


# Integrating HIV and Family Planning Services: The Pros and Cons

This article was published in the following Dove Press journal:  
HIV/AIDS - Research and Palliative Care

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**Background:** The integration of HIV and family planning services as a one-stop service is a cost-effective way of service delivery, but it has advantages and disadvantages.

**Methods:** A cross-sectional study design was applied to conduct this research in Ethiopia from June 2015 to November 2018. Two-stage sampling was applied: 1) a simple random sampling method was used to select 31 public health centers, and 2) 403 clients and 305 service providers were selected by using a stratified simple random sampling. A self-administrator questionnaire was developed to collect the data from service providers, and an interview questionnaire was used to collect data from clients. The data were statistically computed using bi-variate and multivariate logistic regression.

**Results:** Integrated HIV and family planning services allow for the enhancement of the competencies of healthcare workers, client satisfaction, mobilization of fiscal resources, provision of infrastructures, and adequate numbers of human resources available. It can also mobilize additional resources for health education and improve awareness on HIV and family planning services. Despite the mentioned advantages, shortages of human resources, HIV drugs and contraceptives, funding and long waiting times were identified as the disadvantages of HIV and family planning service integration. There was a risk of nine times lower chance of intention to use an integrated HIV and family planning services, if a client waited for more than 1 hour and 6 times risk waited for 30–60 minutes.

**Conclusion:** The advantages of offering an integrated service at a one-stop facility by far outweighing the disadvantages. It might be relevant to develop a strategic action plan for stakeholders to facilitate the integration of HIV and family planning services with the aim to improve service utilization and to reduce maternal and child morbidity and mortality.

**Keywords:** HIV, family planning, integration

## Background

In 2019, 38 million people are living with HIV/AIDS around the globe. Newly HIV infected people reach up to 1.7 million annually, with 690,000 people, who have died due to HIV/AIDS. Most of the newly HIV-infected people (58%) are in sub-Saharan Africa; of which 87.7% are above 15 years old.<sup>22</sup> The prevalence of HIV among pregnant women is about 5.3%,<sup>20</sup> and 80% of them have access to anti-retroviral medicines to prevent transmission of HIV to their babies. In many African countries, there is more than a 60% unmet need for modern family planning methods among HIV-positive women.<sup>3</sup> It was evident that the need for family planning among HIV-positive women is higher than for HIV-negative women in Africa.<sup>13</sup> Almost half of HIV-positive women had unintended pregnancy during their last pregnancies in Malawi, South Africa, Uganda, and Zimbabwe and most of

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unintended pregnancies were linked to non-use of family planning methods. Ensuring to have access to voluntary family planning for women living with HIV supports the 90-90-90 global agenda, which the world is progressing towards to achieve the 2020 targets.<sup>21</sup> The unmet need for family planning among women living with HIV can be addressed through an integrated family planning and HIV service.<sup>3</sup> In sub-Saharan Africa, the availability of integrated family planning services at health facilities ranged from 10–61%.<sup>10</sup>

Integration of HIV and family planning services, like all other integrated services, has its advantages and disadvantages. It is known that an integrated service can minimize the missed opportunities and allow health workers to provide family planning services and HIV services simultaneously.<sup>15</sup> The integration of HIV and family planning is feasible and has potential positive outcomes, but the success of integration is dependent on the health system factors.<sup>17</sup> It is a cost-effective way with a reasonable waiting time that saves clients time by avoiding repeated visits.<sup>15</sup> It can also avoid unnecessary visits to healthcare facilities as women can receive family planning as well as HIV services at a one-stop facility.<sup>8</sup> It is essential to address service providers' capacity and attitudes to create a supportive environment to ensure HIV and family planning service integration.<sup>15</sup> Integrating HIV services with family planning services can, therefore, address the family planning needs of people living with HIV.<sup>17</sup>

However, there are factors that can affect the integration of HIV and family planning services. Long waiting times, lack of awareness, human resources, and shortages of contraceptives or supplies and HIV test kits were identified as contributing factors that can cause an interruption of integrated services.<sup>15</sup> Thus, it is important to address the contributing factors to ensure the readiness of health facilities for the implementation of an integrated HIV and family planning as experienced by service providers.<sup>8</sup>

The objectives of this study were to 1) describe the pros and cons of an integrated HIV and family planning services from the perspective of clients and service providers; and 2) assess the contributing factors of an integrated HIV and family planning service from the perspective of clients. The clients who have received HIV Counselling and Testing (HCT) services, Anti-Retroviral Therapy (ART), and family planning services during data collection, and the service providers offering these three services were included in this study. The "integration" in this study was defined as the use of integrated HIV counseling and

testing (HCT) or Anti-Retroviral Therapy (ART) services and family planning service by clients and offered by service providers at the public health facility level.

## Methods

### Context

The study was conducted in Addis Ababa, Ethiopia. There are 80 public health centers and 732 private health clinics that serve a population of approximately three million people, who live in 10 administrative sub-cities.<sup>2,6</sup>

### Design

This study applied a cross-sectional study design, a quantitative research.<sup>1</sup>

### Population and Sample

The target site population consisted of 80 public health centers, 6,900,000 patients/clients within the reproductive age group, 15–49 years,<sup>2</sup> and 1,200 service providers responsible for HIV and family planning services in public health centers in Addis Ababa.<sup>2</sup> Within a specific year, approximately 301,316 clients used HIV and family planning services,<sup>2</sup> of whom 225,987 used HIV services and 75,329 used family planning services.

The required sample size was determined by a single population proportion formula, as explained by LoBiondo-Wood and Haber.<sup>11</sup> Two-stage sampling was applied: 1) A simple random sampling method was used to select 31 of the 80 public health centers. A proportional allocation of clients and service providers in these 31 public health centers with limited resources were done. 2) From these health centers, 403 clients and 305 service providers (173 nurses, 83 nurse-midwives, 44 public health officers, and five physicians) were selected by using a stratified simple random sampling by public health center and type of services.

### Research Tools and Data Collection

Data were collected from both clients and service providers through a questionnaire that was developed after a thorough literature review was conducted. The questionnaire consisted of both open- and closed-ended questions. Clients in this study played an active role in setting research priorities during the development of the questionnaire. After a thorough literature review on HIV services, family planning and patient care conducted, a questionnaire was developed to collect the data from clients and service providers

during June 2015. Six data collectors were trained to collect the data and took part in the data collection. A self-administrator questionnaire was used to collect the information from service providers and an interview questionnaire was done with an 100% response rate.

## Data Analysis

The data were statistically analyzed through descriptive analysis and summarizing frequencies and cross-tabulation. Odds ratio, *P*-value, and 95% confidence interval, and bi- and multivariate logistic regressions computed significance testing between variables were done. The outcome variable to compute the logistic regression was “the intention to use integrated HIV and family planning services”. Computing this outcome variable is important to understand the contributing factors for the intention to use

integrated HIV and family planning services by clients for better facilitation. The contributing factors computed in multivariate logistic regressions include: marital status, family income level, ever been pregnant, awareness on male condom, waiting times, and client satisfaction. All these factors were categorical variables.

The outcome variable was determined by the above contributing factors collected from clients, which were correlated using multiple regression (see Table 1). Additionally, the description on the pros and cons of an integrated HIV and family planning service are summarized in Table 2.

## Validity and Reliability

To ensure the validity of the study, the researcher cleaned the data by using the double-entry method (Epi-info

**Table 1** Contributing Factors of an Integrated HIV and Family Planning Services

Covariate	Intention to Use Integrated FP/HIV Service		Crude OR (95% CI)	Adjusted OR (95% CI)
	Yes	No		
<b>Marital status</b>				
Married	34 (12.9%)	230 (87.1%)	0.517 (0.248–1.080)	0.353 (0.123–1.016)
Single	8 (17.8%)	37 (82.2%)	0.757 (0.279–2.053)	0.853 (0.198–3.678)
Divorced	2 (5%)	38 (95%)	0.412 (0.083–2.038)	0.322 (0.048–2.166)
In a relationship	12 (22.2%)	42 (72.8%)	1	1
<b>Monthly Family income</b>				
0–40 US\$	19 (18.6%)	83 (81.4%)	0.752 (0.282–2.008)	0.858 (0.259–2.843)
41–80 US\$	15 (13.6%)	95 (86.4%)	0.519 (0.190–1.419)	0.799 (0.235–2.713)
81–120 US\$	4 (5%)	76 (95%)	0.173 (0.046–0.644)*	0.286 (0.066–1.231)
121–160 US\$	8 (14.5%)	47 (85.5%)	0.559 (0.181–1.732)	0.990 (0.243–4.033)
161–200 US\$	3 (11.5%)	23 (88.5%)	0.429 (0.098–1.865)	0.699 (0.134–3.644)
≥201 US\$	7 (23.3%)	23 (76.7%)	1	1
<b>Ever been pregnant</b>				
Yes	48 (14.5%)	284 (85.5%)	0.791 (0.610–1.026)	0.982 (0.727–1.325)
No	8 (11.3%)	63 (88.7%)	1	1
<b>Awareness on male condom</b>				
Yes	33 (19.6%)	135 (80.4%)	2.253 (1.269–4.002) *	1.521 (0.695–3.331)
No	23 (9.8%)	212 (90.2%)	1	1
<b>Waiting time</b>				
Less than 30 minutes	20 (11.7%)	152 (88.3%)	1	1
Between 31–60 minutes	32 (17.3%)	153 (82.7%)	5.556 (0.801–15.342) *	6.525 (0.982, 16.471)*
More than 60 minutes	4 (8.7%)	42 (91.3%)	4.714 (0.652–17.436)	9.024 (0.940, 548)*
<b>Client satisfaction</b>				
Highly satisfied	39 (18%)	178 (82%)	2.191 (0.272–17.619)	2.060 (0.205–20.674)
Satisfied	13 (10%)	117 (90%)	1.111 (0.132–9.387)	1.187 (0.110–12.824)
Somewhat satisfied	3 (6.7%)	42 (93.3%)	0.714 (0.06–7.610)	0.407 (0.027–6.139)
Not at all satisfied	1 (9.1%)	10 (90.9%)	1	1

**Note:** \**P*<0.05.

**Table 2** Pros and Cons of an Integrated HIV and Family Planning Services Gathered from Clients and Service Providers

Variables	Pros		Cons	
Service Providers (N=305)	Frequency	Percentages	Frequency	Percentages
Competencies of healthcare workers	207	67.9	98	32.1
Mobilize the available fiscal resources	238	78	67	22
Infrastructures are in place	213	69.8	92	30.2
Adequate number of healthcare workers deployed	189	62	116	38
Mobilize additional resources for health education materials	240	78.8	65	21.2
The need for additional human resources	189	62	116	38
Better use HIV drugs and contraceptives/shortages	187	61.3	118	38.7
Additional funding required	91	30	214	70
<b>Clients (N=403)</b>				
Creates awareness	375	93	28	7
Health facilities with adequate medical equipment	220	54.6	183	45.4
Waiting time	158	39.2	245	60.8
Service continuousness	300	74.4	103	25.6

version 3.4.1 and SPSS version 20.0) to check data consistency and quality. The data was first entered into Epi info version 3.4.1 and transferred to SPSS version 20.0 to ensure data quality and analysis.

Reliability is defined as the extent to which the instrument yields the same results on repeated measures.<sup>11</sup> To enhance the reliability of the data gathered, a pre-test was conducted to determine the clarity and relevance of the questions<sup>16</sup> in each questionnaire. The questionnaires were pre-tested in two public health centers in non-study areas. Ten randomly selected service providers, who were working in HIV and family planning services, and 10 clients who attended the public health centers for HIV and/or family planning services voluntarily participated. Questions, based on the feedback from the pre-test, were reformulated to enhance clarity to ensure quality data. The questionnaires were initially prepared in English and translated to Amharic by the principal author. Then, the author translated back to English and the final questionnaire was confirmed for its consistency in both languages.

## Ethics

Ethical approval to conduct the study was obtained from the Health Studies Research Ethics Committee of the custodian university (certificate number: HSHDC/223/2013) and the institutional support letter from the relevant city administration health bureau in the study area before data gathering commenced. All selected service providers and clients provided voluntary written informed consent after information letters were shared with them.

## Results

A total of 305 service providers participated in this study. As indicated in [Table 3](#), the average age was 27.6 years and the majority of service providers (46.2%) were aged between 26 and 30 years, followed by those between 21–25 years (37.7%). Most of the service providers (66.2%) had a health-related diploma followed by degree holders (33.4%). Most of the service providers were females (65.2%) and single (4.8%) (see [Table 3](#)).

Similarly, the average age of clients was 28.1 years, who participated in the study, the majority of clients (41.9%) were between 26–30 years of age. The majority of the clients' family income level (52.6%) was below US \$80 per month. Most clients were housewives (35.5%), married (65.5%), and completed high school (31%) (see [Table 4](#)).

## Advantages Identified

According to the service providers' perception (N=305) and described in [Table 2](#), the integrated HIV and family planning service will 1) enhance the competencies of healthcare workers (67.9%); 2) mobilize the available fiscal resources (78%); 3) ensure that infrastructure is in place (69.8%); 4) ensure that an adequate number of healthcare workers are deployed (62%); and 5) mobilize additional resources for health education material (78.8%).

The need for training pertaining to HIV and family planning integration ( $P=0.033$ ) and the awareness of HIV and family planning integration policies and guidelines ( $P=0.003$ ) were perceived advantages associated with the

**Table 3** Socio-Demographic Characteristics of Service Providers (N=305)

Socio-Demographic Characteristics of Service Providers	Unweighted (N=305)	Percentages
<b>Age</b>		
18–20	1	0.3
21–25	115	37.7
26–30	141	46.2
31–35	25	8.2
36–40	14	4.6
41–45	4	1.3
46–50	4	1.3
56–60	1	0.3
<b>Educational level</b>		
Diploma	202	66.2
Degree	102	33.4
Master's degree	1	0.3
<b>Gender</b>		
Male	106	34.8
Female	199	65.2
<b>Marital status</b>		
Married	127	41.6
Single	168	55.1
Widowed	4	1.3
Divorced	6	2.0

provision of integrated HIV and family planning services. Awareness of HIV and family planning integration policies/guideline by service providers was found to be a significant predictor for the provision of integrated HIV and family planning, with  $P=0.028$  (AOR=2.359, 95% CI=1.096–5.074).

According to the participating clients (N=403), 307 (79.3%) intended to use integrated HIV and family planning services in the future, because of the improved awareness on both HIV and family planning services, even though only 56 (14%) received the integrated HIV and family planning during the data collection period. The majority of the clients (54.6%) mentioned that health facilities with adequate medical equipment is a perceived advantage for better offering of integrated HIV and family planning services. Most of the clients (93%) emphasized that an integrated service can create awareness pertaining to both HIV and family planning services ( $P=0.006$ ) and the majority of clients (74.4%) who mentioned it can also improve the continuity of healthcare service as its advantage (see Table 2).

**Table 4** Socio-Demographic Characteristics of Clients (N=403)

Socio-Demographic Characteristics of Clients	Unweighted (N=403)	Percentages
<b>Age</b>		
18–20	30	7.4
21–25	105	26.1
26–30	169	41.9
31–35	48	11.9
36–40	37	9.2
41–45	12	3.0
46–50	2	0.5
<b>Income level</b>		
0–40 US\$	102	25.3
41–80 US\$	110	27.3
81–120 US\$	80	19.9
121–160 US\$	55	13.6
161–200 US\$	26	6.5
≥201 US\$	30	7.4
<b>Occupation</b>		
Merchant	48	11.9
Student	34	8.4
Housewife	143	35.5
Civil servants	80	19.9
Other	98	24.3
<b>Education level</b>		
Able to read and write	70	17.4
Elementary school	78	19.4
High school (10–12 completed)	125	31.0
TVET/Diploma level	76	18.9
Basic Degree	28	6.9
Master's degree	4	1.0
Other	22	5.5
<b>Marital status</b>		
Married	264	65.5
Single	45	11.2
Widowed	21	5.2
Divorced	19	4.7
In a relationship	54	13.4

Unfortunately, integrated services also have disadvantages that need to be addressed and managed to ensure quality service; both service providers and clients identified some disadvantages pertaining to the delivery of an integrated service.

## Disadvantages Identified Service Providers

The service providers (N=305) identified the following perceived disadvantages that can influence the integration of HIV and family planning service negatively (see Table 2): 1) the



need for additional human resources (62%); 2) shortage of HIV drugs and contraceptives (38.7%), and 3) the need for additional funding to train the service providers to be competent to offer both services (70%).

### Clients

The majority of clients (60.8%) stated that long waiting time was the main perceived disadvantages for the intention to use an integrated HIV and family planning services.

## Contributing Factors Identified

The authors further computed the categorical data of contributing factors for the outcome variable (intention to use an integrated HIV and family planning service) using multivariate logistic regressions that include marital status, family income level, ever been pregnant, awareness on male condom, waiting times, and client satisfaction.

The majority of clients (60.8%) emphasized that long waiting times could contribute to the intention to use the integrated service as one of the reasons for not utilizing it. As indicated in Table 1, this study revealed that there was a 6-times lower chance of intention to use an integrated family planning/HIV services when a client needed to wait for more than 30 minutes, with a  $P$ -value=0.02 (AOR=6.525, 95% CI=0.982–16.471); and a risk of nine times when the client waited for more than 60 minutes, with a  $P$ -value=0.032 (AOR=9.024, 95% CI=0.9,40.548).

The monthly family income level and awareness of male condom were statistically significant contributing factors for the intention to use an integrated family planning and HIV service. Marital status, ever been pregnant, and client satisfaction were not statistically significant in this analysis (refer to Table 1 for the details).

## Discussion

Despite the many advantages described in the literature about a one-stop service and from the opinions of clients (N=403), in this study using an integrated HIV and family planning service was very low (13.9%) in Addis Ababa, Ethiopia. However; the intention to use an integrated HIV and family planning service was high (79.3%).

It is evident in the literature that integrating these two important healthcare services is needed to improve mother and child morbidity as well as strengthening the public health systems. The perceived advantages of integrating healthcare service delivery are improved quality-of-care for better outcomes, opportunities to involve clients, improved client satisfaction, and the efficient use of

resources. With integration of health services, it is likely to achieve the national and international development goals and targets, particularly the Sustainable Development Goal 3.<sup>15</sup> This study demonstrated that the integrated services delivered as a one-stop service, can be advantageous to both the client in need of these services, the healthcare workers responsible, as well as strengthening of the public health systems at large. Offering an integrated service at a one-stop facility will ultimately save time for clients; positively affecting client satisfaction as well as improved service utilization.<sup>18</sup>

Healthcare workers can improve their competencies and skills in both of these important services, if they previously had experience in just one of the services.<sup>19</sup> Employment of adequate and competent healthcare workers are essential to effectively implement the integrated HIV and family planning services.<sup>14</sup> The health facilities did perform effective integrated services with competent staff.<sup>10</sup> Moreover, additional resources such as fiscal resources and infrastructure that allow for a quality service to be offered, should be mobilised at the health facility level.<sup>14</sup>

Securing additional fiscal resources is an essential prerequisite to ensure the availability of HIV drugs and contraceptives, training of healthcare workers in both HIV and family planning services, and to ensure the sustainability of the integrated service.<sup>14</sup>

According to the study findings, the healthcare workers need to be competent in both HIV and family planning services. To effectively integrate a family planning and HIV service, both the clients (18.2%) and service providers (67.9%) emphasized the need for training the healthcare workers, as was suggested by Lyndon and Angela.<sup>12</sup> These competencies must include theoretical knowledge, professional values and conduct, psychomotor skills pertaining to the clinical practice for both family planning and HIV services, decision-making skills, effective communication, leadership, management and team building, and professional competencies as a requirement to provide quality integrated HIV and family planning services.<sup>16</sup> Training should focus on shared responsibilities between healthcare workers regarding the integrated HIV and family planning services as inter-professional collaborative practice for shared decision-making and coordination to provide a better healthcare service.<sup>5</sup>

Another aspect that needs to be addressed to enhance the effective implementation of integrated services is the level of awareness among clients.<sup>9</sup> The majority of clients (93%) indicated that one of their perceived advantages was

to create a good awareness in this study, thus clients need to be well informed and accept the advantages of an integrated service, and it will be used effectively during service delivery.<sup>7,9</sup> Besides educating individual clients, all service providers, programme officers such as health promotion officers and programme managers should be responsible to educate the community about the advantages of an integrated health service.<sup>4</sup>

However, it is a proven fact that waiting times in health-care facilities impact on client satisfaction and, therefore, the effective utilization of integrated services.<sup>14</sup> Contrary to this study, the waiting time to receive the integrated family planning and HIV services is reasonable;<sup>15</sup> a longer waiting time would have a negative effect on the intention to use an integrated HIV and family planning service. Hence, shortening the waiting time of clients can positively contribute to the intention to use an integrated HIV and family planning services at the health facility level.

## Conclusion

In identifying the advantages and disadvantages of integrated services, it became clear that important aspects must be considered if there is an intention to provide integrated services. Although the ultimate aim is to deliver a one-stop quality service to all women of childbearing age, they have to be educated and informed about the advantages. The service providers must be competent and positive to provide integrated services, and fiscal, human resources, and infrastructure must be in place. Beside the advantages, it is important to reduce the waiting time to get a positive intention to use an integrated HIV and family planning service.

Thus, it might be relevant to develop a strategic action plan for stakeholders to facilitate the integration of family planning and HIV services aim to improve the service utilization to reduce maternal and child morbidity and mortality.

## Limitations

The study was conducted at selected public health centers in the capital city of Ethiopia (Addis Ababa) due to budgetary constraints. The findings possibly may not represent the rural areas and the private health facilities in Ethiopia. A follow-up research might confirm, add, or contradict the findings, if the rural areas of Ethiopia and private health facilities are included.

## Abbreviations

AIDS, acquired immunodeficiency syndrome; AOR, adjusted odds ratio; CI, confidence interval; HIV, human

immunodeficiency virus; OR, odds ratio; SPSS, Statistical Package for the Social Sciences; TVET, technical and vocational education and training.

## Data Sharing Statement

The datasets used and/or analyzed during the current study are available from the corresponding author on Statistical Package for the Social Sciences (SPSS) database and can be exported into the excel database.

## Ethics Approval and Consent to Participate

The study was conducted in accordance with the Declaration of Helsinki. Ethical approval was obtained from the Health Studies Research Ethics Committee, University of South Africa (UNISA). The reference number was HSHDC/223/2013 that was officially provided during the approval of ethics. Additionally, the institutional support letter was given from Addis Ababa City Administration Health Bureau to proceed with the study. All service providers and clients included in the study provided voluntary written consent after information letters were shared with them and agreed to take part in the study.

## Acknowledgments

The corresponding author would like to express sincere appreciation to Prof. Roets for her guidance and valuable contribution to the development of this manuscript. The author also extends great gratitude to study participants and data collectors for their willingness to participate voluntarily in this study.

## Funding

There is no organizational support of funding for this manuscript. However; the corresponding author is responsible for the funds required for this publication.

## Disclosure

The authors report no conflicts of interest for this work.

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