

SOCIAL MARKETING AND DEMOGRAPHIC INFLUENCE IN TRANSMISSION OF HUMAN IMMUNO VIRUS: A STUDY OF ANTI-RETROVIRAL THERAPY CLINIC IN MAIDUGURI METROPOLIS

By

Veronica N. Ndubuisi¹ and Mani Umar²,

¹Entrepreneurship Marketing Unit, Division of General Studies, University of Maiduguri,

²Department of Marketing, University of Maiduguri.

Corresponding Author: veronicawalterm@gmail.com

ABSTRACT

Changes in the size and structure of human society influence the behavior of the inhabitant of the society. This is made possible by the use of social marketing approach to harness the changes in HIV patients' behavior at ART Clinic in Maiduguri Metropolis. Simple percentage was used to determine the demographic/socio-economic characteristics model while Likert scale was used to evaluate the extent of demographic influence on HIV patients. The result by Pearson X^2 shows that the demographic model used is statistically significant, courtesy of social marketing reaching out to the audience target. Despite the positive result, it is recommended that the ART Clinic should be strengthened and reinvigorated for continuous knowledge and updating of the society because prevention is better than cure.

Keywords: Demographic Influence, HIV Transmission, Social Marketing, ART Clinic

1.0 INTRODUCTION

Changes in the size and structure of human composition is modeled and projected by stratifying the human composition by age, gender and all embodiment of education spectrum. The multidimensional demographic method is applied to educational attainment which brings out the social class and employment status as a third dimension in studying demographic influence. This is real because according to Litz & KC (2013), in virtually all societies, better educated adults are more knowledgeable, have lower mortality rates and their off springs have better life accommodation. As a result of these pervasive differentials the projection of demographic distributions has significant influence on almost every aspect of progress in human development (Litz & KC, 2013) including human immune virus (HIV) transmission.

1.1 Objective of the study

The study is aimed at evaluating the influence of demographic characteristics that influence transmission of HIV in Anti-Retroviral Therapy (ART) Clinic, University of Maiduguri Teaching Hospital (UMTH), Maiduguri Metropolis.. The specific objectives are to:

- i) assess the demographic characteristics of HIV patients in ART Clinic in Maiduguri Metropolis, and.
- ii) ascertain the channels and rate of transmission of HIV patients in ART Clinic.

Demographic model of socio-economic characteristics using social marketing process is applied in this study.

1.2 **Research Questions**

The study is guided by the following research questions:

- i) What are the demographic characteristics that influence transmission of HIV patients in ART Clinic in Maiduguri Metropolis?
- ii) What are the channels and rate of transmission of HIV patients in ART Clinic in Maiduguri Metropolis?

1.3 **Research Hypotheses**

The study addressed the following hypotheses:

- i) H_{01} : There is no significant relationship between social marketing demographic characteristics and influence of transmission of HIV patients.
- ii) H_{02} : There is no significant relationship between social marketing channels and rate of transmission of HIV patients in ART Clinic in Maiduguri Metropolis.

2.0 **LITERATURE REVIEW**

2.1 **Social Marketing Concept**

The concept of social marketing is anchored on many models or concept with little formal consensus on which type of models and for what type of social problems it tends to solve. It is a situational theory or model which requires specific situational solution (Lefebvre, 2000). For example, defining social marketing, Kotler & Roberto (1989); Lefebvre & Flora, (1988), and Novelli, (1990) included the notion of exchange theory in recognition of its marketing root while Andreasen, (1995) and Manoff, (1985) omitted any mention of exchange theory in their definition of social marketing or its key elements as contained in Lefebvre, (2000). In contrast, Lefebvre & Rochlin (1997) and Novelli (1990) recognize the value of the exchange concept in describing social marketing, as both believe that the idea that many other theoretical models may be applied in the actual development of social marketing programs.

According to Novelli (1990) as contained in Lefebvre (2000), marketing is theory based and it is predicated in the theories of consumer behavior which draws in turn upon the social and behavioral sciences. The social marketing approach to this model is one that has a focus on the theoretical model that impacted on the selection of target audience, research questionnaire administered, strategies selected, measurement, out come and appraisal. In a research carried out by Glanz, Lewis & Rimer (1997) as contained in Lefebvre (2000), a bench review of the most commonly used theories and models in 497 health education/health promotion articles over a two-year period resulted that health belief model, social cognitive theory, theory of reasoned action, community organization, stages

of change and social marketing were the most frequent cited ones among the 67 per cent of cases where theories or models were mentioned at all. To meet these predictors and given the caveats expressed in this study, the social marketing model used in this study is Health Belief Model (HBM).

2.2 Health Belief Model

Health Belief Model is widely used theory among public health practitioners and its major tenets are used in many social marketing projects. The HBM is designed to unveil why people did not participate to prevent, detect or control diseases. The core components of this model are (Lefebvre, 2000):

- 1) Perceived susceptibility – the subjective perception of risk of developing a particular health benefits received - behavior.
- 2) Perceived severity – feelings about the seriousness of the consequences of developing a specific health problem.
- 3) Perceived benefits received – beliefs about the effectiveness of various actions that might reduce susceptibility and severity (threat).
- 4) Perceived barriers – potential negative aspects of taking specific actions.
- 5) Cues to action – bodily or environmental events that trigger action.

The health Belief Model is built on the construct of social marketing demographic influence on the target audience of ART patients (Figure 1).

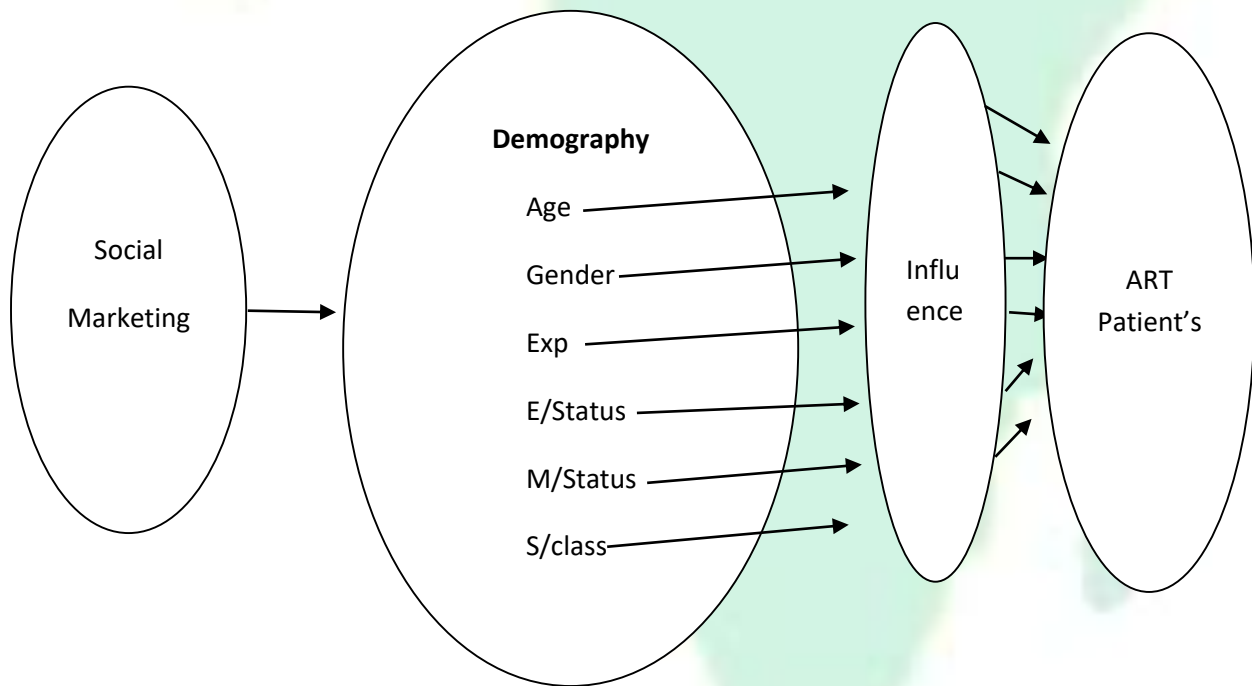


Figure 1: Health Belief Model

The demographic factors considered in this study are gender, married status, employment status, social class, age and experience. All these have degree of influence on the patients' well-being, positively or negatively.

In the recent time according to Strecher & Rosenstock (1997), health benefit model is appended to include the notion of self-efficacy as another predictor of health behaviors. This is more complex as life style changes are expected to be maintained over time. In this study of Social Marketing and Demographic Influence in Transmission of HIV, it is built on behavioural change and outcome of the study depends on the life style changes of the target audience.

2.3 **Social Marketing Demographic characteristics of HIV/AIDS Respondents**

The knowledge of demographic characteristics of HIV/AIDS patients is a prima facie case for understanding how best to tackle the plight of the patients through the social marketing efforts. While the concept of social marketing has its root in family planning, much of the attention has been to the use of social marketing to respond to the HIV/AIDS epidemic. Rather than dictating the way information is conveyed from the top-down, social marketing approach listens down-up to the needs and desires of the target audience. This focus on the target audience involves in-depth research and constant re-evaluation together from the corner stone of the social marketing process (Asiegbu, Powei, & Iruka, 2012).

It has been pointed out also that a wide variety of demographic, social, psychological and structural variables may also impact on individual perception and indirectly, their health-related behaviors. Some of more important ones include: gender, married status, employment status, social class, age, experience, educational attainment and prior knowledge (Lefebvre, 2000).

2.4 **Demographic Influence**

Demography is defined as the mathematics of people; which specifies all of its models strictly in terms of human beings according to different relevant characteristics. Hence, human development can best be studied with models that have human beings instead of the use of monetary or other units at the core of their analysis. This approach offers the most appropriate process in study of human development across the world (Litz & KC, 2013) including HIV transmission using social marketing demography as a behavioral science.

As a behavioral science, social marketing gives guidelines to the marketing research on how HIV patients behave in response to their situational environment and what are the factors which influence /their decision-making process in general and reflections on patient attitude in particular (Nair & Nair, 1998).

2.5 **HIV Transmission**

To come to term with HIV, it is better to understand what HIV is. Hence, it is important to distinguish between HIV and AIDS. HIV stands for Human Immunodeficiency Virus. Human: infecting human beings. Immunodeficiency: decrease or weakness in the body's ability to fight off infections and illnesses. Virus: A pathogen which has the ability to replicate only inside a living cell. Whereas AIDS stands for "Acquired Immune Deficiency Syndrome": to come into possession of something new. Immune Deficiency: decrease or

weakness in the body's ability to fight off infections and illnesses and Syndrome: a group of signs and symptoms that occur together and characterize a particular abnormality. AIDS is the final stage of the disease caused by infection with the virus.

HIV infection leads to a weakened immune system. This makes a person with HIV vulnerable to infections. AIDS results when HIV infection progresses to an advanced stage, damaging the immune system to a point at which the body cannot longer fight illness. HIV is transmitted through (Module 1, 2005):

- i) Unprotected sexual contact with an infected partner
- ii) Exposure of broken skin or wound to infected blood or body fluids
- iii) Transfusion with HIV-infected blood
- iv) Injection with contaminated objects
- v) Mother-to-child during pregnancy, birth or breast feeding.

In an organized study such as ART clinics, it is found that the patients are properly communicated with and knowledgeable as a result of communication dispensation (Arogundade & Falooore, 2012; Enang, 2014, and Ojikutu, Adeleke, Yusufu & Ajibola, 2010). In the study by Uwalaka & Matsuo (2002), Arogundade & Falooore (2012), aversed that one of the major means of spreading HIV/AIDS follows the decline in its transmission through blood products while Enang (2014) states that social marketing relates to knowledge in behavior with value of 'r' as positive in the statistical analysis of his study. He indicates that the more the social marketing was made, healthier the lives of the youths. Further, "in sub-Sahara Africa, an almost universal awareness of AIDS lethality and HIV transmission mechanism co-exists together with reluctance in adopting consequent measures ..." The import of this statement by Ojikutu and others clearly indicates in his study that almost every respondent has heard about HIV/AIDS and yet only 43.69 per cent of those who had multiple sex partners agreed that they are engaging in risky sexual behavior.

3.0 METHODOLOGY

3.1 Study Area

The study area of this research is Maiduguri Metropolis which houses University of Maiduguri Teaching Hospital (UMTH) in Borno State. It has Bama, Konduga, Mongonu and Kukawa as major towns. The ART Clinic of this hospital is a referral centre for HIV/AIDS patients in the state including the border towns of Cameroon and Niger.

3.2 Research Design

For administration of questionnaire, mall intercept theory (Ndubuisi, Hambagda & Msheliza, 2006) was used with a single queue multiple-window of three consulting rooms and a research assistant was stationed at each of the consulting exit door posts. Data were collected for a period of three months; two days a week for four weeks. One tenth of 4000 registered out patients were administered with structured questionnaires. At the end of the twelfth week, there were a total number of 432 respondents covered. At collation, it was discovered that there were 49 overflows. Hence, the total number covered was 383 out patients.

4.0 ANALYSIS, RESULTS AND DISCUSSION

Table 1: Demographic Characteristics of Respondents

Characteristics	Frequency	Percent	Valid percent	Cumulative percent
GENDER				
Female	199	52.0	52.0	52.0
Male	184	48.0	48.0	100.0
Total	383	100.0	100.0	
MARRIED STATUS				
Single	135	35.2	35.2	35.2
Married	181	47.3	47.3	82.5
Divorced	10	2.6	2.6	85.1
Widowed	57	14.9	14.9	100.0
Total	383	100	100	
EMPLOYMENT STATUS				
Non formal education	156	40.7	40.7	40.7
Primary education	104	27.2	27.2	67.9
Secondary education	71	18.5	18.5	86.4
Tertiary education	52	13.6	13.6	100
Total	383	100	100	
SOCIAL CLASS				
Unemployed	113	29.5	29.5	29.5
Highly skilled profession	47	12.3	12.3	41.8
Clerical officer	55	14.4	14.4	56.1
Manual labourers/artisans	168	43.9	43.9	100
Total	383	100	100	
AGE				
11 – 20	109	28.5	28.5	28.5
21 – 30	171	44.6	44.6	73.1
31 – 40	78	20.4	20.4	93.5
41 – 50	25	6.5	6.5	100
Total	383	100	100	
EXPERIENCE				
1 – 5	123	32.1	32.1	32.1
6 – 10	245	64.0	64.0	96.1
11 – 15	15	3.9	3.9	100
Total	383	100	100	

Source: Field Survey, 2016.

The frequencies of the demographic characteristics have been carefully analyzed. Though the percentages were obtained, they were subjected to further analysis which came up with valid percentages that confirmed the frequencies and the percentages obtained earlier. In the same vein, the cumulative percentages are the reflections of/valid percentages of 100 in each case.

The **gender** frequency of the respondents is made up of 199 females and 184 males. This represents 52 percent and 48 percent respectively. In the case of marital status, the singles are 135 (32.5%); married 181 (47.3); divorced 10 (2.6%); and widow 57 (14.9%). From the Table, married are most affected from the four strata of single, married, divorced and widowed. For the married couple, the reason may be cheating on each other, insincerity and dishonesty.

Employment status informs the ability of the patients to be able to have good food, meet the needs of the family and be able and have complements of their needs. The frequency has it that employed are 270 (70.5%) and the unemployed are 113 (29.5%). In the case of **education**, non-formal education is 156 (40.7%); primary education 104 (27.2%); secondary education 71 (18.5%); and tertiary education 52 (13.6%). This is very informative to the extent of knowledge, information and awareness regarding ‘dos’ and ‘don’t’ of ART patients

Social class has the frequency distribution of highly skilled profession 47 (12.3%); clerical officers 55(14.4%); manual laborers/artisans 168 (43.9%) and unemployed 113 (29.5%). The more enlightened class, the less the incidence of HIV/AIDs. From the Table, highly skilled profession is 47(12.3%) and this is followed by clerical officers 55 (14.4%). The most vulnerable are manual/labourers/artisans 168 (43.9%) and unemployed 113 (29.5%) who are at the lowest strata of the socio-economic class.

Age is another factor. The high risk of HIV/AIDS is among the age brackets of 11 – 20 with 109 (28.5%) and 21 – 30 with 171 (44.6%) while the low risk brackets of 31 – 40 with 78 (20.4%) and 41 – 50 with 25 (6.5%). As it has always been, the young are prone to risk while the old are afraid of taking risks as reflected in the Table1.

Experience is in terms of carrying capacity; that those having the disease upto 5years is 123 (32.1%); 10years is 245 (64.0%) and upto 15years is (3.9%). This is to say that in this study the minimum is 1 – 5years and the maximum is 11 – 15years carrying capacity. For descriptive statistics, experience of 383 respondent patients has a minimum of 1.00 while the maximum is 15 with a mean of 6.31 and a standard deviation of 2.25. In the same circumstance, age has a minimum of 12.00 and a maximum of 66.00 with a mean of 27.60 and a standard deviation of 9.84

4.1 HIV Transmission

Social marketing is an outreach program that is engaged in changing individuals and group behaviors for the benefit of the society at large. As Table 2 shows, the patients are well informed about the channels of transmission of HIV. The responses to all the statements are above 3.0; the grand mean being (4.3) showing positive understanding of the transmission of the deadly disease.

Table 2: HIV Transmission

QUESTION	STATEMENT	TR	Mean score(X)	Ranking
1.	HIV can be transmitted from infected partner to uninfected partner through heterosexual intercourse.	1647	4.30	4 th
2.	HIV can be transmitted from infected partner to uninfected partner through homosexuality	1650	4.31	3 rd
3.	HIV can be transmitted from infected partner to uninfected partner through blood and blood product e.g. sharing of unsterile needle, harmful traditional practices and blood transfusion	1652	4.31	3 rd
4.	HIV infection can be transmitted from mother to child during pregnancy, delivering or breast feeding	1621	4.23	5 th
5.	Sexual transmitted infections increases the risk of contracting (2) HIV infection	1648	4.29 (8)	4 th
6.	Multiple sexual partners increases the risk of contracting HIV infection	1658	4.33	2 nd
7.	Use of male/female condom during sexual act decreases the risk of contracting HIV infection	1606	4.19	6 th
8.	Abstinence before marriage protect from contracting HIV infection	1667	4.35	1 st
9.	Facilities between partners or couples protect from contracting HIV infection	1667	4.35	1 st
Total mean			38.67	
Grand mean			4.30	

Source: Field Survey, 2016

Note: TR = Total response
 X = Mean

For example, HIV can be transmitted from infected partner to uninfected partner through heterosexual intercourse, 4.3; HIV infection can be transmitted from mother-to-child during pregnancy, delivery or breast feeding, 4.23; abstinence before marriage protects one from contracting HIV infection, 4.35 and multiple sexual partners increase the risk of contracting HIV infection, 4.33.

In a study of ART clinic unit, it is found that social marketing relates to knowledge in behavior with value of 'r' as positive in the statistical analysis. Yet the findings by Enang (2014) are supported by Ntozi, Mulindwa, Ahimbisibore, Ayiga, & Odwee, (2003) who stated that HIV/AIDS epidemic has changed the sexual behavior of high risk groups for the better. This is also in agreement with Stephen (1998) findings that in response to HIV/AIDS epidemic, social marketing programs have made condoms accessible, affordable and acceptable to income population and high risk groups which has significantly contributed to the reduction of the incidence of HIV/AIDS. The study went further to recommend that social marketing should be strengthened as a working strategy if HIV/AIDS must be prevented or curtailed. The two hypotheses are collapsed to have Table 3, Social Marketing Demographic Factors and the Level of Transmission of HIV among AIDS patients.

Table 3: Social Marketing Demographic Factors and the Level of Transmission of HIV among AIDS patients

Parameter	Estimate	Std. Error	Z score
Age	-0.009	0.003	-3.000***
Gender	-0.162	0.120	-1.357 ^{ns}
Marital Status	0.257	0.136	1.890***
Experience on AIDS	0.087	0.030	2.898***
Employment Status	0.346	0.133	2.607***
Education	0.047	0.013	3.615***
Intercept	-1.528	0.384	-3.977***
Pearson	Chi-square	Df	Sig.
Goodness-of-Fit Test	607.822	367	0.0000***

Source: Field Survey, 2016

Table 3 shows that age was significant at 1% and negative factors (variable) influencing the level of acceptance of ART among AIDS patients. This means that as age of the respondents increased the level of acceptance of ART program decreased and vice versa. Decreased level of acceptance of ART facilities could be due to the fact that older respondents or patients will become more conservative and less likely to adopt new HIV/AIDS curative and preventive programs which could be linked to failing physical energy of respondents. The results are in support of findings of Arogundade & Faloore, 2012; Enang, 2014; Ojikutu, Adeleke, Yusuf & Ajibola, 2010 that are influenced by social marketing demographic characteristics.

Marital Status was significant at 5% and positively related to level of acceptance of ART facilities. This means that as the marital status of the respondents increased, the level of acceptance of ART facilities also increased. Marital Status could mean higher level of health consciousness and responsibility towards spouse and children. Hence, the higher the health consciousness and responsibility towards spouse and unborn children, the more the level of adoption of ART activities.

Experience on AIDS was significant at 1% and positively related to the level of adoption and this means that as years of experience on AIDS increased, the higher the level of adoption of ART facilities. Years of experience of AIDS could mean years of practical knowledge/encounter with AIDS. The more the knowledge acquired on AIDS, the more the level of adoption of ART facilities.

Employment Status was significant at 1% and positively related to the level of adoption of ART facilities. This means that as employment status increased, the level of acceptance of ART program increased. Increased employment status i.e. the number of employed respondents, the more the respondents (patients) conveniently take their resources especially financial to treat themselves. The more respondents access financial resources in their health treatment, the more the level of adoption of ART facilities.

Level of education was significant at 1% and positively related to level of adoption of ART facilities. This means that as the level of education increased, the level of adoption of ART facilities also increased. Level of education acquired by respondents could mean higher level of exposure and managerial and non-managerial skill acquisition. The higher the level of exposure and skill acquisition, the higher the level of adoption of ART facilities.

The Pearson chi-square value of 607.822 shows that the model is statistically significant at one per cent. In other words, that the relationship between the independent variables and the level of influence of ART facilities is highly significant, courtesy of social marketing in reaching out to target audience. The findings are also in support of the study by Arimoto, Hori, Ito, Kubos & Tsukada (2012), Garbati, Abba, Kabrand & Yusuph (2011) and AIDSMARK (2007), in which they found that social marketing has helped to improve the acceptance of ART facilities by the target audiences.

4.2 **Implications of the Study**

The social marketing demographic characteristics in the study of ART clinic in Maiduguri Metropolis has shown that people infected and affected by the epidemic, HIV is not only a medical experience but a social and emotional experience that affects the patients' lives, their future and the well-being of their off-springs. ART prolongs lives and enables the affected to live normal life and collectively contributes to the common wealth of the nation. As shown in the study, the strengths, weaknesses and challenges of the ART clinics will enable policy makers to chart a way forward for higher achievements of clinics.

5.0 **CONCLUSION AND RECOMMENDATIONS**

The effect of ART Clinic in Maiduguri Metropolis is largely felt in the care, information dissemination and counseling of HIV patients. The prevalence of infection has drastically reduced in the sub-region of the North East of Nigeria. The impact of ART Clinic is clearly felt in intervention and transmission of HIV, courtesy of social marketing. To strengthen the ART Clinic, the following recommendations are proffered:

5.1 **Strengthening the ART Clinic:** Knowledge gained from this study provides important information that can serve to guide the design of further ART Clinic activities in the region. For example, mobile ART Clinics, counseling workshops can be established to attend to the populace quarterly in the villages on market days.

5.2 **Evidence-based Evaluation:** It is necessary to evaluate the current information approach using available evidence. The use of personnel of people living with HIV/AIDS is a welcome exercise in this regard.

5.3 **Transmission and Prevention:** Although there is less prevalence of HIV, it is recommended that social marketing in care and counseling should be reinvigorate because it is better to prevent than to treat or manage an ailment.

REFERENCES

- AIDSMARK, (2007). A Decade of Innovative Marketing for Health: Lessons Learned.
- Andreasen, A.R, (1995). Marketing Social Change, San Francisco, Jossey-Bass Publications.
- Arimoto, Y., Hori, N., Ito, S., Kudos, Y. & Tsukada, K. (2012). "Social Relationship and HIV Testing in the Work Place: Evidence from South Africa", Internally Valid Econometric Studies, Interim Report.
- Arogundade, O.T., & Falore, O.O. (2012). "HIV/AIDS Awareness as a Predictor of University Students' Dating Behavior in South Western Nigeria, International Journal of Psychology and Behavioral Sciences, 2(1).
- Asiegbu, I.F., Powei, D.M., & Iruka, C.H., (2012), Consumer Attitude: Source Reflections on its Concept; Trilogy, Relationship with Consumer Behavior and Marketing Implications, European Journal of Business and Management, ISSN 2222-1905, Vol, No.13.

- Enang, E.E., (2014), "HIV/AIDS Social Marketing and Behavior Change among Youths in Obubara LGA of Cross River State Nigeria", *Academy Journal of Inteerdisciplinary Studies*, Vol 3 No. 4, ISSN 2281-3993.
- Garbati, M;A., Abba,A.A., Kabrang, D.N. & Yusuph, H. (2011). HIV/AIDS in North Eastern Nigeria: A Review. *Journal of Infectious Diseases and Immunity*, Vol. 3(10).
- Glanz, K, Lewis, F.M. & Rimer, B.K. (1997). Ed. *Health Behavior and Health Education* (2nd Ed.), San Francisco, Jossey-Bass Publishers.
- Kotler, P & Roberto, L. (1989). *Social Marketing*, New York: The Free Press.
- Lefebvre, R. C. & June, A. F. (1988). "Social Marketing and Public Health Intervention", *Health Education Quarterly*, 15,299-315.
- Lefebvre, R.C. (2000), in Bloom, P.N. & Gundlach G.T. (Eds),, *Handbook of Marketing and Society*, Newbury Park, CA, Sage Publications.
- Lefebvre, R.C. & Rochlin, L (1997) "Social Marketing", in *Health Behavior and Health Education* (2nd Ed), Glanz, K. Lewis, F.M. & Rimer, B.K., San Francisco, Jossey-Bass Publishers, 384-402.
- Litz, W. & KC, S., (2021). *Demography and Human Development: Education and Population Projections*, United Nations Development Program, Occasional Paper 2013/04.
- Manoff, R.K. (1985). *Social Marketing*, New York, Praeger.
- Module 1 (2005). *Overview of HIV Infection*, Participant Manual. Nair, N.R. & Nair, S.R. (1998), *Marketing*, Sultan Chand and Sons.
- Ndubuisi, V.N., Hambagda, O.A. & Msheliza, S.K., (2006), "Factors Influencing Customer Choice of Banks in Maiduguri Metropolis, Borno State". *Annals of Borno*, University of Maiduguri, Maiduguri.
- Novelli, W.D. (1990). "Applying Social Marketing to Heath Promotion and Disease Prevention", in *Health Behavior and Education*.
- Ntozi, V., Mulindwa, O., Ahimbisibore,, J., Ayija, G. & Odwee, R. (2003). *Economic and Human Biology: Determinants of Teenage Pregnancies: The Case of Busia District in Kenya*,
- Ojikutu, R.S., Adeleka, I.A., Yusuf, T. & Ajijola, L.A., (2010). *Knowledge, Risk, Perception and Behavior on HIV/AIDS among Students of Tertiary Institutions in Lagos State, Nigeria*", E-Leader, Budapest.
- Stephens, P. (1998). *Particularly Action Research for Sustaining Individual and Community Change: A Model of HIV Prevention Education*, *AIDS Education Prevention*, 10(5):387-402.
- Uwalaka, E. & Matusuo, H. (2002). *Impact of Knowledge Attitude, and Beliefs about AIDS on Sexual Behavioral Change among College Students in Nigeria: The Case of University of Nigeria, Nsukka*. *West Africa Review*, 3(2).