

# ICT-Media Exposure and HIV/AIDS Awareness Among Adolescent Almajiri Pupils in the North-East of Nigeria: A Knowledge, Attitude and Practice Conceptual Review

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## Abstract

The importance of information and communication technology-related media awareness in health communication cannot be overemphasized. Perhaps the importance of ICT in health communication may not be well grasped without the prior understanding of the central position information and communication occupy within the health communication matrix. Over the last three and a half decades, HIV/AIDS pandemic has been one of the topical public health issues in Sub-Saharan Africa, especially in Nigeria. The application of ICT in combatting the scourge in the country needs no further emphasis especially because Nigeria is the most populous nation in Africa and the second nation with the highest population of HIV infected people in the world. Adolescence, literacy, media awareness and other social issues have been identified as significant factors aiding the spread of the scourge. Despite the progresses made in research in this area, issues regarding ICT-related HIV/AIDS media awareness among almajiri pupils in the country, particularly in the North-East region where the population of almajiris is the highest, has received little research attention. This paper proposes a conceptual framework designed on a mixed method approach for adoption in exploring the HIV/AIDS ICT-media awareness based on the knowledge, attitude and practice (KAP) analysis. The paper is expected to provide a strong conceptual underpinning toward an empirical investigation of this problem, with the aim of assessing the relevance of ICT in combatting the scourge among one of the most vulnerable groups in the society.

**Keywords:** Adolescents, Almajiri pupils, KAP, Media awareness, HIV/AIDS, ICT and health communication, North-East of Nigeria

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## 1. Introduction

With apprehensions over the increasing threat to health and life posed by the rising cases of the HIV/AIDS pandemic in Africa South of the Sahara, particularly Nigeria have reached disturbing magnitudes to the extent that all sectors of the Nigerian society are being mobilised to participate in the global war on the deadly scourge. Hence, hence communication is increasingly becoming an interesting area of research. Simply put, health communication is the utilization and application of communication techniques, strategies, skills and expertise toward the enhancement of healthy conditions and quality health-related services for all through behaviour change based on knowledge, attitude and practice. Technically, however, health communication has been comprehensively defined by Schiavo (2007) as

*a multifaceted and multidisciplinary approach to reach different audiences and share health-related information with the goal of influencing, engaging and supporting individuals, communities, health professionals, special groups, policymakers and the public to champion, introduce, adopt, or sustain a behaviour, practice, or policy that will ultimately improve health outcomes. (p.7)*

Because of their occupational and cultural background, some communities appear to be more vulnerable to the scourge than others. Similarly, it appears that some specific channels of communication can be better utilised for achieving the goals of combatting the HIV/AIDS scourge than others, especially with reference to context specificity. In this case, the role of information and communication technology (ICT) in mitigating the negative impacts of the disease among the youth in North-East of Nigeria will be investigated.

The HIV/AIDS pandemic remains one of the greatest health challenges facing the world today (Chanda, Mchombu & Nengomasha, 2008). HIV infection has spread rapidly across the world. In Africa, the scourge is predominant among young people because they constitute the largest percentage of the population in the society. As at 2010, Olise opines that two things are growing fast in Nigeria: religion and HIV/AIDS. Nigeria's socio-

economic status, traditional social ills, unemployment, illiteracy and cultural myths on sex are some of the factors that vulnerably expose people to the HIV/AIDS scourge (Ajayi & Omotayo, 2010; Jibril, Suleiman, Abdullahi & Adamu, 2018).

The HIV/AIDS pandemic in Africa South of the Saharan is becoming so serious that stringent control measures are mounted. This level of attention to the scourge has been unprecedented. For instance, despite the intense global effort to control its spread, the statistics of infected persons released by governments, non-governmental organizations (NGOs) and health centres, have been multiplying annually (Jibril et al., 2018). Unfortunately, there is no universally effective cure for HIV/AIDS to date. Through the efforts of the UN and its agencies, most member states have been mobilised to join the war against the pandemic, with emphasis largely placed on prevention even though anti-retroviral treatments and, lately, some traditional medication exist. However, the strategic advocacy against the social stigma, which has been yielding some results already has been significant. Consequently, persons living with HIV can exhibit some confidence in their daily lives (Hamid & Tamam, 2017; Jibril et al., 2018).

However, the widespread diffusion of the internet and online social media has drawn a great deal of attention toward the role they can play in many sectors, including everyday life (Dutton et al., 2004). However, several decades before the arrival of the internet, academics and experts speculated on the social impact of a networked society (Castells, 1996). Because of the proliferation of the internet, convergence in ICT and telecommunications and increasing globalization, the role ICT can play in human, social and economic development is receiving growing attention among communication, health and development practitioners, policymakers, government and civil society organizations in recent years (Jibril et al., 2018; Sanda & Kurfi, 2013).

### 1.1 Statement of the Research Problem

This proposed study seeks to examine the access and utilisation of HIV/AIDS mediated messages on ICTs by adolescent pupils of traditional tsangaya schools in the North-East of Nigeria. This will be done by making clear the conceptual and empirical relationships between ICT-mediated HIV/AIDS messages and the adolescents' knowledge and awareness of HIV/AIDS in order to ground the hypothesis that their access to and utilisation of online media significantly increases their HIV/AIDS knowledge and awareness. The present proposed study intends to investigate the effect empirically.

Given the peculiar characteristics of typical almajiri pupils in the zone, which include the lack of conventional educational literacy, the lack of human dignity, the lack of social prestige, the lack of parental and filial love and care, poverty, hunger, disease, vulnerability to drug abuse, vulnerability to sexual abuse and promiscuity, the lack of, or limited knowledge about, limited access to and limited skills of ICT use as well as limited access to other sources of health information. Although observation has shown that adolescent almajiri pupils do get some access to ICTs such as mobile phones and even internet, with older ones even affording to acquire used (second-hand) smartphones, their use of ICTs has been shown to be largely basic.

Furthermore, because of their lack of conventional educational literacy, it still largely remains unexplored how they access information about HIV/AIDS through ICTs, thus, signalling a huge research void. This is, however, based on the hypothetical presumption that a vast majority of young people is substantially moving away from the use of traditional media such as listening to radio and watching TV to preferring the use of digital media such as the various social media platforms and the internet instead.

To close this research gap, the present proposed study will use a qualitative survey approach to determine how adolescent almajiri pupils access HIV/AIDS information capable of influencing their knowledge, attitude and practice (behaviour) while a quantitative approach will be used to determine the influence of ICT-media exposure of the adolescents' HIV/AIDS KAP. The major expected contribution of this proposed study will be the provision of exploratory empirical data about adolescent almajiris' HIV/AIDS KAP, a research problem that has hitherto remained largely unexplored despite the existence of not less than 10 million almajiris in the entire North of the country as Abbo, Zain and Zain (2017) put it,

*Evidence also suggested that among the 10.5 million out of school children in Nigeria 9.5 are Almajirai cohort, where the hub of the Boko Haram insurgency (i.e. Borno state) alone has 1.8 million Almajirai alongside seventy per cent (70%) out of school children which arguably is the highest in the entire country. (p.348)*

## 2. Background

The word Almajiri was etymologically acquired from Arabic word 'Al-Muhajir', which means a migrant. Its root stems from the Hijrah of Prophet Mohammed from Mecca to Medina (Abbo et al., 2017). The disciples who relocated with the prophet to Medina were called 'Al-Muhajirun', which means migrants. However, within the context of Nigeria, the word signifies a seeker of knowledge; "it is therefore, used to describe those who migrated from their domicile to other places in search of Islamic knowledge" (Abbo et al., 2017, p.347; Usman,

2008).

Sarari and Oyeyi (2010) conducted a study on the incidence of HIV infection among hospital-going children in the city of Kano, in North of Nigeria. In the study, 317 children registered for voluntary counselling and testing (VCT), with 180 (56.8%) of them males and the remaining 137 (43.2%) females. Their ages ranged from 1.5 to less than 15 years. Although 317 children participated in the VCT, only 276 (87%) were tested, of these 11 children (3.5%) tested positive for HIV. With regards to the level of education of the children, the study found 111 (35%) had no any educational background, 146 (46%) were at nursery/primary school level. Furthermore, only 11 (3.6%) were attending Qur'anic (Islamiyya) schools while 44 (13.8%) were almajiri pupils and 5 (1.5%) did not respond to the question. Out of 146 children that were in nursery and primary schools, 4 (1.3%) were infected. Out of the 44 almajiris examined, 2 (4.6%) were also infected. According to the study, the rate of infection was relatively high among the children that had never been to school, or were yet to get enrolled into any school, with 4 (3.6%) infected subjects out of the 111 that were examined. The children attending Qur'anic/Islamiyya schools had the least number of infections; however, they had the highest percentage of the number of the infected ones because only 1 (9%) out of 11 subjects was infected.

Sarari and Oyeyi (2010) explained that sero-prevalence of HIV infection among the tested children was 4%, a value higher than that reported by Thomas (2001) and Park (2000), where children under 15 years made up prevalence of less than 3% of all cases. The value presented in that study was almost consistent with the results of similar research studies conducted in some parts of Africa (UNICEF, 2006). The scholars went further to say that information from the questionnaire revealed that sexual abuse was the highest predisposing factor, with 42.9% of the children exposed to HIV infection. Other risk factors that were of significance, according to the scholars included homelessness, which rendered almost 5% of those exposed, infected. The study also discovered that 276 children were traditionally circumcised out of which 6 (2.2%) were infected.

Northeastern Nigeria comprises of six states, namely Adamawa, Bauchi, Borno, Gombe, Taraba, and Yobe. The estimated population of this region 20,900,230 according to the 2005 estimates, thus, harboring 1 out of every 7 Nigerians. Statistics revealed that Bauchi State which occupies a land area of 49,259 square kilometers is the most populous in the zone. This is closely followed by Borno, Adamawa, Taraba, Yobe and Gombe states, with 4,588,668, 3,737,223, 2,688,944, 2,532,395, and 2,353,000 inhabitants respectively. HIV/AIDS sero-prevalence trend between 1991 and 2010 is presented in Table 1.

Table 1: HIV/AIDS prevalence (%) in the six states of northeastern Nigeria from 1991 to 2010

State	91/92	93/94	95/96	99	2001	2003	2005	2008	2010
Adamawa	0.3	1.3	5.3	5.0	4.5	7.6	4.2	6.8	3.8
Bauchi	ND	ND	ND	3.0	6.8	4.8	3.4	3.1	2.0
Borno	0.4	6.4	1.0	4.5	4.5	3.2	3.6	2.0	5.6
Gombe	ND	ND	ND	4.7	8.2	6.8	4.9	4.0	4.2
Taraba	ND	ND	6.0	5.5	6.2	6.0	6.1	5.2	5.8
Taraba	ND	ND	ND	1.9	3.5	3.8	3.7	2.7	2.1

Note: ND = Data not available (Source: Garbati, Abba, Kabrang and Yusuph, 2011, p.180)

Northeastern Nigeria shares international boundaries with Cameroon and Chad to the Northeast and Niger Republic to the North. This has led to the transmission of a mixture of HIV subtypes that exist in these regions as revealed by an earlier study (McCutchnan et al., 1999). The zone is also internally bounded by Jigawa, Kano and Plateau States to the West and Benue State to the South. The states in the zone that share boundaries with Benue, that is Taraba, Adamawa, Bauchi and Gombe have higher prevalence rates compared with those farther North (Borno and Yobe) as shown in Figure 1. This might represent across-the-border transmission of the virus. Young people between the ages of 15 to 24 years account for a large portion of the population and form most of the victims of unwanted pregnancies, complication from unsafe abortions, and sexually transmitted infections in Nigeria (Jibril et al., 2018).

The major factors fuelling the spread of HIV in this region include sexual activities of adolescents and young adults (Standing & Kisekka, 1989; Renne, 1993; Kinsman et al., 2000) polygamy and multiple sexual partners, illiteracy, ignorance, and deep-seated poverty (Nnko et al., 2007; Abdool-Karim, Abdool-Karim, Preston-Whyte & Sankar, 1992). Low level of female enrollment in school, high drop-out rate, and early pregnancy and unsafe sexual practices due to ignorance contribute to the acquisition of HIV (Montgomery et al., 2002). The response to the issue of condoms is as diverse as the myths surrounding the disease itself. Even though condom use is increasing in many developing countries, sexual contacts are frequently unprotected, and some communities strongly oppose the teaching about or providing young people with condoms. Arguments to support such behaviors include encouraging adolescent sexual promiscuity, teenage pregnancies, etc. The low levels of condom use and HIV/AIDS education in addition to high levels of sexual promiscuity have been found to contribute to the rapid spread of the pandemic in many developing communities in Africa (Agyei & Epema, 1992; Asiimwe-Okiror, Opio, Musinguzi, Madraa, Tembo & Caraël., 1997; Caldwell, 1999).

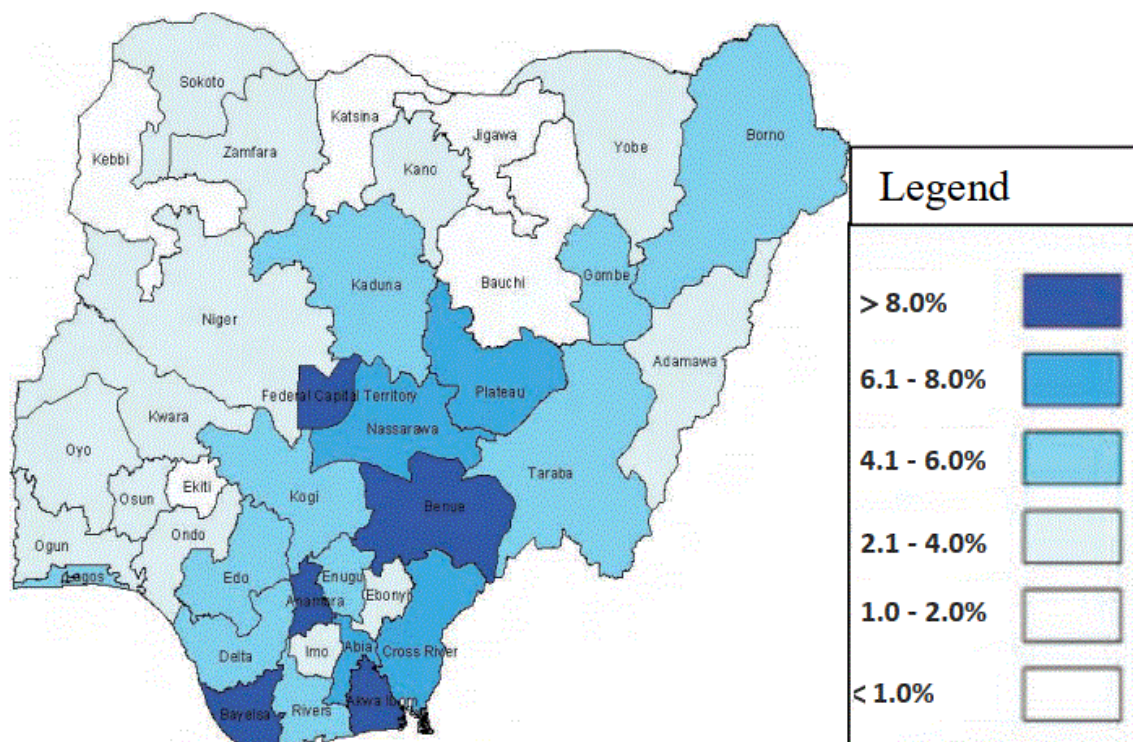


Figure 1: Geographical distribution of HIV/AIDS prevalence by states (Source: Ante-Natal care (ANC) HIV Sentinel Survey, Nigeria, 2010 cited in Garbati et al., 2011, p.177).

In a behavioral survey by Olowu (2006), 615 Secondary school students were interviewed (364 males and 251 females) to determine their extent of knowledge about HIV/AIDS prevention and to assess their sexual behavior. The major risk factor for HIV acquisition was multiple sexual partners, where 39% of respondents in the survey had sexual intercourse 6 months preceding the interview, while 17% had sex with up to five partners. Only 17% used condom the last time they had sexual intercourse and 69% of sexually active respondents admitted inconsistent use of condom. Despite these behaviors, only 32% thought they were at risk for HIV infection, 42% did not think so and 26% were unsure (Olowu, 2006). The survey further revealed that these adolescents have the basic knowledge and awareness about HIV/AIDS (over 90%) but this alone was not enough in preventing risky sexual behaviours.

Furthermore, while awareness about HIV/AIDS may be relatively high in some contexts, most studies suggest a combination of adequate knowledge and continued high-risk behavior (Varga, 1999). A recent knowledge, attitude and practice (KAP) pilot survey among both new and old students of the University of Maiduguri revealed a generally informed population on HIV/AIDS education. This, however, did not translate to an improved acceptance of HCT services. From the pilot survey, about 4.7% of a cross-section of the student population from the institution tested positive to the virus (Garbati, unpublished report, February 2008). All these go a long way towards understanding the enormous scale of the HIV/AIDS epidemic throughout the region, but it also provides an invaluable platform on which AIDS educators can base their work (Bukar et al., 2006; Olise, 2010). This proposed study is expected to provide some qualitative information about the likely route of HIV transmission among the infected children.

### 3.1 National HIV/AIDS Policy

According to the National Agency for the Control of AIDS (NACA) the current HIV/AIDS policy in Nigeria was launched in 2009 (NACA, 2009). Prior to that, between 1997 and 2001, similar policies had been formulated. The 2009 policy document adopted a multisectoral approach to the fight against HIV/AIDS in the country. Therefore, its formulation involved extensive stakeholder engagement across public and private sectors and international development partners. Among the guiding principles of the 2009 policy was the protection of the rights of PLWH and reduction of stigma and discrimination. The six strategic thrusts of the policy were (i) behaviour change and prevention of new infections, (ii) treatment, (iii) care and support for infected and affected persons (iv) institutional architecture and resourcing, (v) advocacy, legal issues and rights, (vi) monitoring and evaluation and (vii) research and knowledge management (Odimegwu, Akinyemi & Alabi, 2017, pp.7-8).

## 4. Literature Review

### 4.1 The Role of ICT in Public Health Communication

ICTs generally refer to an expanding assembly of technologies that are used to handle information and aid communication. These include hardware, software, media for collection, storage, processing, transmission and presentation of information in any format (i.e., voice, data, text, and image), computers, the internet, CD-ROMs, email, telephone, radio, television, video, digital cameras, website, social media platforms and applications, etc. (Njoh, 2018).

The advent of personal computers, the internet and mobile telephone during the last two decades has provided a much wider choice in collection, storage, processing, transmission and presentation of information in multiple formats to meet the diverse requirement and skills of people. ICTs are believed to bring about social and economic development by creating an enabling environment. Almost every single activity in the modern world is becoming more dependent on the application of ICTs for one use or another. The benefits of ICTs reach even those who do not themselves have first-hand access to them. Through ICTs, for example, a doctor in a rural village can get up-to-date information regarding certain diseases and can use that information to advice and treat patients (Asenso-Okyere & Mekonnen, 2012).

The importance of ICTs in development process was long recognised and access to ICTs was even made one of the targets of the Millennium Development Goals (now Sustainable Development Goals) No. 8 (MDG 8), which emphasised the benefits of new technologies, especially ICTs in the fight against HIV/AIDS, poverty, child and maternal mortality, etc. (Asenso-Okyere & Mekonnen, 2012). The recent World Bank report on ICT for Development observed that “connectivity, whether the internet or mobile phones, is increasingly bringing market information, financial services, and health services to remote areas, and is helping to change people's lives in unprecedented ways” (World Bank, 2009, n.p.).

ICT has not only made the world a global village like McLuhan predicted, but has indeed transformed the world into a borderless territory. ICT connotes handling of information by electronic means, particularly in relation to its access, storage, processing, transportation or transfer and delivery (Njoh, 2018). This presupposes the involvement of computers, satellites, fax machines, fibre optics, digital networks and ultimately the internet. These are variously called New Communications Technologies (NCTs) or New Information Technologies (NITs), which make possible computer mediated communication and the information super highway (Sanda, 2014; Olise, 2010).

ICT, according to Njoh (2018), is concerned with improvements in human and organisational problem-solving endeavours, through the design, development and use of technologically based systems and processes that enhance the efficiency and effectiveness of information in a variety of strategic, tactical and operational situations. Technologies have made the world smaller by the day, especially of aviation, mass communication, telecommunications and transportation. Again, the increasing tendencies for economies to depend more on information for their growth have led to the notion of information societies or economies (Njoh, 2018).

Concerning this, Batta (2008) observes that information society is thought to be an inescapable stage in universal pattern of progressive transformation from industrial to post-industrial society – a phenomenon induced by the development and spread of new information technologies. He further observes that the critics of information society point to the predominant notions of bipolarity within and outside nations. This dualism is said to create, on the one hand, countries that are rich and suffused with information, and on the other hand, poor countries starved of information. Privatisation, concentration and exploitation of information resources by multinational companies widen this gap (Batta, 2008).

In furtherance of this discourse, Ajayi, Garba and Ozohu-Suleiman (2008) have documented the use of ICTs in contemporary healthcare delivery. They have specifically mentioned Electronic Patient Record (EPRS), Electronic Bulletin Board (EBB), the internet, extranet, intranet, telemedicine, telecare, the World Wide Web, cable television, direct broadcast satellite, two-way television, and the global system for mobile communication (GSM).

The term HIV/AIDS could be described as a household name in Nigeria and indeed, sub-Saharan Africa (Oyo-Ita, Ikpeme, Etokidem, Offor, Okokon & Etuk, 2005). The dreaded pandemic is preponderant in this region and the entire continent, stirring up massive sensitisation/awareness campaign against the disease. As at the end of 2004, 29.4 million people in sub-Saharan Africa were said to be living with HIV/AIDS, out of which 5.8 million are Nigerians (Boutayeb, 2009). The figures have continued to increase across the globe till date.

The speed at which the HIV/AIDS pandemic spreads has given rise to a hot debate about the role media play toward combatting it. At present, the reasons adduced include medical science has been unable to offer anything better than the ways or methods of turning the scourge from deadly to a chronic condition (e.g., through anti-retroviral therapies). Resources have been deployed as public information related to HIV/AIDS in online media. Underscoring the importance of online media in disseminating HIV/AIDS preventive messages, Jones, Carter, Wilkerson and Kramer (2019) say,

*The proliferation of SNS [social networking sites] allow for people to engage in behavioral modeling, post*

*images of the behavior using 'selfies,' and the widespread adoption of behaviors through social learning. It is becoming increasingly important to better understand how SNS can be used to deliver HIV testing messages to [PLWH] as Web 2.0 and mobile device technologies are gaining traction as effective tools to address the HIV continuum of care and SNS are effective at delivering HIV testing messages to broad populations. (p.16)*

The complexity of the challenge raised by HIV/AIDS has increasingly become more noticeable and the scourge is no longer seen as only a health issue. Its ramifications cover all aspects of society, from economic and social structures to psychological. Globally, the pandemic is considered a serious developmental issue for nations with the realization that HIV/AIDS and poverty are two sides of the same coin. Combating the HIV/AIDS pandemic is the sixth item on the United Nations (UN) Sustainable Development Goals (SDGs), which signals several consequences of the pandemic before 2025, stating that due to the lack of proper nutrition and healthcare in developing countries, a considerable number of people acquired the pandemic. Loss of employment is not the only threat that faces patients, they also require considerable medical care (Fu & Zhang, 2019).

The increasing number of people dying in sub-Saharan Africa will lead to a smaller skilled population and labor force generally. Any increase in time taken off from work to look after sick family members or in sick leave also cuts productivity. By killing mainly young people, AIDS invariably seriously weakens the most productive portion of the population, thereby reducing revenue and resources available for public expenditure, such as on education and on health services. At the household level, AIDS results in increased expenditure on healthcare and loss of income. The effects of this situation on income leads to spending reduction as much as a substitution effect away from education and towards healthcare and spending on funeral services (UNIAIDS, 2006 in Uganda, 2007).

The pivotal role the global community has offered communication in the war on HIV/AIDS has been conspicuously obvious. Since the reported outbreak of the HIV epidemic in 1980s, the media in have played key roles not only in awareness creation, enlightenment, motivation, education and persuasive advocacy but also setting agenda for alternative means of combatting the scourge, e.g., the adoption of psychosocial support and anti-stigmatization campaign, among others. Communication is widely acknowledged as a powerful force for positive change. It has the potential of enhancing people's quality of life, help protect fragile environments and create a knowledge-based society that is more responsive to social-centered development. It can facilitate the means to establish favourable social attitude and behaviour towards a more sustainable social and economic life (Fu & Zhang, 2019; Olise, 2010).

After the dreaded disease first came to limelight in the 1980s, massive sensitisation campaigns about HIV/AIDS have adopted various social and intellectual dimensions. In Nigeria for instance, these information or awareness campaigns include organised seminars, rallies, radio and television jingles, brain storming conferences and paper presentations, use of posters, billboards, drama presentations on radio and television, among others. These campaigns have penetrated homes and permeated individuals in one way or the other, leading to the earlier description of the HIV/AIDS as a household name in Nigeria. As Olakulehin (2004) said that there is no shortage of knowledge and information on the HIV/AIDS pandemic, the only thing that is lacking is the unwillingness to undertake responsible social and sexual behaviours.

Experts assert that HIV which leads to AIDS could be contacted through unprotected sex, the use or sharing of unsterilised sharp objects and through any form of blood transfusion, especially if unscreened blood is involved. However, unprotected sex ranks high as the most common way of contacting the dreaded disease. Research evidence has revealed that more than 80% of HIV/AIDS victims in Nigeria got it through sexual intercourse (Radio Nigeria, 2003). Therefore, most HIV/AIDS awareness campaigns stress responsible sexual behaviour as a key way of eradicating the disease. Much as people of all age groups are at risk of contacting the HIV/AIDS disease, youths especially school age youths, bear the heavier burden of the unfortunate phenomenon. Ejiogu (2005) observes that HIV/AIDS is ravaging the productive age group as well as the 15-24 (age group) successor generations of Nigerians. A recent research work carried out in three higher institutions across three senatorial districts in Delta State showed that out of every 80 students, 20 were HIV/AIDS carriers (Ogbolu, 2008).

In a related study conducted by Oyo-Ita et al. (2005), the result revealed that despite the massive campaign against HIV/AIDS on ICT which students are mostly aware of, their attitude, approach to, or view about sexual life seems not to be affected significantly. The findings of the Oyo-Ita et al. (2005) study suggested that a large segment of the public could be moved or influenced more by the HIV/AIDS awareness campaigns on ICT if images of people dying of the disease are contained in the messages. There is generally a dearth of relevant research findings on ICT-mediated HIV/AIDS campaign at the local level. This is largely due to low-level of budgetary allocation to the sector. Nwabueze (2007), in a UNICEF sponsored survey of Narayi Area of Kaduna, found that HIV/AIDS is a major disease claiming lives and spreading rapidly in the squatter settlement of Narayi, Kaduna. According to her; social behaviour and the nature of settlement and the idleness of the youths are not

helping.

#### **4.2 HIV/AIDS Pandemic and its Impact among Adolescents**

Extensive surveys have shown that the youth are at greater risk of contracting HIV/AIDS. For example, Bankole, Singh, Woog, and Wulf (2004) stated that behavioural, psychological and socio-cultural factors young people more vulnerable to HIV/AIDS infection. This submission suggests that cognitive, affective and behavioural factors among the youth form the force driving the HIV/AIDS epidemic. Therefore, an understanding of these factors among young people could provide pathways to halting the spread of the epidemic. Youth is a time when young people naturally explore and take risks in many aspects of their lives, including sexual relationships. Those who have sexual experiences may change partners frequently or desire to have many partners at the same time or carelessly engage in unprotected sex. Young people's chance or risk of contracting HIV is heightened by this behaviour. Bolan, Ehrhardt, and Wesserhait (1999) stated that young women were physiologically more vulnerable to infection than older women because changes in the reproductive tract during puberty make the vagina and cervix of adolescents less resistant to infection. All the above submissions, ranging from social, cultural, psychological to physiological factors make adolescents a special subject for study in the campaign to reverse the trend of practicing unsafe sex, with consequences like HIV/AIDS, especially in West Africa (Garbati et al., 2011; Olise, 2010).

While many models of investigating community health issues abound, the cognitive, affective and behavioral approach (KAP model) seemed more attractive to researchers because of its ability to reveal plausible pathways to addressing health concerns especially by identifying misconceptions about diseases and affective barriers or obstacles to prevention or protection. Buttressing this point, Popoola (2005) and Umar (2011) stated that the hallmark of the KAP model lay in its characteristically apt presentation of results, generalizability of findings from a small sample to the wider population, ease of design, administration and results interpretation. Even though it is very dangerous to assume linear progression from knowledge to favorable attitude and ultimately to safe practice, the KAP model presumes that decisions on behavior change have cognitive and psychological dimensions.

Focusing on the Knowledge, Attitude and Practice (KAP) model as the primary theoretical background, this proposed study adopts the perspectives of three other theoretical perspectives, namely the Hierarchy of Effects (HoE) model, the Health Belief Model (HBM), and the Development Media Theory (DMT). Firstly, because the proposed study is expected to gauge the relationship of online media and the audience's cognitive, affective and behavioural approach towards HIV/AIDS, the Hierarchy of Effects (HoE) model perspective will be applied (see Hamid & Tamam, 2018). Secondly, because this proposed study is expected to gauge the association of online media messages and the audience's beliefs about the HIV/AIDS scourge as a human health problem, the effectiveness of its medication/interventions and their belief about the efficacy of those medication/interventions, the health belief model (HBM) (see Sanda, 2014) approach will be adopted. Thirdly, because, HIV/AIDS is a public health problem associated with social development issues taking place in Nigeria, a developing nation, which development communication approach can be applied toward solving the problem because through communication, people "could be brought into the process of identifying their needs" (Sanda, 2014, p.92) for a healthy life, the Development Media Theory perspective will be adopted (see Sanda, 2014).

The HoE model is based on the Advertising Research Foundation model as having relevance and application in HIV/AIDS prevention communication, and by extension, research (Hanan, 2009). The model considers individual behaviour changes in a linear structure, which commences with exposure to information (through communication media) and suggests that knowledge, favourable attitudes and ultimately action (in the form of trial and adoption of the desired behaviour or practice) will follow. The HBM model consists of several major concepts that predict and explain why people will take steps to prevent, to screen for, or to control illness conditions. The constructs of the model include susceptibility, seriousness, benefits and barriers to a behaviour, cues to action and (most recently) self-efficacy. If individuals regard themselves as susceptible to a condition, believe that condition would have potentially serious consequences, believe that a course of action available to them would be beneficial in reducing either their susceptibility to or severity of the condition and believe the anticipated benefits of taking action outweigh the barriers to (or costs of) action, they are likely to take steps that they believe will reduce their risks (Glanz, Rimer & Viswanath, 2008).

#### **4.3 HIV/AIDS Statistics in Nigeria**

Nigeria has the second largest HIV epidemic in the world (NACA, 2017). Although HIV prevalence among adults is much less (2.8%) than other sub-Saharan African countries such as South Africa (18.8%) and Zambia (11.5%), the size of Nigeria's population means 3.1 million people were living with HIV in 2017 (UNAIDS, 2018). However, a recently published Nigeria HIV/AIDS Indicator and Impact Survey (NAIIS), one of the largest population-based HIV/AIDS household surveys ever conducted, found the prevalence to be just 1.4%. The apparent decline has been attributed to better surveillance (PEPFAR, 2019). UNAIDS (2019) estimated that

around two-thirds of new HIV infections in West and Central Africa in 2017 occurred in Nigeria (see Figure 2) and went further to write that

*Results released today by the Government of Nigeria indicate a national HIV prevalence in Nigeria of 1.4% among adults aged 15–49 years. Previous estimates had indicated a national HIV prevalence of 2.8%. UNAIDS and the National Agency for the Control of AIDS estimate that there are 1.9 million people living with HIV in Nigeria.* (Online).

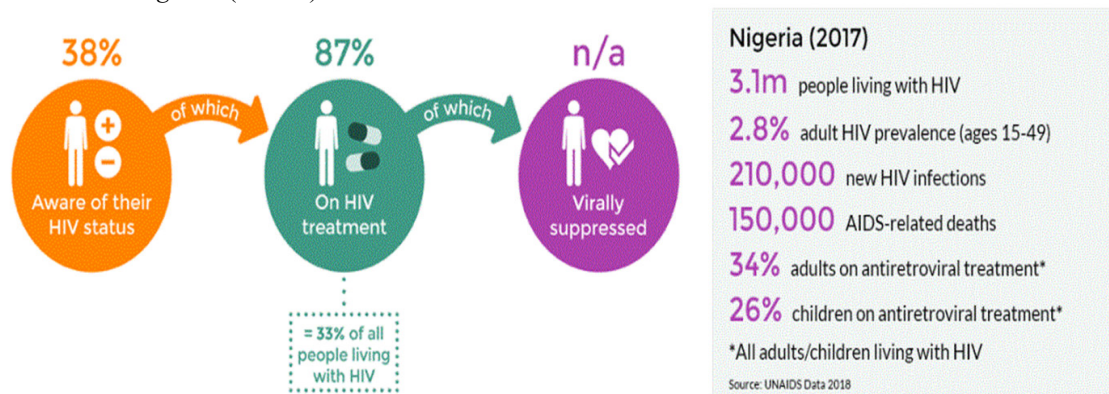


Figure 2: Key points of HIV/AIDS epidemic in Nigeria showing progress towards 90 90 90 targets (all ages) (Source: UNIDS, 2018 cited in Avert, 2019, p.2)

Together with South Africa and Uganda, the country accounts for around half of all new HIV infections in sub-Saharan Africa every year (UNAIDS, 2017). This is despite achieving a 5% reduction in new infections between 2010 and 2017 (UNAIDS, 2018). Unprotected heterosexual sex accounts for 80% of new HIV infections in Nigeria, with most remaining HIV infections occurring in key affected populations such as sex workers (NACA, 2015). Six states in Nigeria account for 41% of people living with HIV, including Kaduna, Akwa Ibom, Benue, Lagos, Oyo, and Kano (NACA, 2017). HIV prevalence is highest in Nigeria’s southern states (known as the South-South Zone) and stands at 5.5%. It is lowest in the southeast (the South East Zone) where there is a prevalence of 1.8%. There are higher rates of HIV in rural areas (4%) than in urban ones (3%) (Avert, 2019; NACA, 2015).

Approximately 150,000 people died from AIDS-related illnesses in Nigeria in 2017 (see Figure 3). Since 2005, the reduction in the number of annual AIDS-related deaths has been minimal, indicative of the fact that only 33% of those with a positive diagnosis in Nigeria are accessing antiretroviral treatment (ART) (UNAIDS, 2018).

Nigeria has a mixed epidemic, meaning that while HIV/AIDS prevalence among the general population is high, certain groups still carry a far greater HIV burden compared to the rest of the population. Sex workers, men who have sex with men and people who inject drugs make up only 3.4% of the population, yet account for around 32% of new HIV/AIDS infections (NACA, 2017).

In 2016, 240,000 adolescents (between the ages of 10-19) were living with HIV/AIDS, making up 7% of the total number of people with HIV/AIDS in Nigeria (UNICEF, 2018 July, 2017). HIV/AIDS prevalence among this age group varies regionally, with 4.3% of 15 to 19-year-old living with HIV/AIDS in the South-South region, compared to 1.3% in the South-East region. Health outcomes for adolescents living with HIV in Nigeria are poor, and Nigeria is the only country in the world where mortality in 10 to 14-year old is rising (Avert, 2019; Slogrov et al., 2018).



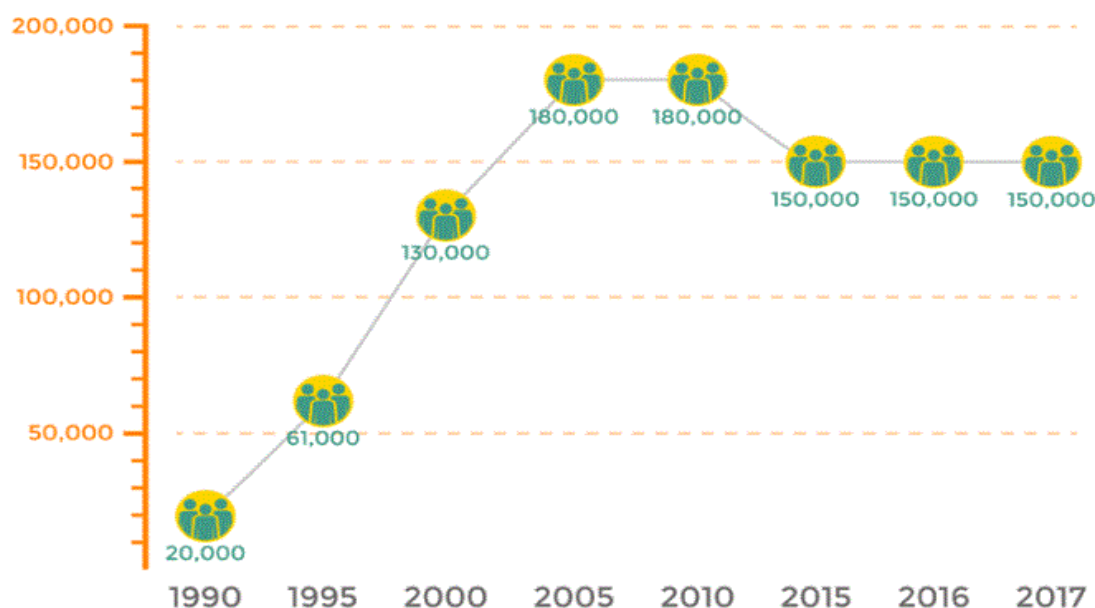


Figure 3: Annual number of AIDS-related deaths (all ages) (Source: UNIDS, 2018 cited in Avert, 2019, p.3)

Young women have a higher HIV/AIDS prevalence and are infected earlier in life than men of the same age group (NACA, 2015). In 2016, more than 46,000 young women were infected with HIV/AIDS compared to 33,900 young men (UNAIDS, 2017). There are several factors that increase HIV/AIDS vulnerability among young people, including a lack of knowledge and appropriate sexual reproductive health services. Reports from a 2017 National Health Survey by the National Bureau of Statistics (NBS) showed that only 29% of women and 27.9% of men between the ages of 15 to 24 could correctly identify ways of preventing sexual transmission of HIV/AIDS and reject major myths around transmission (Avert, 2019; UNICEF, 2018 July).

Early sexual debuts are common in Nigeria, with 15% of girls and 4% of boys having sex before they are 15 years old. Inter-generational relationships are also common in Nigeria. A 2017 survey found that 41.2% of women between the ages of 15 and 24 had had a sexual partner ten or more years older than them in the last 12 months. This increases HIV/AIDS risk among this group as often the virus is passed from older men to younger women (UNICEF, 2018 July). Despite their elevated risk, reports show that few adolescents test for HIV regularly. In 2017 only 2% of males between 15 and 19 and 4% of females had tested for HIV/AIDS in the last 12 months (UNICEF, 2018 July). National targets commit to a 90% treatment coverage and 50% testing rate among young people by 2020 (Avert, 2019; NACA, 2015).

In addition to the National Strategic Framework, Nigeria released a National HIV/AIDS Strategy for Adolescents and Young People in 2016, which provides a set of guidelines co-created with young people. This recognises negative provider attitudes towards young people and their sexual activities, limited access to youth-friendly services, low awareness of HIV/AIDS and fear of stigma as being key challenges preventing young people from taking up sexual health services (NACA, 2015).

According to the recent figures of prevalence of HIV/AIDS in sub-Saharan Africa, 24.7 million people lived with the disease in 2013 with 4.7 million adult prevalence, 1.5 million new infections and 1.1 million AIDS related deaths. Nigeria's figures out of these totals stood at 3.2 million people living with the disease, 220 000 new infections and 210 000 AIDS related deaths. Further, South Africa, Uganda and Nigeria are reported to account for almost half of the new infections in 2013 in sub-Saharan Africa (NACA, 2015). In the late 90s, HIV/Syphilis Sentinel Survey by Nigeria's Federal Ministry of Health (1999) revealed that youth between the ages of 19 and 24 years who represented the productive and economically viable segment of Nigeria were most affected. Estimates from the survey indicated that 2.6 million Nigerians between 15 and 19 years (within which most were already affected and that this figure was projected to rise to 4.9 million by 2003. According to National Action Committee on AIDS (NACA), (2004), in Nigeria, the epidemic had different faces across the states. Some states in the federation recorded prevalence rates of well over the national average of 4.7% while there was no state with a prevalence rate below 1% (Avert, 2019; UNAIDS, 2018).

North-East of Nigeria is a Muslim dominated society. Because of religious considerations, the traditional Islamic tsangaya school system is progressively becoming robust in capturing adolescents virtually as much as the conventional schools or even more. Despite the on-and-off efforts by the government to transform the almajiri education system into a conventional one, the enrollment of almajiris into conventional schools is still a tremendous challenge in the region (Usman, 2008). Though robustly comprehensive in terms of capturing adolescents, limited empirical data exists on adolescent almajiris' ICT-media exposure regarding HIV/AIDS in

the country. Therefore, this proposed study aims to determine the adolescent almajiris' ICT-media exposure and their knowledge, attitude and behavior/practice (KAP) towards the HIV/AIDS scourge (Sarari & Oyeyi, 2010).

#### **4.4 ICT-Media Exposure and Knowledge, Attitude and Practice on HIV/AIDS**

Assessing adolescent almajiris' ICT-media exposure and HIV/AIDS situation in West Africa in the early 2000s, Bankole et al. (2004) reported that in most countries more than five among ten women and men aged 15 to 19 streamed radio podcasts, watched TV programmes and or read a newspaper via social media platforms or other internet media at least once a week. Furthermore, in many countries in the region, many of the adolescent had a moderate weekly exposure to online media of communication. The picture of adolescent exposure to online media presented here is expected given that HIV/AIDS messages on online media are recognized as one of the most potent tools of acquiring awareness about the epidemic.

Given the progressive innovations and advancements in ICTs and increased access to online media and the rising levels of media literacy among young people nowadays, with higher programme appeals and the growing popularity of the local Kannywood movies, or Hausa home video in Northern Nigeria (Larkin, 2004), there appears a case for the reassessment of adolescents' ICT-media exposure particularly as it affects their HIV/AIDS KAP. Several studies in the past investigated relationships among HIV/AIDS knowledge, attitude and practice (KAP) variables (e.g., Tung et al., 2008; Bekalu & Eggrmon, 2013; Letamo, 2011; Li et al., 2009; Moore, 2008) and found relationships among these variables. These studies suggested correlations among the HIV/AIDS KAP variables and that respondents' major sources of information about HIV/AIDS are the media, especially online media. Bouanchaud (2011), Li et al. (2009) and Xiao, Li, Lin and Tam (2015) investigated relationships between ICT-media exposure and KAP, the findings showed the existence of relationships of ICT-media exposure with HIV/AIDS knowledge and that HIV/AIDS knowledge had relationship with the other KAP variables. These relationships indirectly suggest the influence of HIV/AIDS ICT-media exposure, HIV/AIDS practice and HIV/AIDS attitude on HIV/AIDS knowledge (awareness).

The study of online media use and HIV/AIDS knowledge in northwestern Ethiopia by Bekalu and Eggrmon (2013) suggested mixed findings. Exploring the knowledge gap resulting from online media use disparities in the studied population, precisely checking the relationship between ICT-media exposure relating to HIV/AIDS and HIV/AIDS knowledge, the study found that ICT-media exposure was not a significant predictor of HIV/AIDS knowledge. However, the study showed that the knowledge gap between respondents with high education and those with low education was inversely proportionate to the increase in HIV/AIDS ICT-media use. Invariably, the knowledge gap between the two groups closes with the increase in HIV/AIDS ICT-media use.

In a different study earlier by Li, et al. (2009) in China however, the results indicated that HIV/AIDS related ICT-media exposure directly linked with HIV/AIDS favourable attitude and safe behaviour especially on the stigmatizing attitude towards people living with HIV/AIDS. The study states that "although there have been theoretical debates on how and why online media communications influences behaviour, there is considerable empirical evidence showing that online media can be used for attitude and behavioural change associated with HIV/AIDS" (p. 1). In addition, a study by Thanavanh, Harun-Or-Rashid, Kasuya and Sakamoto (2013) in Lao found that students with medium and high-level knowledge were more likely to exhibit favourable attitudes toward PLWH and were more likely to practice safe sex. Moore (2008) also found a relationship between HIV/AIDS knowledge and favourable attitude and practice in a study in the United States (US).

Taking from these postulations, especially with the caveat that HIV/AIDS knowledge and favourable attitudes may not only be as a result of ICT-media exposure, in this paper, the relationship paths from media exposure to HIV/AIDS safe practice and between ICT-media exposure and HIV/AIDS favourable attitude will be hypothesized to be moderated by HIV/AIDS knowledge as shown in the proposed conceptual framework (see Figure 4). This proposed study attempts to clarify further in a distinct model, such relationships among adolescent almajiris in North-East of Nigeria, by hypothesizing that:

- H1 Adolescent almajiris' ICT-media exposure has a significant positive effect on their HIV/AIDS safe practice.
- H2 Adolescent almajiris' ICT-media exposure has a significant positive effect on their HIV/AIDS knowledge.
- H3 Adolescent almajiris' ICT-media exposure has a significant positive effect on their HIV/AIDS favourable attitude.
- H4 HIV/AIDS knowledge among adolescent almajiris will mediate the effects of HIV/AIDS ICT-media exposure on HIV/AIDS safe practice.
- H5 HIV/AIDS knowledge among adolescent almajiris will mediate in the effects of HIV/AIDS ICT-media exposure on their HIV/AIDS favourable attitude.



Figure 4: The conceptual framework of the proposed study (Source: Authors)

## 5. Method

This proposed study will use both primary and secondary data. The secondary data will be obtained from the review of extant literature while the primary data will be collected from face-to-face semi structured interviews with 40 informants (see Creswell, 2013), cutting across 20 adolescent almajiri pupils, four Islamic clerics, four parents of almajiris, four teachers of almajiri schools, four community leaders (such as ward heads, village heads) and four members of the academics. Furthermore, two focus-group discussions (FGD) will be conducted with former almajiris. The study will be limited to the North-East of Nigeria. It will be conducted in four of the six states in the North-East region, namely Adamawa state (Mubi North and Yola North Local Government Areas [LGAs]), Bauchi State (Katagum and Dambam LGAs), Gombe State (Akko and Dukku LGAs) and Yobe State (Geidam and Potiskum LGAs). The proposed study will be conducted between August and September 2019. These states were carefully selected to not only ensure a proper ethno-cultural mix of informants, but also to guarantee the safety of the researchers as Borno and Taraba States were excluded for security reasons. The interviews will be conducted, and the questionnaire will be administered in Hausa language. The information from the interviews will be transcribed, translated and analysed based on the conceptual framework of the proposed study developed by the researcher.

## 5. Conclusion

HIV/AIDS is a complex public health problem that has been ravaging vulnerable populations for over three decades. Nigeria has the world's second largest population of people infected with scourge. Media engagement has been consistently shown to be one of the veritable means of combatting the spread of the pandemic. Being one of the most vulnerable groups in the country, adolescent almajiri pupils not only have been disadvantaged socially but also suffer the neglect of academic research community. This paper aimed to provide information about the means to provide explorative understanding regarding the potency of the use of new media of communication among the adolescent almajiri pupils toward self-empowerment about the HIV/AIDS scourge so that they could avoid or manage it. This paper recommends that future research should investigate this problem empirically to provide original data that could serve as a benchmark for further future research.

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