http://www.inosr.net/inosr-experimental-sciences/
Sebwami
INOSR Experimental Sciences 11(2):108-121, 2023.

International Network Organization for Scientific Research **ISSN: 2705-1692**

Evaluation of Male partner participation in prevention of mother to child transmission of HIV/AIDs at Hoima Referral hospital

Sebwami Richard

School of Allied Health Sciences, Kampala International University

ABSTRACT

The purpose of the study was to assess the knowledge and attitude, the level of male involvement and factors associated with male involvement in the prevention of mother-to-child transmission of HIV in Hoima municipality. This study was a descriptive cross section in which quantitative method of data collection was employed in collection of data from respondents. Questionnaires were distributed to participants to assess the knowledge and attitude, the level of male involvement and factors associated with male involvement in prevention of mother-to-child transmission of HIV (PMTCT) in Hoima municipality. Sample size of 200 participants were used, this included the Male partners who hard escorted their pregnant partners to the antenatal clinic aged between 20-50years.The predominant religion were Catholics 59% and seventh day Adventists. Regarding educational levels, majority of respondents had completed secondary level and above (61%) and the predominant ages were between 20-29 years. The study revealed that very few males partner were involved in the PMTCT program especially during HIV counseling and testing (HCT) because of being at old age group above 30years couples, couples not living together, high number of wife's pregnancies four and above, having no knowledge on methods of MTCT, and husbands failure to discuss HCT with their wives. From the findings, majority of the respondents have ever had about the male involvement in the PMTCT but there was still low male involvement in PMTCT programs at antenatal clinics. There is a need to do an in-depth assessment of women's experiences when tested HIV-positive in the presence of their partners at the ANC, as well as to develop strategies to improve male involvement. The study again recommends formative research on the use of incentives to promote male involvement in the PMTCT program and the government should train more of the health promoters and the Village Health Teams in order to reach even those that are deep in the village that are not having easy access to the health facility.

Keywords: HIV, Hoima municipality, Male partner, counseling.

INTRODUCTION

HIV pandemic created an enormous challenge to the survival of mankind worldwide [1-10]. Worldwide there are an estimated 33.3 million people infected with HIV; Sub-Saharan Africa bears the greater burden with an estimated 22.5 million people infected with HIV [10-19]. According to UNAIDS, women represent 52% of those infected with HIV worldwide and in Sub-Saharan Africa 60% of those infected with HIV are women. With a national adult HIV prevalence of 1.5% (1.9% in women and 1.0% in men), Ethiopia is one of the country's most severely hit by the epidemic [3]. Mother-to-child transmission (MTCT) is an important source of HIV infection among Ethiopian children, which accounts for more than 90% of pediatric AIDS [20-30].

Prevention of Mother-to-Child Transmission (PMTCT) programs have been proven to be effective in reducing the risk of HIV transmission from infected mothers to their children [5]. Without intervention, the risk of MTCT of HIV ranges from 20% to 45%. With specific

interventions in non-breast-feeding populations, the risk of MTCT can be reduced to less than 2% and to 5% or less in breastfeeding populations [6]. Antenatal care (ANC) is a major entry point for PMTCT programs especially in countries with a high prevalence of HIV. It creates an opportunity to capture pregnant mothers and their male partners to reverse the transmission of HIV during pregnancy, labour, and breastfeeding [7] Male involvement is necessary for improving women's uptake of core PMTCT services; it is a key contributor to community acceptance and support of PMTCT [8], actual involvement of male partners in PMTCT programs in several counties of Sub-Saharan Africa is low and programs report difficulties in attracting the involvement of male partners. Studies conducted in African countries showed that male involvement in PMTCT during pregnancy ranges from 11% to 58.3% [9].

In Uganda, UNAIDS, estimated that there were 130 000 children aged 0 to 14 years, and 810 7000 adults aged 15 and above living with HIV at the end of 2007; more than half of these adults were women [6]. Regional and gender variation in the prevalence of HIV have been observed in Uganda with a higher prevalence of HIV in urban areas (12.8%) in comparison to rural areas (6.5%) and a higher prevalence HIV among women (8%) among men (5%). Higher prevalence rates were also seen with increasing wealth. Deterioration in behavioral indicator especially an increase in multiple concurrent partnerships while 35% were attributed to discordant monogamous couples [10-21].

The Uganda AIDS Commission report that, in spite of massive prevention effort, social, economic, cultural and behavioral factor continue to drive women, men and adolescents into high risk sexual behavioral-these factors include poverty and inequity [22-40]. Poverty and inequity influence people to engage in commercial sex or transactional sex. Other factors that are mentioned are: gender and sex issues which increase the vulnerability of women to HIV are; low condom use, polygamy, extramarital relationships, little access to antiretroviral therapy, normalization of HIV/AIDS [41-57].

METHODOLOGY

Study design

A cross sectional descriptive study was used in which quantitative methods were employed, this was done by formulation and use of close ended questions on a pre-designed and a pre- tested questionnaire to collect data. This was appropriate so as to assess the male partner involvement in Prevention of mother to child transmission of HIV/AIDS.

Study area

This study was carried out at Hoima referral hospital, which is located in Hoima municipality about 200km west of Kampala the hospital caters for populations of the greater Bunyoro region, encompassing the districts of Bunyoro that is Hoimakibaalemasindi, Bulisa, kiryandongo, kyankwanzi, kiboga and the eastern part of DR Cong, overall grossing over 3 million people. The present bed capacity is 300 according records of the hospital. It is a busy hospital encompassing around 130 patients per day, approximately 3000 clients per month since it is the only big hospital in the region. Due to a number of factors very few men attend antenatal approximately 30 men per day. The hospital is one of the oldest hospitals in Uganda, as far back as 1935 initially, it was meant to serve a small area but it was promoted to referral in 1994 targeting the greater Bunyoro region.

Study population

The study was encompassing male partners presenting with female partners attending antenatal clinic at Hoima referral Hospital willing to provide required information

Sampling Procedure

Simple random sampling was done so as to obtain the representatives population to participate in the study. Random numbers was designed and presented, the numbers were ranging from 1 to 100 whoever, picks 1, 3, 5,7... 100 was allowed to participate in the study. This was done repetitively until a required sample size is obtained.

Sampling size

The sample size was determined using the (Kish and Leslie, 1965) formula.

$S=z^2*pq/d^2$

Where;

S=the sample size

Z=a number relating to the degree of confidence you wish in the results. Where z is 1.96 if the degree of confidence is 95%

d= the error anticipated 5%

P= an estimate of the proportion of 50% of the people falling into the group in which there's the population of interest.

q=1-p

Therefore, the sample size is;

If z=1.96, p=50 % (0.5), q=0.5 (0.5), and d = 5(0.05)

$s=1.96^2*(0.5*0.5) /0.05^2$

s=384

From the above formula the sample size is 384 respondents

Definition of Variables

Independent variable: Male partner involvement.

Dependent variable: Prevention of mother to child transmission of HIV/ Aids.

Data collection

The questionnaires were distributed to the respondents based on their convenience.

Research Instrument

Self-administered questionnaires were used as instruments for collecting data. Close ended questions were used, open questionnaires was mainly orally where clarity was needed, which did not require the respondents name or address; this was done to ensure confidentiality and instill confidence in the study.

Data collection procedure

The data collection tools were pre-tested at Hoima referral hospital for suitability. Data from clients was collected using a self-administered questionnaire in English and some translation was done for those who were unable to read English.

Data management

The filled in questionnaires was checked for validity before leaving data collection site. Data was coded and entered correctly in the computer. The questionnaires kept properly in a locker to avoid losses and access to those not authorized.

Data analysis

Data was analyzed using Microsoft excel, the analyzed information was presented as frequency distribution tables, and pie charts.

Ethical considerations

Preliminary arrangement was made, permission was sought from the concerned authorities in the administration of allied health sciences Kampala international university western campus

The partner's of pregnant women were informed of their rights and risks of participating in the study. Written informed consent was sought from them and each given a copy of the consent form to sign if he consented. The signed informed consent sheet was detached from the questionnaire and kept separately so that they could not be linked. No names were recorded on the data collection questionnaires. Throughout the study, privacy, and confidentiality was emphasized. All data was collected in a private setting

Selection Criteria

Inclusion criteria

To be included in this study, a participant had to be:

A male, aged from 20 to 50years of age, residing in the in Hoima district for over one year, and in a sexual relationship with a pregnant woman attending ANC at Hoima referral hospital and have consented to participate.

Exclusion criteria

Male partners whose female partners were pregnant, but they were non-residents of the Hoima district. Male partners whose female partners are pregnant but they were outside the Hoima district at the time of the study. All males below 20 years and above and are not residents of Hoima district

RESULTS

Respondent's Social Demographic Data

The response of this study was generally good, the mean age of partners who participated was 34.38 years. The majority 50.5% of them reported the current pregnancy as second or third. Among the respondents 49.5 % reported that the average distance of the living area to the

referral hospital is less than five km. and regarding of the amount of money for transport majority 46% paid less than10,000 ugsh.

Table 1 showing respondent's social demographic data

Variation (v)	Frequency(f) Total =200	Percentage (%) Total =100
AGE		
20 – 29	38	19
30 -39	114	57
40+	48	24
Religion		
Catholic	118	59
Moslem	66	33
Others	16	8
Education status		
No formal education	32	16
Primary education	46	23
Secondary and above	16	61
Occupation		
Private business	70	35
Government worker	50	25
NGO	40	20
Daily labor	28	14
Farmer and others	12	6
Wife's number of pregnancies		
1	80	40
2-3	101	50.5
4-5	17	8.5
6+	2	1
Time of leaving together		
Not living together	6	3

1 - 5 years	122	61
6 -10 years	52	26
11 – 15 years	16	8
16 years +	4	2
Distance to the referral		
Less than 5km	99	49.5
5 – 10 km	62	31
5 and above	39	19.5
Money paid for transport		
Do not pay	20	10
Below 10000 ugsh	92	46
Above 10000 ugsh	68	34

Knowledge and Attitude of Male Partner Involvement in PMTCT

All of the respondents 100%, knew about the presence of HIV in Uganda and at least one route of MTCT and 60%, 30%and 10 % of them reported MTCT of HIV during pregnancy child birth and breast feeding, respectively.

The majority of the respondents knew at least one method of PMTCT where by 70% of them knew that provision of ARTs for the mother could help to reduce MTCT of HIV. On the other hand, 21% of them knew that avoiding breastfeeding is one the alternatives of preventing HIV transmission from mother to child but only 9% of the respondents were aware that risk of MTCT of HIV could be reduced by caesarean section. Among them 90% of the respondents knew the presence of HCT for pregnant women during their ANC visit, 95% of them agreed on the necessity of partner testing, 51% of the respondents reported they feel nothing when seen with their pregnant wives and 47% of the respondents reported that they feel happiness when seen with their pregnant wives whereas 2% reported that they feel ashamed.

Table 2 showing respondents' knowledge and attitude of male partner involvement in PMTCT

Variables	Frequency (f) TOTAL:200	Percentage % TOTAL:100
Awareness about the presence of HIV		
YES	200	100
NO	0	0
forms of MTCT		
During pregnancy	120	60
During child birth	60	30
During breast feeding	20	10
PMTCT methods		
ART	140	70
Caesarean section	18	9
Avoiding of breast feeding	42	21
Presence of PMTCT during ANC visit		
Yes	180	90
No	8	4
I don't know	12	6
Necessity of partner testing		
Yes	190	95
No	10	5
Feeling when seen with pregnant women		
Feel nothing		
Feel happiness	102	51
Feel ashamed	94	47
	4	2

Level of Male Involvement in PMTCT Through HCT

Among partners, 67% discussed HCT with their pregnant wives. And more than two thirds 69% of them had willingness to accompany their pregnant wives to PMTCT clinic, 51% of them visited PMTCT clinic with their wife. About 42% of respondents were involved in the counseling part only and 40% of them participated in both counseling and testing, meaning the overall involvement in HCT (Table 3). Among those involved in HCT, 60% were involved because they felt responsibility. Work overload which was mentioned by 53% of the respondents, to them, was the main reason for noninvolvement of partners (Table 3).

Table 3 showing respondents level of male involvement in HCT during PMTCT.

Variable	Frequency (f) Total= 200	Percentage% Total=100
Discussed about HCT with their wives		
Yes	134	67
No	66	33
Willingness to visit PMTCT clinic with his wife		
Yes		
No	138	69
	62	31
Visited PMTCT with his wife		
Yes	102	51
No	98	49
Involving in counseling only		
Yes	84	42
No	116	58
Involving for both counseling and testing		
Yes	80	40
No	120	60
Reasons for partners involvement		
Feel responsibility		
Yes	120	60
No	80	40
Initiated by provider		
Yes	78	39
No	122	61
Initiated by wife		
Yes	52	26
No	148	74
Reasons for partners non involvement		
Work over load		
Yes	106	53
No	94	47
Fear of acquiring of the virus		
Yes	92	46
No	108	54
Confidentiality issue		
Yes	38	19
No	162	81

Factors Associated with Male partner Involvement in HCT During PMTCT

In multivariable analysis, being at younger age group, couples living together, wife's number of pregnancies, having knowledge about methods of MTCT, and husbands discussing HCT with their wives were positively and significantly associated with male involvement in HCT. The odds of male involvement in HCT was higher in 20–29-year 24% and 30–39 years' 57% age groups as compared to those who were 40 years of age and above according to the respondents. Those partners who are living together with their wives 82.5% were more likely to be involved in HCT according to respondents view. Wife's gravidity one and two to three who

showed by 40% and 50.5% respectively reported that gravidity of one and two to three was more significantly associated with male involvement in HCT compared to those who had more than four and above pregnancies. The likelihood of male involvement in HCT was found to be high by 81% among those who knew at least one mode of mother-to-child transmission. Of respondents 78%reported that discussion about HCT with their wives had increased odds of involvement in HCT compared to their counterparts who would not discuss HCT with their partners (Table 4).

Table 4 showing participant's response on factors associated with male partner involvement in HCT during PMTCT

Variable	Frequency (f) Total =200	Percentage (%) Total =100
Age		
20 – 29	48	24
30 -39	114	57
40+	38	19
Living together		
Yes	165	82.5
No	35	17.5
Wife's total pregnancy		
One	80	40
2 – 3	101	50.5
4 – 5	17	8.5
6+	2	1
knowing mode of MTCT		
Yes	162	81
No	38	19
Discussing HCT		
Yes	156	78
No	44	22

DISCUSSION

All of the respondents 100%, knew about the presence of HIV in Hoima municipality and at least one route of MTCT where by the majority reported HIV during pregnancy is the major route of MTC and the majority of the respondents knew at least one method of PMTCT these findings are in agreement with [23] who conducted a study of 461 pregnant women attending ante natal clinic in four health facility in Ethiopia. Findings from his study showed that most of them 457(99.1%) have heard about HIV/AIDS of which, 419 (92.7%) mentioned the major routes of transmission and 437(94.8%) knew that HIV can be transmitted from an infected mother to her baby. Majority of them 433(93.9%) also knew that MTCT of HIV is preventable. These findings could have been due to increased modernization and government emphasis through communications on radios, televisions and other social Medias to create awareness within the communities

Among them 90% of the respondents knew the presence of HCT for pregnant women during their ANC visit , 95% of them agreed on the necessity of partner testing, and majority 51% of the respondents reported they feel nothing when seen going for testing with their pregnant wives and 47% who would feel happiness whereas 2% reported that they feel ashamed this concluded that majority of the respondents had appositive attitude towards PMTCT these findings were contradicting with [24-33] findings from Nigeria that showed despite high level of awareness about MTCT and PMTCT, a significant portion (71.27%) of the study population had poor attitudes towards PMTCT of HIV services. The study though was silent on why the women's attitude towards PMTCT service was poor, the difference in the findings could have been

due to the difference in the level of education of the participants and the population under study.

In this study, about 40% of the partners escorted their wives to ANC and received HIV counseling and testing together. However, the finding is lower than that reported in Cameroon which was 58.3% while it was higher than pooled estimate of studies conducted in India, Cameroon, Georgia, and the Dominican Republic which was 36.1% and another study conducted in Cape Town, South Africa, which was 32% [34-37].Thus, the finding of this study implies that there is already an encouraging platform for male involvement in the study area, and this could serve as a springboard to achieve full scale male involvement in PMTCT in Hoima municipality and other similar urban areas.

This study demonstrated that the level of male involvement in HCT was found to be higher among younger male partners. This finding is consistent with reviewed literatures which found that males involved in HCT were younger than those who received HCT alone in the same clinic [38]. This might be due to increased communication between couples and level of knowledge expected to be reduced with age. This is supported by study conducted in South Africa, 23.5% of individuals 50 years of age and above did not know the route of transmission of HIV from mother to child [39]. Moreover, operational research conducted in Zimbabwe showed that as age increased majority of men fear going for HIV tests [40]. However, similar studies conducted in Cameroon and Western Uganda showed that the proportion of males accompanying their partner increased with age, for example, in rural western Uganda males older than 35 years were 2.89 times more likely to receive VCT than those of 35 years or younger [41-46]. The difference with these studies could be explained by the existence of social support and difference in health service utilization in the later studies.

A result showed that 82.5% of the male partners of pregnant women reported that living with their wives would make them significantly more likely to be tested than those partners of pregnant women living in separated place. Absence of the male partner for discussion at home and decreased likelihood of accompanying his pregnant wife during ANC follow-up could be the possible explanation for the above finding.

In this study, male involvement in HCT was significantly associated with wife's number of pregnancies. This could be explained by the fact that for each additional pregnancy say from one to 2-3, by 40 and 50.5% respectively there is increased frequency of contact of mothers with health care workers which increases their awareness and their chance of discussion with their husbands and a dramatic fall by fourth and above pregnancy probably due to work over load and increased awareness about HCT and their sero status and men seeing it of no value of getting involved again. Furthermore, these findings line with studies conducted in India and Kenya and showed that males who had fewer children were more likely to assist their partner in pregnancy and childbirth than males who had large number of children [47].

Among the respondents 81% reported that partners who know at least one mode of transmission of HIV from mother to child are more involved in HCT compared to their counterparts. This finding is similar to the study conducted in Zambia which showed that knowledge and the total score on level of involvement were positively and significantly associated [48]. This might be due to increased level of knowledge and awareness about HCT expected to have a positive influence on men's involvement in HCT.

Having history of discussion about HIV testing with pregnant wife remained significantly associated with male attendance at the antenatal clinic for HCT which was suggested by 78% of the respondents who reported that discussing HCT among partners would promote male partner involvement in PMTCT. This finding was similar to another study conducted in Zambia [48] who stated that male partners who discuss HCT with their wives get much more involved in process

of HIV counseling and testing during PMTCT than those that do not discuss about HCT and PMTCT at all. Having discussion with their wives might help them to get what they heard from the health care workers during their wives' ANC visit which could be the possible explanation for increased uptake of partners. The possibility of social desirability bias due to sensitiveness of issues and cross-sectional nature of the study which fails to show causal relationship were among the limitations of this study. The Study was conducted at the referral hospital and with close supervision and organized valid records which is the strength of this study.

CONCLUSION

From the findings the majority of the respondents have ever had about the Male involvement in the PMTCT and despite the existence of several program promoting male involvement in HIV counseling and testing during their wives' pregnancy as a part of PMTCT, still lower proportion of them accompany their wives for HCT. The prevalence of male involvement was found to be significantly higher among partners who are younger, living with their wives, are living with multigravida wives, are knowledgeable about mode of mother-to-child transmission of HIV, and discussed HCT with their wives. Therefore, there is a need of an intervention in the independent predictors.

REFERENCES

[1]. Federal HIV/AIDS Prevention and Control Office, *Federal Ministry of Health: Guidelines for Prevention of Mother-to-Child Transmission of HIV in Ethiopia*, Federal HIV/AIDS Prevention and Control Office, Addis Ababa, Ethiopia, 2007.

[2]. WHO, *Global Report on the Global AIDS Epidemic. Joint United Nations Programme on HIV/AIDS (UNAIDS)*, WHO, Geneva, Switzerland, 2010.

[3]. Central Statistical Agency and ICF Macro, *Ethiopia Demographic and Health Survey*, ICF Macro, Calverton, Md, USA, 2011.

[4]. Deressa, W., Seme, A., Asefa, A, Teshome, G. and Enqusellassie, F. (2014). Utilization of PMTCT services and associated factors amongpregnant women attending antenatal clinics in Addis Ababa, Ethiopia," *BMC Pregnancy and Childbirth*, 14.

[5]. Nkuoh, G. N., Meyer, D. J., Tih, P. M. and Nkfusai, J. (2010). Barriers to men's participation in antenatal and prevention of motherto-child HIV transmission care in Cameroon, Africa. *Journalof Midwifery and Women's Health*, 55 (4): 363–369.

[6]. WHO (2011). *Preventing Mother-to-Child Transmission of HIV to Reach the UNGASS and MDGs Moving towards the Eliminationof Pediatric HIV.PMTCT Strategic Vision 2010–2015*, WHO, Geneva, Switzerland, X

[7]. Adera, A., Wudu, M., Yimam, Y., Mengistie, S., Kidane, M. and Woreta, A. (2015). Factors that affect male partner involvement inPMTCT services in africa: a review literature. *Science Journal of Public Health*, 3(4): 460–467, 2015.

[8]. Haile, F. and Brhan, Y. (2014). Male partner involvements in PMTCT: a cross sectional study, Mekelle, Northern Ethiopia," *BMCPregnancy and Childbirth*, 14

[9]. Homsy, J., Obonyo, J., Ojwang J. (2006). Routine intrapartum HIV counseling and testing for prevention of mother-to-childtransmission of HIV in a rural Ugandan hospital," *Journal ofAcquired Immune Deficiency Syndromes*, 42 (2):149–154.

[10]. Chinedum, O. K., Ifeanyi, O. E., Emmanuel, A., Ndidiamaka, E. I. and Stella, E. I. (2018). A review on tuberculosis in human immunodeficiency virus infection. *Int. J. Curr. Res. Med. Sci*, *4*(1), 51-80.

[11]. Loevinsohn, G., Kigozi, G., Kagaayi, J., Wawer, M. J., Nalugoda, F., Chang, L. W. and Grabowski, M. K. (2021). Effectiveness of voluntary medical male circumcision for human

immunodeficiency virus prevention in Rakai, Uganda. *Clinical Infectious Diseases*, *73*(7), e1946-e1953.

[12]. Obeagu, E. I., Scott, G. Y., Amekpor, F., Ofodile, A. C., Edoho, S. H. and Ahamefula, C. (2022). Prevention of New Cases of Human Immunodeficiency Virus: Pragmatic Approaches of Saving Life in Developing Countries. *Madonna University journal of Medicine and Health Science, 2*(3), 128-134.

[13]. Obeagu, E. I., Okwuanaso, C. B., Edoho, S. H. and Obeagu, G. U. (2022). Under-nutrition among HIV-exposed Uninfected Children: A Review of African Perspective. *Madonna University journal of Medicine and Health Sciences, 2*(3), 120-127.

[14]. Jakheng, S. P. E. and Obeagu, E. I. (2022). Seroprevalence of human immunodeficiency virus based on demographic and risk factors among pregnant women attending clinics in Zaria Metropolis, Nigeria. *J Pub Health Nutri., 5 (8), 137*.

[15]. Akandinda, M., Obeagu, E. I., Madekwe, C. C. and Nakyeyune, S. A. (2022). Review On Factors Associated with HPV Vaccination in Africa. *Madonna University journal of Medicine and Health Sciences, 2*(3), 1-5.

[16]. Ijeoma, O. L., Ifeoma, U. E., Emmanuel, O., Ifeanyi, A. U. and Andrew, A. (2014). Comparative study of Cd8+ T-Cell count and leukopoietin levels in human immunodeficiency virus infection in Umuahia, Nigeria. *IOSR J Dental Med Sci*, *13*, 102-110.

[17]. Nwosu, D. C., Obeagu, E. I., Nkwocha, B. C., Nwanna, C. A., Nwanjo, H. U., Amadike, J. N. and Nwankpa, P. (2016). Change in Lipid Peroxidation Marker (MDA) and Non enzymatic Antioxidants (VIT C & E) in HIV Seropositive Children in an Urban Community of Abia State. Nigeria. *J. Bio. Innov.*, *5*(1), 24-30.

[18]. Chinedu, K., Takim, A. E., Obeagu, E. I., Chinazor, U. D., Eloghosa, O., Ojong, O. E. and Odunze, U. (2017). HIV and TB co-infection among patients who used Directly Observed Treatment Short-course centres in Yenagoa, Nigeria. *IOSR J Pharm Biol Sci.*, *12*(4), 70-5.

[19]. Obiomah, C. F., Obeagu, E. I., Ochei, K. C., Swem, C. A. and Amachukwu, B. O. (2018). Hematological indices o HIV seropositive subjects in Nnamdi Azikiwe University teaching hospital (NAUTH), Nnewi. *Ann Clin Lab Res.*, *6*(1), 1-4.

[20]. Akunueze, E. U., Ifeanyi, O. E., Onyemobi, E. C., Johnson, N. and Uzoanya, E. A. U. (2018). Antioxidants in the Management of Human ImmuodeficiencyVirus Infection. *J HIV Retrovirus.*, *4*(2), 1-12.

[21]. Ifeanyi, O. E., Obeagu, G. U., Ijeoma, F. O. and Chioma, U. I. (2015). The values of activated partial thromboplastin time (APTT) among HIV positive patients in FMC Owerri. *Int J Curr Res Aca Rev.*, *3*, 139-144.

[22]. Getu, D. (2011). *Factors Related to Male Participation in Prevention of Mother-to-Child Transmission of Human ImmunodeficiencyVirus in Three Public Hospitals in Addis Ababa, Ethiopia*, University of South Africa.

[23]. Gebreegziabhrer, J., Orne-Gliemann, P. T. and Tchendjou, M. (2008). Couple oriented prenatal HIV counseling for HIV primary prevention:An Acceptability Study," *BMC Public Health*, 10.

[24]. Olugbenga, N. and Kunda, P. J. (2013). Male involvement in prevention programs of mother-to-child transmission of HIV: a systematic review to identify barriers and facilitators. Systematic Review Journal. com/content/2/1/5. doi.10.1186/2046-4053-2-5.

[25]. Obeagu, E. I., Okoroiwu, I. L., Nwanjo, H. U. and Nwosu, D. C. (2019). Evaluation of interferon-gamma, interleukin 6 and interleukin 10 in tuberculosis patients in Umuahia. *Ann Clin Lab Res.*, *7*(2), 307.

[26]. Mercy, O., Ifeanyi, O. E. and Vincent, C. C. N. (2020). Prayer N. Association of ABO blood group with HIV infection. *J Infect Dis Med Microbiol.*, *1*(1), 1-7.

[27]. Obeagu, E. I., Eze, V. U., Alaeboh, E. A. and Ochei, K. C. (2016). Determination of haematocrit level and iron profile study among persons living with HIV in Umuahia, Abia State, Nigeria. *J BioInnovation.*, *5*, 464-71.

[28]. Obeagu, E. I., Okoroiwu, I. L., Nwanjo, H. U. and Nwosu, D. C. (2019). Evaluation of haematological parameters of tuberculosis patients in Umuahia. *Eur. J. Pharm. Med. Res.*, *6*(7), 693-699.

[29]. Odo, M., Ochei, K. C., Obeagu, E. I., Barinaadaa, A., Eteng, U. E., Ikpeme, M. and Paul, A. O. (2020). TB Infection Control in TB/HIV Settings in Cross River State, Nigeria: Policy Vs Practice.

[30]. Ofor, I. B., Obeagu, E. I., Ochei, K. C. and Odo, M. (2016). Evaluation of lipids and protein profiles in tuberculosis (Tb) patients on antituberculosis therapy in general hospital Umuguma, Owerri. *Int. J. Curr. Res. Chem. Pharm. Sci.*, *3*(2), 20-28.

[31]. Offie, D. C., Obeagu, E. I., Akueshi, C., Njab, J. E., Ekanem, E. E., Dike, P. N. and Oguh, D. N. (2021). Facilitators and Barriers to Retention in HIV Care among HIV Infected MSM Attending Community Health Center Yaba, Lagos Nigeria. *Journal of Pharmaceutical Research International*, *33*(52B), 10-19.

[32]. Olusola-Falae, B., Obeagu, E. I., Odo, M., Ochei, K. C., Solanke, E. and Idaboh, T. (2016). Impact of community-based tuberculosis care interventions on TB Case detection in Nigeria–What works and what does not. *Int J Adv Multidiscip Res.*, *3*, 30-39.

[33]. Obeagu, E. I. and Obeagu, G. U. (2015). Effect of CD4 Counts on Coagulation Parameters among HIV Positive Patients in Federal Medical Centre, Owerri, Nigeria. *Int. J. Curr. Res. Biosci. Plant Biol.*, *2*(4), 45-49.

[34]. Obeagu, E. I., Esimai, B. N., Obeagu, G. U., Ochiabuto, O. M., Chukwurah, E. F., Ekelozie, I. S. and Ochei, K. C. (2020). Evaluation of Some Cytokines, CD4, Hepcidin, Iron Profile and Some Haematological Parameters of Pulmonary Tuberculosis Patients Coinfected with HIV in Southeast of Nigeria.

[35]. Obeagu, E. I., Ogbonna, U. S., Nwachukwu, A. C., Ochiabuto, O., Enweani, I. B. and Ezeoru, V. C. (2021). Prevalence of Malaria with Anaemia and HIV status in women of reproductive age in Onitsha, Nigeria. *Journal of Pharmaceutical Research International*,*33*(4), 10-19.

[36]. Omo-Emmanuel, U. K., Chinedum, O. K., Michael, O. and Negedu-momoh, O. (2017). Evaluation of laboratory logistics management information system in HIV/AIDS comprehensive health facilities in Bayelsa State, Nigeria. *Int J Curr Res Med Sci.*, *3*(1), 21-38.

[37]. Leticia, O. I., Ugochukwu, A., Ifeanyi, O. E., Andrew, A., Ifeoma, U. E. (2014). The correlation of values of CD4 count, platelet, Pt, Aptt, fibrinogen and factor VIII concentrations among HIV positive patients in FMC owerri. *IOSR Journal of Dental and Medical Sciences*, *13*(9), 94-101.

[38]. Kamal, I. T. (2001). Field experiences in involving men in safe motherhood," Report of the Meeting of WHO Regional Advisers in Reproductive Health, WHO, Washington, DC, USA.

[39]. Shisana, O., Rehele, T. and Simbayi, L. C. (2005). *South African National HIV Prevalence, HIV Incidence, Behavior and CommunicationSurvey*, Cape Town HSRC Press.

[40]. Pemberai, Z., Hope, C., Chiedzwa, S. and Rumbidzai, D. (2011). Understanding factors that cause low male involvement inCommunity HIV programs for effective design of gender inclusive programs, An

operations research report submittedto the regional AIDS training network family and AIDS caringtrust (fact) research and knowledge management Department, Zimbabwe.

[41]. Bwambale, F. M., Ssali, S. N., Byaruhanga, S., Kalyango, J. N. and Karamagi, C. A. S. (2008). Voluntary HIV counseling and testingamong men in rural western Uganda: implications for HIV prevention. *BMC Public Health*, 8.

[42]. Omo-Emmanuel, U. K., Ochei, K. C., Osuala, E. O., Obeagu, E. I. and Onwuasoanya, U. F. (2017). Impact of prevention of mother to child transmission (PMTCT) of HIV on positivity rate in Kafanchan, Nigeria. *Int. J. Curr. Res. Med. Sci*., *3*(2), 28-34.

[43]. Izuchukwu, I. F., Ozims, S. J., Agu, G. C., Obeagu, E. I., Onu, I., Amah, H. and Arunsi, M. O. (2016). Knowledge of preventive measures and management of HIV/AIDS victims among parents in Umuna Orlu community of Imo state Nigeria. *Int. J. Adv. Res. Biol. Sci*., *3*(10), 55-65.

[44]. Obeagu, E. I., Okeke, E. I. and Anonde, A. C. (2016). Evaluation of haemoglobin and iron profile study among persons living with HIV in Umuahia, Abia state, Nigeria. *Int. J. Curr. Res. Biol. Med*., *1*(2), 1-5.

[45]. Obeagu, E. I., Alum, E. U. and Obeagu, G. U. (2023). Factors Associated with Prevalence of HIV Among Youths: A Review of Africa Perspective. *Madonna University journal of Medicine and Health Sciences, 3*(1), 13-18.

[46]. Obeagu, E. I. (2023). A Review of Challenges and Coping Strategies Faced by HIV/AIDS Discordant Couples. *Madonna University journal of Medicine and Health Sciences, 3*(1), 7-12.

[47]. Department of Reproductive Health and Research, *Male Involvement in the Elimination of Mother-to-Child Transmission of HIV*, Department of Reproductive Health and Research, Geneva, Switzerland, 2011.

[48]. Dinzela, *Factors influencing men's involvement in prevention of mother to child transmission (PMTCT) of HIV programmes in Mambwe District, Zambia [M.S. thesis]*, University of South Africa, 2006.

[49]. Nassuna R. (2023).Occurrence of Malaria in HIV/AIDS Patients at Ishaka Adventist Hospital, Bushenyi District, Uganda. *IDOSR Journal of Science and Technology* 9 (1), 86-97.

[50]. Katigi L. (2023).Factors Influencing the Elimination of Mother to Child HIV Transmission Services at Mbarara Regional Referral Hospital, Mbarara District, Uganda. IDOSR *Journal of Biology, Chemistry and Pharmacy* 8 (1), 15-32.

[51]. Kajura O. M.(2023).Evaluation of the occurrence and factors responsible for Hypertension in HIV Patients on HAART attending Chai Clinic at Kampala International University Teaching Hospital. *IDOSR Journal of Biology, Chemistry and Pharmacy* 8 (1), 80-91.

[52]. Atuhaire R. (2023).Evaluation of the Factors responsible for Increased HIV Infection in Married Couples attending ART Clinic at Ishaka Adventist Hospital, Bushenyi District. *IDOSR Journal of Biology, Chemistry and Pharmacy* 8 (1), 47-63.

[53]. Ekemu W. (2023).Evaluation of Occurrence and Factors associated with Tuberculosis amid HIV Positive Adults Attending ART Clinic in Amuria District. *IDOSR Journal of Science and Technology* 9 (1), 40-52.

[54]. Funda D.M. and N. O. Albert (2023). Assessment of the impact of COVID-19 on access of HIV care and Antiretroviral Therapy at selected health facilities in Bushenyi District, Uganda. *INOSR Scientific Research* 9 (1), 1-12.

[55]. Shabohurira A. (2023). Incidence of Intestinal Helminthes among HIV Patients at Kampala International University Teaching Hospital, Uganda. *INOSR Experimental Sciences* 11 (1), 87-98.

[56]. Eze C. E. (2023). Socio-Cultural Factors Responsible For the High Incidence of HIV in Nigeria: A Study of Akwa Ibom State, Nigeria. *IAA Journal Arts and Humanities* 10 (1), 26-31.

[57]. Byaruhanga, I., A Tamale and S Asingwire (2022). Intentional Behaviors that Affect Utilization of Family Planning Services among HIV-Positive Women Attending Antiretroviral Therapy Clinics in Bushenyi District- Uganda. *INOSR Experimental Sciences* 10 (1), 61-85.

Sebwami Richard (2023). Evaluation of Male partner participation in prevention of mother to child transmission of HIV/AIDs at Hoima Referral hospital. *INOSR Experimental Sciences* 11(2):108-121.