboratories and ART pharmacies, creating a bottleneck and further congestion. This also increases the patient waiting - time around the facility. It is as a result of this that task shifting also extends to the pharmacies and laboratories (Kusserow, 1989).

The core concepts of shifting tasks in HIV management in the Nigerian health set up is to maintain and improve quality of patient care, have a team approach to patient centered care, collaboration with experienced and supportive medical team and for nurses to be able to assess patients, review findings and make clinical decision regarding ART refills / Initiation. The rationale for task shifting / or sharing is to enhance access to care, improve quality of care, achieve client satisfaction, allow physicians devote more time to evaluating and stabilizing new and ill patients, initiating ART, monitor patients better, reduce waiting time and clinic congestion and develop more clinical decision making skills and clinical roles for nurses (Labiran, 2011).

As good as formal shifting of HIV management Task from physicians to nurses is in Nigeria, it is not without challenges. First, it was the issue of inadequate number of trained staff to provide the needed quality services, and then the issue of space in the facility to provide such services that would accommodate the increasing number of clients (Libiran, 2011). Where the facilities manage to have staff; such staff lack the capacity at site to handle the looming crisis (FMH, 2014a). There was equally the problem of frequent posting out of trained staff to other facilities where such services are not required, as well as poor documentation due to shortage of human resources (FMOH, 2014b). While poor management of linkages and referrals is another problem, linking of Pediatrics to their mother and /or the mothers to her spouses into care to prevent LTFU also occur (FMH,2011); along with inadequate supervision and mentoring fatigue (Dovlo, 2004). The issue of inter and intra professional challenges was not very significant because those involved in the shifting of tasks were themselves overwhelmed so much that they had little time for such disputes (Action Aid Nigeria, 2016).

Theory

Theory of Change (ToC) is adopted for this study. The ToC is an approach to developing, implementing and evaluating programmes of development. The approach was developed in the 1990s with work undertaken by the Aspen Institute Roundtable (De Silva, Breuer & Lee, et al, 2014) and is being used for impact evaluation at a programmatic level, especially with evaluation that seeks to provide an overview to understand change within intervention projects (De Silva, Lee, & Ryan, 2014).

A ToC offers a non-linear map of a project or programme approach, which shows how different components are expected to interact, and the multiple pathways through which

change is expected to happen. In these context variables are not necessarily linked together through causal pathways, which determine the direction of the relationship between them, but actors at each level take responsibility based on available guideline to achieve the target and or expected outcome of the change programme. The strength of the theory is that for change to take place there must be deliberate intervention; certain causal factors must be introduced and manipulated to bring out expected change. In other words, change does not take place on its own without intervention.

However, some scholars have criticized the theory on the inability to provide a linear point along which changes associated with the dependents and the independent variables can be measured. For instance, Chen and Jane (2010) argued that ToC creates room for different activity centers, which suggests that the independent variables expected to cause the expected change cannot be coordinated. Additionally, Dietrich and Christian (2013) observed that for expected change to take place, the programme must make provision for supervision as the different activity centers may thwart the process of expected change as well as the goals.

The usefulness of the ToC to this study is in the area of finding the extent to which Task-Shifting intervention can enhance Health-Workers client relationship. The shortcoming here is that there may be differences in the performance of Task-Shifting with respect to client relationship in rural and urban areas, as observed elsewhere. There may also be differences in performance at the different health centers, but the fact remains that the theory can help to show the performance of each of the independent variables on health-workers client relationship.

METHODS

A total of 383 PLHIV who registered at the IHVN sites in North Central Nigeria's states of Benue and Nasarawa, and the Federal capital Territory (FCT), Abuja and 60 health care officers participated in the study. They were proportionally drawn from 319 IHVN treatment sites (using the enrolment register of the PLWHV as the sample universe). The determination of sample adequacy was guided by FliudSurvey method. At the end of the collation of data only those from 362 respondents (80.90%) were included in the study

RESULT

Socio – Demographic Characteristics of Respondents

The socio-demographic characteristics of the respondents that participated in this study is analyzed with respect to gender, age, educational qualification, occupation, religious affiliation, and marital status. The summary is presented in table 1 (about here).

Table 1 (about here), indicates that more female than male (63.54% vs. 36.46%) participated in the study. The difference was found in all the locations of the study, especially in the FCT where more than seventy per cent of the respondents were female. The finding suggests that more women than men may have registered for HIV treatment. This may not be unconnected with the discovery of their sero-status during ante-natal treatment. It may also suggest the willingness of women than men to avail themselves of the free ART treatment offered by the Institute of Human Virology, Nigeria, at the different hospitals and clinics in

the country. The number of males from Benue significantly boosts the number of males that participated in the study (45% vs 29% vs. 31.50% at FCT and Nasarawa respectively).

Table 1: Distribution of respondents by location and socio-demographic characteristics

Variable	Location of study (%)			Total
	FCT	Benue	Nasarawa	
Gender:				
Male	37 (29.37)	68 (45.33)	27 (31.40)	132 (36.46)
Female	89 (70.63)	82 (54.67)	59 (68.60)	230 (63.54)
Age Range:				
18 - 24	11 (8.73)	24 (16.00)	13 (15.12)	48 (13.26)
25 - 34	53 (42.06)	47 (31.33)	36 (41.86)	136 (37.57)
35 - 44	41 (32.53)	56 (37.33)	25 (29.07)	122 (33.70)
45 - 54	13 (10.32)	16(10.67)	5 (5.81)	34 (9.39)
55 - 64	8 (6.35)	4 (2.67)	6(6.98)	18 (4.97)
≥ 65	-	3(2.00)	1(1.16)	4 (1.10)
Mean (SD)	**35.90 (10.32)**	**35.73 (10.72)**	**34.50 (10.31)**	**35.37 (10.40)**
Qualification:				
None	9 (7.14)	16 (10.67)	23 (26.74)	48 (13.26)
Primary	21 (16.67)	13 (8.67)	11 (12.79)	45 (12.43)
Secondary	46 (36.51)	39 (26.00)	26 (30.23)	111 (30.66)
OND/Equivalent	24(19.05)	38 (25.33)	19 (22.09)	81 (22.38)
B.Sc/First degree	21(16.67)	26 (17.33)	5 (5.81)	52 (14.36)
Post Graduate	5 (3.97)	18 (12.00)	2 (2.33)	25 (6.91)
Occupation:				
Trading/Business	57 (45.00)	53 (35.33)	35 (40.70)	145 (40.06)
Civil Servant	24 (19.05)	51 (34.00)	20 (23.26)	95 (26.24)
Farming	7 (5.56)	41 (27.33)	22 (25.58)	70 (19.34)
Others	38 (30.16)	5 (3.33)	9 (10.47)	52 (14.36)
Religion:				
Christianity	79 (62.70)	118 (78.67)	48 (55.81)	245 (67.68)
Islam	45 (35.71)	32 (21.33)	37 (43.02)	114 (31.49)
Others	2 (1.59)	-	1 (1.16)	3 (0.83)
Marital Status:				
Single	32 (25.40)	26 (17.33)	23 (26.74)	81 (22.38)
Married	79 (62.70)	107 (71.33)	38 (44.19)	224 (61.88)
Divorced	1(0.79)	4 (2.67)	7 (8.14)	12 (3.31)
Separated	(3.33)	3 (1.33)	8 (9.30)	16 (4.42)
Widow/Widower	9 (7.14)	10 (6.67)	10 (11.63)	27(7.46)

The age distribution of respondents varies across the study locations. Majority of the respondents were in the age range of 25 – 44 years (37.57%) followed by those who were 35-44 years of age (33.70%). This suggests that many of the PLHIV were young men and women. Although the standard deviation of age within each group was more than one,

suggesting large variation within group mean, the overall mean age (X = 35.37years) of respondents suggests similarity in their age distribution. A consideration of the age range indicates that more younger people than the aged were receiving treatment for HIV at the IHVN sites.

In terms of educational qualification, table 5 indicates that respondents that participated in the study had both informal and formal education. Majority were educated above secondary schools. But between and within group differences vary. For instance, in Nasarawa state, the number of respondents was significantly elevated by those who had no formal education (26.74%) as opposed to the FCT where a significant number of the respondents had secondary education (36.51%). When the overall total is considered, it is not likely that educational attainment influenced the registration and receipt of treatment at the IHVN treatment centers. Rather awareness of the availability of these treatments may have played a part (Ucheaga & Hartwig, 2010). It is also likely that the more educated (those with post graduate education) may be receiving treatment elsewhere than at the IHVN centers.

Analysis of educational distribution of the respondents revealed that respondents were not restricted to any particular occupation. The finding suggests that people from all works of life received treatment at the IHVN sites located in the North Central geo-political zone of the country. Respondents who engaged in farming at the FCT was very negligible. This can be understood from the fact that FCT is fast becoming a Metropolitan center where the population of civil servants and businessmen is fast replacing that of farmers.

There was remarkable difference when religious affiliation of respondents was considered. Majority of the respondents were Christian (68% vs. 31% vs.1%). This finding may not be unconnected with the fact that majority of the respondents in the study area are Christians. Other than this, many Christian organizations in the study area tend to create awareness about HIV and the need to find out one's status and where to get treatment if found positive (ActionAid, 2016). Such information may have enhanced the patronage of the IHVN centers by respondents of the Christian faith. In this regard, Ucheaga and Hartwig (2010) argued that the Catholic Church and the Evangelical Church of West Africa (ECWA), among others, have large congregations of followers, and have been very serious on educating them on HIV/AIDS.

In terms of marital status, majority of the respondents were married (61.88%); a few others were single (22.38%). Although respondents reported divorced, especially in Benue (2.67%) and Nasarawa (8.14%), as well as separated (FCT, 3.33%; Nasarawa, 9.30%), it is not certain if such marital statuses were caused by respondents' sero-status. However, the fact that some respondents (7.46%) were widowed suggest the likely negative effect of untreated HIV in the study area.

Task-Shifting Intervention and Reduction of Health-workers' Constraints in the treatment of PLHIV.

In order to assess the extent to which Task-shifting intervention has been able to lessen the constraints that health workers have with client loads, and in so doing enhance their retention in care, the study directed questions at both PLHIV- respondents and the health worker-respondents. Respondents were asked to assess their interaction with health care workers, the atmosphere that influence discussion, level of confidence, ease with which they have

accessed to health workers, that encouraged their willingness to honour and or repeat clinic appointments. The responses are summarized in table 2.

The findings in table 2 suggest an overall significant benefit of task-shifting intervention on health-workers - client relationship. However, some aspects of the relationship need improvement. Some respondents still complained of not having easy access to their health workers (9.12%) and not having complete confidence (8.29%) in them. This is not without consequence on the treatment regimen. Enhance confidence is needed in order for patients to be able to disclose their health status including associated problems to the health care officer. The cheering finding, however, is that majority of the clients reported "having relaxed atmosphere" during consultation. This suggests that confidence can be built upon if the level of current relationship is encouraged.

Table 2: Task-shifting impact on Health Workers - Client relationship (N = 362)

S/N	Type of relationship	Rating	
		Yes	No
	Patient-health care workers interaction	335 (92.54)	27 (7.46)
	Relaxed atmosphere	347 (95.86)	15 (4.14)
	Increased confidence	332 (91.67)	30 (8.29)
	Ease of access	329 (90.83)	33 (9.12)

In order to assess the extent to which Task-shifting has lessened client - load and in so doing enhanced retention in care of PLHIV, respondents were asked to rate the impact of task-shifting on reduction in waiting time, work load, enhancement of community linkage, and retention of patients, using a range of option. The option employed ordinal scale measure that ranged from 'strongly disagree' (1) to 'strongly agree' (4). The summary of the mean score is reported in Table 3.

Table 3: Rating Impact of Task-Shifting Services on Retention of Care (N = 362)

S/N	Impact	Rating				Mean
		SA*	A*	D*	SD*	
	Reduce waiting time	81 (22.38)	240(66.30)	33 (9.12)	8 (2.21)	**3.09**
	Reduce work load	103(28.45)	141(38.95)	106(29.28)	12 (3.31)	**2.93**
	Community linkage	77(21.27)	263(72.65)	20 (5.52)	2 (0.55)	**3.97**
	Retention of Clients	94 (25.97)	234(64.64)	30(8.29)	4 (1.10)	**3.21**

*SA = Strongly agree; S =Agree; D =Disagree; SD = Strongly disagree

As indicated in table 3, the mean scores were all above average. In terms of ranking, community linkages and retention in care were rated above 'reduce waiting time' and 'reduce work load'. The finding suggests an increasing work load. This may not be unexpected. As the impact of Task-shifting improves services at the IHVN sites, many more patients were now attending clinic; and because of this work load could not be drastically reduced. This affected reduction in 'waiting time'. This finding was collaborated during key informant interview:

Many more patients now attend clinic. As the services got improved, community mobilization is encouraging clinic attendance. But we don't seem to have enough hand to attend to them. We need more trained hands **(KII, Male, Nurse, 36 years, Benue).**

Opinion differs on the retention of clients, but they were not remarkable. More than 9 per cent of the respondents did not agree on the retention of clients in care. This suggests that some clients were still reluctant to attend the IHVN sites for their health care. This may not be unconnected with 'time that patients have to wait before they see a health worker', and 'lack of confidence' earlier raised in table 2. However, many health workers who were interviewed lauded the impact of task-shifting programme on retention in care:

Patients now have easy access to treatment; and get required information needed for adherence. Frequent interaction with the patients has also encouraged retention **(KII, Female, Physician, 32years, FCT).**

It is better than it used to be. Task-shifting has enabled health workers to spend more time with their clients to know their problems. Such interaction makes the health worker to know the client better, and this is promoting adherence **(KII, Male, Nurse, 35 years, Benue).**

I think Task-shifting has reduced waiting time. Patients are getting more familiar with those who take care of their health at the sites. I have asked my patients to call me for assistance whenever they have problem even at their home for advice. I think such working relationship makes informal relationship possible such that clients can call you even after office hours if he or she has problems with the prescribed drugs **(KII, Male, Physician, Nasarawa, 32 years).**

TEST OF HYPOTHESES

Hypothesis 1 :The impact of Task-shifting intervention on retention of client in care is not significantly predicted by reduction of Health Workers-Client constraints in the treatment of PLHIV in North central Nigeria.

In order to find out the impact of task-shifting intervention on retention in care, we had hypothesized that client satisfaction with task-shifting will be determined by the extent to which problems associated with access to health care at the IHVN sites are reduced. The study operationalized such problems to include "time that the patients had to wait before being attended to, work load faced by the health workers, ability to interact with community members, and retaining clients, which suggests repeating clinics based on schedules and when necessary. The descriptive and correlation matrix of the variables is shown in table 4.

Table 4: Descriptive and correlation matrix of impact of Task-Shifting intervention on Retention in care, N = 362

Variable	Mean	Std Dev	1	2	3	4
Service satisfaction	3.34	0.58	1.00			
Reduced waiting time	3.09	0.63	.75*	1.00		
Reduced work load	2.93	0.84	.82*	.60*	1.00	
Increased Community linkage	3.15	0.52	.73*	.71*	.76*	1.00
Retain clients	3.15	0.60	.78*	.82*	.63*	.72*

* P < .05

The mean score of the rating of the variables by respondents ranged from 2.09 (SD = 0.84) to 3.34 (SD = 0.58). From the mean scores, the level of satisfaction in the performance of Task-Shifting was high. There is also the likelihood that more PLHIV were returning to the IHVN sites for treatment as well as increased interaction at the community level. However, reduction in work load was rated low (M= 2.93, SD = 0.84). The problem of time to "wait before being attended to" was no longer a very serious matter (M = 3.09, SD = 0.63). The correlation matrix was positive and significant (all $p < 0.05$), thus suggesting that any problem that has to do with access to treatment at the IHVN treatment sites is likely to have linkages effect. For instance, if the client load is high, the waiting time for patient will increase. This will not only affect the level of patients' satisfaction, but also the willingness to come to the IHVN treatment sites again.

In order to test the impact of Task-shifting on client retention therefore, a multiple regression analysis was carried out. Respondents rating of satisfaction with Task-shifting to the extent that constraints associated with access to health workers are reduced, were subjected to regression analysis with "satisfaction with Task-shifting" representing the dependent variable. The result is presented in table 5.

Table 5: Regression Analysis result of the impact of Task-shifting intervention on reduction of Health Workers-Clients' constraints in the treatment of PLHIV, N = 362

Equation	**Dependent variable**						
R	.842						
R-Square	.710						
Adjusted R-Square	.701						
Std. Error	.31390						
Analysis of variance	**Sum of square**	**df**	**Mean square**	**F**	**Sig**		
Regression	86.030	4	21.508	218.275	0.000		
Residual	35.177	357	.099				
Total	121.207	361					
Model	**Unstandardized coefficients**		**Standardized Coefficient**	**t**	**Sig**	**Collinearity statistics**	
	B	Std. Error	Beta			Tolerance	VIF
Constant	1.122	.108	-	10.344	.000	-	-
Reduced Time	.040	.078	.043	.508	.061	.213	4.69
Reduced work load	.370	.036	.536	10.325	.000	.301	3.32
Increased Community linkage	.146	.076	.130	1.910	.057	.474	2.11
Patients' retention	.253	.079	.264	3.223	.001	.321	3.12

Source: Compiled from field data using SPSS Version 25

As shown in table 5, the adjusted R-square of the regression analysis is 0.710. This finding suggests that 71.00% of the variances in respondents' satisfaction with respect to retention of client in care as an outcome of Task-shifting intervention is explained by the four independent variables. Only about 29% of the variances cannot be explained. The analysis of

variance (ANOVA) confirmed the existence of a significant impact [F (4; 357) = 218.275, p < .001]. Given this result, the null hypothesis is rejected. It is concluded; therefore, that Task-shifting intervention has significant impact on retention in care as a result of solving constraints associated with access to health care at the IHVN treatment sites.

The significant impact of Task-shifting intervention on retention of client in care is further confirmed by the standardized coefficients (Beta weights) of the predictive variables. Except for 'reduction in time" which was not significant (p =.061), and increased community linkage that was marginally significant (p = .056), all other independent variables yielded significant impact on retention of clients in care (p < 0.05). Among the independent variables, reduction in work load was rated to have the biggest impact on client retention in care (β= 0.536, t = 10.35), followed by return visit, which could encourage client retention (β= 0.264, t = 3.223). A unit increase in the level of community interaction will likely result in 14.2% increase in the number of clients who patronized the IHVN treatment sites.

DISCUSSION

Task-Shifting Intervention, Workload and Retention in Care

One of the findings of this study is that Task-shifting intervention has a significant positive impact on reduction of client load and retention in care. As found out in previous studies, retention in care remains a fundamental gauge of progress or failure of HIV control programs (FMOH, 2014a). This is because it helps to provide information on patients' responses, and hence implementation responses of the programme (UNAIDS, 2011). It is therefore an evaluation tool.

In order to investigate the extent to which Task-shifting programme has enhance retention in care, the study decided to investigate reduction in work load of Health care workers, as this could impact on inconveniences like "waiting time", a reduction of which can encourage clinic attendance, and "enhance time frame" for interaction between patients and Health care workers". A correlation matrix (table 4) introduced to assess the relationship between the variables revealed a significant positive relationship between patients' satisfaction with Task-shifting programmes and reduced work load (r =.82), reduced time (r = .72), increased community linkages (r = .73), and client retention (r =. 78). It was also possible to see that "reduction in the waiting time of patients" had significant relationship with work load (r = .60) and retention in care (r =.82).

Since correlation does not suggest a causation, a multiple regression analysis was conducted to test the extent to which achievement of reduction in waiting time, work load, increase community linkage, and retention of clients, through Task-shifting intervention enhanced satisfaction of PLHIV. The findings (table 5) revealed that "reduction in work load" and "patient'' retention" was significant at 0.05 level. This suggests that reduction in work load gives the Health workers more time with patients, which may enhance close interaction. However, the fact that patients still have to wait longer to be attended to because many clients are now attending clinic suggests that the work load of Health workers is increasing, too. Employing and training more health workers may help to reduce the impending work load. This will also exert positive impact on the "waiting times" of clients, and also increase retention in care, more than it is at present. This finding strikes common

chord with earlier findings by Mullan and Frehywot (2007); Callaghan, Ford, and Schneider (2010), that a reduction on client waiting time has significant effect on attending to client by Health care workers, and enhancing their confidence for a return clinic appointment. Equally, Kumar (2007, p.25) found that "when client's waiting time is reduced, they are happy to return to care or to visit the facilities" more often and as when due and thus reduce the LTFU.

CONCLUSION

Task-shifting intervention has received many scholarly attentions in the past, and has been roundly praised as a strategy that has helped to lessen the problem of staff shortage in the health workforce (FMH, 2014a). However, no known evaluation exists, especially in North Central Nigeria, regarding the effectiveness of Task-shifting intervention in solving not only the problem of acute staff workforce, but particularly how Task-shifting intervention has helped to solve the problem of LTFU, and enhance the retention of client in care. This study as motivated to fill that gap. The study rated clients' satisfaction with task-shifting intervention as a variable that depended on a) reduction of clients waiting time be attended to by health workers; b), reduced work load of health workers; c), increase in community linkage among PLHIV; and d), patients retention in care. Our findings revealed the following. Our findings revealed a positive significant relationship between the dependent variable (satisfaction with task-shifting intervention) with the independent variables. However, only" reduction with work load" and "patients' retention" predicted the significant of effect of task-shifting intervention. The reduction in waiting time was being affected by increased number of client who were now attending clinic due to improved relationship between clients and health care workers. The increase in the number of clients that now attend clinic influence the only recommendation of this study

RECOMMENDATION

As the impact of Task-shifting improves services at the IHVN sites, many more patients were now attending clinic. This has attendant consequences on client load and may further affect the 'waiting time'. There is the need to employ and train more health workers on task-shifting skills.

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