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Pattern of HIV and Reproductive Health Service Integration among PMTCT Clients in Addis Ababa, Ethiopia; 2022

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Abstract

Background: Human immuno-deficiency virus (HIV) and reproductive health (RH) care packages shared common bottlenecks of service inadequacy related to economy, limited access, gender inequality, and social discrimination among vulnerable women. RH-HIV integration help to cover a wide spectrum of health care to specific client and reduce missed opportunities for key amenities. Some of components for care amalgamation are ART provision and adherence, ANC, PMTCT services, family planning (FP) counseling, gender based violence (GBV), as well as STI and cervical cancer screening and treatment, safe abortion and post abortion care. Objective: The purpose of this study was to investigate the pattern of HIV and reproductive health services integration for HIV-positive women in Addis Ababa, Ethiopia. Method: Cross sectional exploratory qualitative study design was utilized in Addis Ababa city in May to August 2020. Information was gathered through an indepth/ key-informant interview and 14 mentor mothers were selected from different health centers through snowball sampling technique. Result: Twelve mentor mothers were participated in in-depth interview with a mean age of 31.25 years with SD of \pm 3.86. About half of mentor mother served MSG/ PMTCT for 2-4 years. They clarified that PMTCT service was an entry point for HIV care and support to most women and infants. Components mentioned for RH and HIV care were HIV testing and counseling (HTC), provision of ART and adherence counselling, family planning, sexually transmitted illnesses (STIs) and cervical cancer screening and treatment. But some of barriers that blocked integration of services were imbalance of client and care provider ration, long waiting time, skill gaps, unaffordable cost, and lack of clear guideline. Conclusion: According to this study, integration of RH and HIV is not well established and integration constraints that related to client and health careprovider side needs to be eliminated.

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Keywords: HIV; In-depth interview; Integration; mentor mothers; Reproductive health.

1. Introduction

In Ethiopia, the national HIV prevalence among urban and rural fertile age group women was 5.2% and 0.8% respectively [1, 2]. These HIV positive women had unmet needs and service utilization gaps; especially family planning (FP), cervical cancer screening, as well as mother and baby pair health follow-up services. These women needed proper medical follow-up through integrating HIV and RH services [3-5].

The concept of integrating HIV and reproductive health services has paramount importance for the maternal health as well as elimination of mother-to-child transmission of HIV. The prominent forms of maternal health services that can fit for integration approach were antenatal, delivery, postpartum and FP care. Prevention of ill health conditions related to unsafe abortion, sexually transmitted infections (STIs), reproductive tract infections (RTIs), cervical cancer, gender based violence (GBV) and other gynecological morbidities are areas of integration with HIV care; mainly in PMTCT service provision unit [6, 7, 8, 9, 10, 11, 12]. Different studies indicated that horizontal integration of medical services brought improvement on the resource and economic consumption. It is advantageous to address missed opportunities for key services like HIV testing, ART provision and adherence and reproductive health (RH) needs. A study from West Uganda witnessed that integration of HIV-RH services improved access to information and risk perception, continuity of care, reduce cost of services and improved client-health worker relationships [13 - 17]. Studies in Sub-Sahara African countries disclosed that integration increased service use among clients from 10% to 61%. Specifically, Kenyan study revealed FP and HIV testing and counseling (HTC) service uptake was improved from 31.7% of contraceptive usage to 44.2% as a result of integration. A study in Rwanda showed integration approach improve productivity, reduce waiting times, and stigma and discrimination [11, 18-23]. But issues like care providers knowledge gap, attitude problem and inadequate number of staffing and lack of clear guideline were identified as challenges for integration of HIV and reproductive health services [15, 24-26].

In general, package of RH–HIV integration initiatives for HIV positive women in developing countries found to bring positive change on their knowledge, attitudes and reproductive health service uptake. Integration view advocate the right to use full range of HIV services and promote the quality of sexual health among these vulnerablewomen [27 - 31]

Therefore, addressing unintended pregnancies, safe conception and maternal health issues are important areas that open attention to RH and HIV service combination at PMTCT or other HIV care delivery points. So this study abetted to explore the pattern of HIV and reproductive health services and related issues among HIV positive women who enrolled in PMTCT in Addis Ababa, Ethiopia.

2.0 Materials and methods

2.1 Study setting and period

The study was conducted in Addis Ababa city administration, which is a capital city of Ethiopia. There are

around 16 government and 10 private hospitals and 116 health centers providing comprehensive health services to Addis Ababa and surrounding population [32]. Key informants interview was carried out from March to May 2020.

2.2 Study design

The exploratory qualitative study design was applied to gather information from mentor mothers who are coaching HIV positive women to attend PMTCT services.

2.3 Population and sampling techniques

Mentor mothers who were currently serving in different government-based health facilities of Addis Ababa city administration as peer supporter were selected to be study respondents. Those mentor mothers who served for more than 12 months were selected to participate in the interview. Purposive non-probability sampling mainly snowball sampling method was used to select mentor mothers based on their skill of communication, experience and performance in the PMTCT unit.

2.4 Data collection procedures

Individual in-depth or key informant interview was carried out by the researcher using semi-structured guiding questions. Each interview lasted between 30 to 40 minutes and a total of 14 mentor mothers participated in the individual in-depth interview and the result of 12 peer educators were analyzed. This is because responses of two mentor mothers were completely similar with other participants' responses and researchers believe the information is adequate and reached saturation. The principal investigator was leading the interview and encouraged respondents to elaborate more about the issue they were stating. The in-depth interviews were conducted in Amharic language and aided by an audio/voice recorder and using notebook.

2.5 Data Analysis

Each of the interview record was coded with the assigned numbers from 1 to 12 for each respondent. Then the principal investigator listened to the recorded audios and loaded on Atlas. ti software version 7.0 to transcribe into verbatim. The researchers coded, interpreted and compare section of information and reflected accurately using the participants' own words. The thematic categorization using concept map was done by the researcher in relation to similarities of sets of idea. During transcription, the researcher did not try to amend the explanations and grammatical errors, interruptions and likes.

2.6 Ethical Considerations

Ethical clearance letter was obtained from Unisa; college of Health Studies Higher Degree ethics review committee of to maintain the rights and dignity of participants. Then Addis Ababa Health bureau institutional research review board provided additional ethical clearance letter that was submitted to Addis Ababa city administration health bureau.

Prior to the interview taking place, participants were allowed to read or hear what was written on the information sheet and decided their participation voluntarily. Then these informants gave verbal consent to participate in the interview.

2. Result

3.1 Socio-demographic profile

All in-depth interview participants were females in the age group of 25 to 39 years of age with the mean age of 31.25 years with SD of \pm 3.86. About half of mentor mothers (50%, n=6), served MSG for 2-4 years and three of them served as a peer supporter for more than four years.

These mentor mothers were recruited based on their willingness to serve as peer supporters and to share their prior experience as PMTCT client. Fifty-eight percent of them (n=7) did not complete primary education, i.e., they are completed less than grade 6 (Figure 1).





These mentor mothers have 1,500 Ethiopian birr (ETB) as a basic salary for serving MSG at least 3 full days per week; which is USD 35.00. Half of them stated having monthly income between 1,501 to 2,500 ETB and 5 of them (42%) have monthly income of 2,501 to 4,000 ETB. Only one mentor mother earns more than 4,000 ETB per month.

3.2 HIV/ PMTCT service

In-depth interview participants said about PMTCT service as the main entry point for HIV care and support to most women at the ANC unit and sero- positive mothers with infant less than 18 months of age. One of the indepth interview participants [IDI P] witnessed as: "The most common time to visit health facilities might be associated with pregnancy, HIV testing is one of routine screening test that allows women to know their HIV status and will help to decide on early management of their health and minimize the chance of HIV transmission to her fetus!..." [IDI P-10] Another in-depth interview respondent mentor mother said that HIV testing and counseling (HTC), periodic CD4 cells count and viral load tests, provision of ART and adherence counseling. Also family planning services; cervical cancer screening and treatment, and provision of prophylaxis for sexually transmitted illnesses (STIs) and opportunistic infections are listed as the major components of care in PMTCT units. HTC for sexual partner and exposed infant diagnosis (EID) were also included as the prime components of care given at ANC.

3.3 Availability of reproductive health services

Study participants pointed out that some of commonly provided RH services along with PMTCT service were ANC, STI or RTIs screening, diagnosisand treatment, condom provision, and skilled labor and delivery services. Also, streams of RH service included after delivery or for non-pregnant ladies like provision of postnatal care, modern contraceptive methods, safe-abortion care, new-born and child health, and cervical cancer screening.

Key informants mentioned that although many maternal and child health related services are available; very few services were utilized by clients. More emphasis is given to HIV component of care than SRH services and the perception of integration is not well understood among health care providers. There was no strong feedback mechanism to follow whether the client was linked to the care or not.

3.4 Barriers of reproductive health service provision

The in-depth interview participants elaborated that SRH and HIV integration improves the quality of service delivery in the health system. The major bottle necks happened in the provision of RH services to PMTCT clients were related to waiting for a long time to have the comprehensive care as care providers spend too much time on a single client. So, the imbalance between number of client flow and quantity of health care provider in PMTCT units in Addis Ababa might be a source of discomfort and a client may hesitate to return for the next visit.

One of the mentor mothers expressed her view about barriers of integration as follows:

"...Health care providers working in PMTCT unit are keen professionals ... But they are facing a challenge that clients for ANC and PMTCT are many and each woman wants to have her follow-up visit immediately when she arrives there. So, these health care providers faced difficulty to provide comprehensive care for everybody and their focus on the provision of selected cares ..." [IDI P-10]

Some of participants expressed their view as technical skill gaps and lack of helping attitude among health care providers with the absence of guiding principles for intervening integrated services as noticeable challenges affecting proper implementation of service integration. Also interview respondents related technical skill gap with frequent staff rotation and turnover; where HIV positive women want to be served by specific care provider, it will affect client's trust and failed to come and visit the PMTCT Unit.

The participants also stated one challenge for RH and HIV integration was problem on allocation of resources

related to unavailability of services or needed resources. They expressed this as extra focus was given to HIVrelated events than other SRH cares. Because the HIV sector programme cost, monitoring and reporting were specifically covered by certain funding organizations for project period.

Therefore, the quality of integrated care provision was highly affected by allocation of resource, providers' attitude, professionals' knowledge, capacity and flow of client load.

3. Discussion

Even though all of the in-depth interview participants agreed on the need for integration of reproductive health and HIV programs, but they mentioned on the difficulty of providing all available services in different units. Integration of HIV with RH services in routine PMTCT increases the uptake [33]. PMTCT integration into the existing primary health care service has paramount denotes that it can serve as a relevant example for integration with other programs.

According to this study participants' response, integration of HIV service with other reproductive health services was not yet developed. They approved that reproductive health counseling is inadequate. Integration of FP services intoHIV care was implemented as a core strategy aimed at reducing unintended pregnancies among childbearing women living with HIV [7, 24]. This is because in this study, the central focus of PMTCT service is counseling on condom use and STI services and emphasis is not given to the provision of comprehensive RH services.

In-depth interview participants testified that in spite the fact that there are many maternal RH services are available, clients utilized few of them. Similarly, one of Ethiopian study exhibited less service utilization pattern among HIV positive women; i.e. only 15.5% were screened for cervical cancer [34]. This canbe explained as for PMTCT clients, priority were given for their pregnancy, new-borne and HIV so that other healthissues seems neglected.

In this study, it was indicated that health professionals are low motivation on work and busy work schedule that created difficulty to consider the provision of all available services for a single client. Also it was declared that the prominent challenge affecting proper implementation of actual integration service was lack of helping attitude among health care providers [33, 35, 36]. This indicates that care providers' busy schedule and staff turnover, affect clients' comfort and being hesitant to come for next appointment.

Some participants connoted that no clear information about integration and scarcity of resources to be used for integration. Studies also supports this idea and declared that service utilization of client might be affected by attitude of health workers, availability of staffs and kits at care provision unit [28, 37]. This implies the quality of care provision approach is highly affected by providers' attitude and their skill.

In the current study, there is no clear demarcation of integration for RH and HIV care. All activities carried out at the PMTCT Unit were taken as basic components of PMTCT. In Uganda, the overall integration of RH/HIV services was 55% and HIV integration with FP in Malawi and Tanzania were 39% and 38% respectively [9, 19]. Although, integration has effect on quality of care, it is still unclear concept to implement.

MSG mentor mothers emphasized their responsibilities of demand creation counseling on ART enrolment, condom provision, STI and RTIscreening tests are some of services. It was evidenced that in HIV clinics condom use, STI and cervical cancer screening and treatment increased significantly [38]. This implies that RH service in conjunction with HIVservice at any level of service provision have huge impact on service utilization.

4. Conclusion

The in-depth interview respondent mentor mothers revealed that there is no comprehensive service provision protocol. Also the approach of accessing necessary RH services was only through clients request or willingness of some health professionals. Even though these women were attending PMTCT care and support since their recent pregnancy, or after their infant is born, utilization of other available reproductive health services were not maintained as expected.

In general, the study explores that there is more to do on integrating reproductive health services with HIVrelated services to make it comprehensive. Therefore, efforts should be strengthened to tackle those factors that hinder the use of services and there is a need to establish supportive environment to health facilities to strengthen the integration of RH services into HIV care. Moreover, there is a need to provide training for all providers to cater RH services.

5. Authors contribution

Meaza Getahun Sileshi was responsible for overall research protocol development, and follow up of design, including proposal development, study place and participants' selection, recruitment of data collectors, data management and report writing. Whereas, Professor Lebitsi Maud Modiba is advisor of this research and participated in all phases of research work from research title selection till report writing. Both authors have equal responsibility for this article.

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References

- [1]. Central Statistical Agency [CSA] [Ethiopia] and ICF International. "Ethiopia Demographic and Health Survey: HIV Report". Addis Ababa, Ethiopia, and Rockville, Maryland, USA, CSA and ICF.2016.
- [2]. EPHI. "Ethiopia Population-based HIV Impact Assessment [EPHIA]" 2017-2018: Final Report. Addis Ababa: Ethiopian Public Health Institute [EPHI]. 2020. http://www.ephi.gov.et
- [3]. L.L. Abuogi, J.M. Humphrey, C. Mpody, M. Yotebieng, P.M. Murnane, K. Clouse, L. Otieno, C.R. Cohen & K. Wools-Kaloustian. "Achieving UNAIDS 90-90-90 targets for pregnant and postpartum women in sub-Saharan Africa: progress, gaps and research needs". *Journal of Virus Eradication*, 4 (2),

33-39, 2018.

- [4]. B. Kefale, B. Adane, Y. Damtie, M. Arefaynie, M. Yalew, A. Andargie & E. Addisu. "Unmet need for FP among reproductive-age women living with HIV in Ethiopia: A systematic reviewand meta-analysis". *PLoS ONE*, 16 (8), 0255566, 2021. https://doi.org/10.1371/journal.pone.0255566
- [5]. UNAIDS. "The Joint United Nations Programme on HIV/AIDS 2016–2021 strategy: on the fast-track to end AIDS". Geneva: UNAIDS. 2020. https://www.unaids.org/sites/default/files/media_asset/20151027_UNAIDS_PCB37_15_18_EN_rev1.p df.
- [6]. F. Abay, H.Y. Yeshita, F.A. Mekonnen & M. Sisay. "Dual contraception method utilization and associated factors among sexually active women on antiretroviral therapy in Gondar City, northwest, Ethiopia: a cross sectional study." *BMC Women's Health*, 20, 26, 2020. <u>https://doi.org/10.1186/s12905-020-0890-3</u>
- [7]. O.V. Adeniyi, A.I. Ajayi, M.G. Moyaki, D.T. Goon, G. Avramovic & J. Lambert. "High rate of unplanned pregnancy in the context of integrated FP and HIV care services in South Africa." BMC Health Serv Res 18, 140, 2018. https://doi.org/10.1186/s12913-018-2942-z
- [8]. Y. Akinde, A.K. Groves, H. Nkwihoreze, E. Aaron, G. Alleyne, C. Wright, J. Jemmott & F.M. Momplaisir. "Assessing the Acceptability of a Peer Mentor Mother Intervention to Improve Retention in Care of Postpartum Women Living with HIV." *Health Equity* 3(1), 336-42, 2019.
- [9]. K. Church, C.E. Warren, I. Birdthistle, G.B. Ploubidis, K. Tomlin, W. Zhou, J. Kimani, T. Abuya, C. Ndwiga, S. Sweeney, S.H. Mayhew & the Integra Initiative. "Impact of Integrated Services on HIV Testing: A Nonrandomized Trial among Kenyan FP Clients." Special issue: research on integrating sexual and reproductive health and HIV services: current status, future challenges, *Studies in FP*, 48(2)), 201-218, 2017. https://doi.org/10.1111/sifp.12022
- [10]. F.M. Muanda, N.P. Gahungu, F. Wood & J.T. Bertrand. "Attitudes toward sexual and reproductive health among adolescents and young people in urban and rural DR Congo." *Reprod Health*, 15, 74, 2018. <u>https://doi.org/10.1186/s12978-018-0517-4</u>
- [11]. C. Pons-Duran, A. Casellas, A. Bardají, A. Valá, E. Sevene, L. Quintó, E. Macete, C. Menéndez, & R. González. "Adolescent, Pregnant, and HIV-Infected: Risk of Adverse Pregnancy and Perinatal Outcomes in Young Women from Southern Mozambique." *J Clin Med*, 10 (8), 1564, 2021. PMCID: PMC8068130. PMID: 33917713. doi: 10.3390/jcm10081564
- [12]. L.P. Ritchie, M. van Lettow, B. Pham, S.E. Straus, M.C. Hosseinipour, N.E. Rosenberg, et al. "What interventions are effective in improving uptake and retention of HIV-positive pregnant and breastfeeding women and their infants in prevention of mother to child transmission care programmes in low-income and middle-income countries? A systematic review and meta-analysis." *BMJ*, 9(8), e024907, 2018. PMID: 31362959. PMCID: PMC6677958. https://doi.org/10.1136/bmjopen-2018-024907
- [13]. C. Akatukwasa, F. Bajunirwe, S. Nuwamanya, N. Kansime, E. Aheebwe & I.K. Tamwesigire. "Integration of HIV-Sexual Reproductive Health Services for Young People and the Barriers at Public Health Facilities in Mbarara Municipality, Southwestern Uganda: A Qualitative Assessment" *International Journal of Reproductive Medicine*, Article ID 6725432, 2019. https://doi.org/10.1155/2019/6725432

- [14]. A. Laterra, T. Callahan, T. Msiska, G. Woelk, P. Chowdhary, S. Gullo, PM. Mwale, S. Modi, F. Chauwa, D. Kayira, T. Kalua & E. Wako. "Bringing women's voices to PMTCT CARE: adapting CARE's Community Score Card to engage women living with HIV to build quality health systems in Malawi." *BMC Health Serv Res*, 20, 679, 2020. PMCID: PMC7376699. PMID: 32698814.doi: 10.1186/s12913-020-05538-2
- [15]. T.K. Phillips, L. Myer, K. Clouse, A. Zerbe, C. Orrell & E.J. Abrams. "Linkage to care, mobility and retention of HIV-positive postpartum women in antiretroviral therapy services in South Africa." *Journal of the International AIDS Society*, 21(S4), e25114, 2018. https://doi.org/10.1002/jia2.25114
- [16]. P. Sárka & S. Pavla. Horizontal Integration of Hospitals "Does it have an Impact on their Effectiveness?" Procedia Economics and Finance, 39, 553-561, 2016. ISSN 2212-5671. <u>https://doi.org/10.1016/S2212-5671[16)30299-4</u>
- [17]. P. Staňková, S. Papadaki & J. Dvorsky. "The Reducing Hospital Costs through Horizontal Integration." Iran J Public Health, 48(11), 2016–24, 2019. PMCID: PMC6961203. PMID: 31970100.
- [18]. S. Ayon, F. Jeneby, F. Hamid, A. Badhrus, T. Abdulrahman & G. Mburu. "Developing integrated community-based HIV prevention, harm reduction, and sexual and reproductive health services for women who inject drugs." *Reprod Health*, 16, 59, 2019. <u>https://doi.org/10.1186/s12978-019-0711-z</u>
- [19]. C.R. Cohen, D. Grossman, M. Onono, C. Blat, S.J. Newmann, R.L. Burger, S.B. Shade, N. Bett & E.A. Bukusi. "Integration of FP services into HIV care clinics: Results one year after a cluster randomized controlled trial in Kenya." *PLoS ONE*, 12(3), e0172992, 2017. https://doi.org/10.1371/journal.pone.0172992.
- [20]. FMOH. "National guidelines for comprehensive HIV prevention, care and treatment." *FederalMinistry* of Health, Addis Ababa Ethiopia. 2018. https://www.differentiatedservicedelivery.org/portals
- [21]. M. Kanyangarara, K. Sakyi & A. Laar. "Availability of integrated FP services in HIV care and support sites in sub-Saharan Africa: a secondary analysis of national health facility surveys." *Reproductive Health*, 16, 60, 2019. PMID: 31138242. PMCID: PMC6538552.
- [22]. D. Mackenzie, A. Pfitzer, C. Maly, C. Waka, G. Singh & A. Sanyal. "Postpartum FP integration with maternal, newborn and child health services: a cross-sectional analysis of client flow patterns in India and Kenya." Reproductive medicine. *BMJ*,8(4), e018580, 2017. http://dx.doi.org/10.1136/bmjopen-2017-018580
- [23]. K.A. Thomson, B. Telfer, P.O. Awiti, J. Munge, M. Ngunga & A. Reid. "Navigating the risks of prevention of mother to child transmission [PMTCT] of HIV services in Kibera, Kenya: Barriers to engaging and remaining in care." *PloS One*, 13(1) e0191463, 2018. PMID: 29364979. PMCID: PMC5783372. doi: 10.1371/journal.pone.0191463
- [24]. F.M. Mbadu, N.P. Gahungu, F. Wood & J.T. Bertrand. "Attitudes toward sexual and reproductive health among adolescents and young people in urban and rural DR Congo." *Reprod Health*, 15,74, 2018. https://doi.org/10.1186/s12978-018-0517-4
- [25]. C.D. Obure, R. Jacobs, L. Guinness, S. Mayhew & A. Vassall. "Does integration of HIV andsexual and reproductive health services improve technical efficiency in Kenya and Swaziland? An application of a two-stage semi parametric approach incorporating quality measures." *Social Science & Medicine*, 151,

147-156, 2016. https://doi.org/10.1016/j.socscimed.2016.01.013.

- [26]. A. Peltokorpi, J. Matinheikki, J. Lehtinen & R. Rajala. "Revisiting the unholy alliance of health-care operations: payor-provider integration of occupational health services." *International Journal of Operations & Production Management*, 40 (4), 357-387, 2020. https://doi.org/10.1108/IJOPM-04-2019-0326
- [27]. N. Ford, E. Geng, T. Ellman, C. Orrell, P. Ehrenkranz, I. Sikazwe, A. Jahn, M. Rabkin, M, S.A. Addo & A. Grimsrud. "Emerging priorities for HIV service delivery." *PLoS Med*, 17(2), e1003028, 2020. <u>https://doi.org/10.1371/journal.pmed.1003028</u>
- [28]. A. Odiachi, S. Erekaha, LJ. Cornelius, C. Isah, H.O. Ramadhani, L. Rapoport & N.A. Sam-Agudu. "HIV status disclosure to male partners among rural Nigerian women along the prevention of motherto-child transmission of HIV cascade: a mixed methods study." *Reprod Health*, 15 (36), 474, 2018. https://doi.org/10.1186/s12978-018-0474-y
- [29]. R. Ramchand, SC. Ahluwalia, L. Xenakis, E. Apaydin, L. Raaen & G. Grimm. "A systematic review of peer-supported interventions for health promotion and disease prevention." *Preventive Medicine*, 101, 156-170, 2017. https://doi.org/10.1016/j.ypmed.2017.06.008
- [30]. M. Siapka, C.D. Carol, S.H. Mayhew, S. Sweeney, J. Fenty, Integra Initiative & A, Vassall. "Impact of integration of sexual and reproductive health services on consultation duration times: Results from the Integra Initiative." *Health Policy and Planning*, 32(4), 82–90, 2017. https://doi.org/10.1093/heapol/czx141
- [31]. WHO. "The importance of sexual and reproductive health and rights to prevent HIV in adolescent girls and young women in eastern and southern Africa Evidence brief." World HealthOrganization; Geneva, Switzerland. 2017. <u>https://apps.who.int/iris/bitstream/10665/255334/WHO-RHR-17.05-eng.pdf</u>
- [32]. D.B. Erena, A.G. Berhe, I.M. Hassen, T.L. Mamaru & Y.A. Soressa. "City profile: Addis Ababa.Report prepared in the SES [Social Inclusion and Energy Management for Informal Urban Settlements project." 2017. http://moodle.donau-uni.ac.at/ses/
- [33]. I.J. Birdthistle, J. Fenty, M. Collumbien, C. Warren, J. Kimani, C. Ndwiga, S. Mayhew and Integra Initiative. "Integration of HIV and reproductive health services in public sector facilities, analysis of client flow data over time in Kenya." *BMJ Global Health*, 3(5), e000867, 2018. <u>PMID,30245866</u>. <u>PMCID, PMC6144905. https://doi.org/</u>10.1136/bmjgh-2018-000867
- [34]. S.H. Abu, B.T. Woldehanna, E.T. Nida, A.W. Tilahun, M.Y. Gebremariam & M.M. Sisay. "The role of health education on cervical cancer screening uptake at selected health centers in Addis Ababa." *PLoS One*, 15(10), e0239580, 2020. PMCID: PMC7540882. PMID: 33027267.
- [35]. S.N. Mbalinda, D.K. Kaye, M. Nyashanu & N. Kiwanuka. "Using Andersen's Behavioral Model of Health Care Utilization to Assess Contraceptive Use among Sexually Active Perinatally HIV-Infected Adolescents in Uganda." *International Journal of Reproductive Medicine*, vol. 20, Article ID 8016483, 2020. PMCID: PMC7542496. PMID: 33062664.
- [36]. K. Tiruaynet & K.F. Muchie. "Determinants of utilization of ANC services in Benishangul Gumuz Region, Western Ethiopia: a study based on demographic and health survey." BMC Pregnancy and Childbirth, 19, 115, 2019. https://doi.org/10.1186/s12884-019-2259-x

- [37]. C. Milford, F. Scorgie, L.R. Greener, Z. Mabude, M. Beksinska, A. Harrison, & J. Smit. "Developing a model for integrating sexual and reproductive health services with HIV prevention and care in KwaZulu-Natal, South Africa." *Reproductive Health*, 15, 189, 2018. <u>https://doi.org/10.1186/s12978-018-0633-1</u>
- [38]. S. Reza-Paul, L. Lazarus, R. Maiya, K.T. Venukumar, B. Lakshmi, A. Roy, P. Haldar, M.Andina, Y. Lafort & R. Lorway. "Delivering community-led integrated HIV and sexual and reproductive health services for sex workers: A mixed methods evaluation of the DIFFER study in Mysore, South India." *PLoS ONE*, 14(6), e0218654, 2019. <u>https://doi.org/10.1371/journal.pone.0218654</u>