

## Determinants of the Health Services Limited the Supply of Care Related to the Second Pillar of the Prevention of Mother-Child Transmission of HIV in the Region of Hauts Bassins, Burkina Faso

Ziemlé Clément Méda<sup>1,2,3\*</sup>, Der Adolphe Somé<sup>1,2</sup>, Hervé Hien<sup>3</sup>, Issiaka Kouanda<sup>4</sup>, Léonel Hien<sup>4</sup>, Noufou Sankara<sup>5</sup>, Saydou Koutou<sup>1</sup>, Bernard Ilboudo<sup>3,4</sup>, Abdoulaye Nitiema<sup>4</sup>, Gueswendé Blaise Léon Savadogo<sup>1,2</sup>, Issiaka Sombié<sup>2</sup>,

<sup>1</sup>Centre hospitalier universitaire Souro Sanou, Bobo Dioulasso, Burkina Faso

<sup>2</sup>Institut supérieur des sciences de la santé, Université Nazi Boni, Bobo Dioulasso, Burkina Faso

<sup>3</sup>Centre Muraz, Bobo Dioulasso, Burkina Faso

<sup>4</sup>Ministère de la santé, Burkina Faso

<sup>5</sup>Centre hospitalier Universitaire de Tingandgo, Ouagadougou, Burkina Faso

<sup>6</sup>Organisation Ouest Africaine de la santé, Bobo Dioulasso, Burkina Faso

\*Corresponding Author: Ziemlé Clément Méda, Centre hospitalier universitaire Souro Sanou, Bobo Dioulasso, Burkina Faso.

Received Date: January 15, 2020; Accepted Date: January 30, 2020; Published Date: February 05, 2020

Citation: Ziemlé C. Méda., Der A. Somé., Hien H, Kouanda I, Hien L., Sankara N. et al. (2020) Determinants of the Health Services Limited the Supply of Care Related to the Second Pillar of the Prevention of Mother-Child Transmission of HIV in the Region of Hauts Bassins, Burkina Faso. *J. Women Health Care Issues*. 3(1); Doi:10.31579/2642-9756/019

Copyright: © 2020 Ziemlé Clément Méda, This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

### Abstract

#### Introduction

This research assessed the determinants of the health services limited the supply of care related to the second pillar of the prevention of mother-child transmission of HIV (PMTCT) involving workers from the maternity units and the HIV active queues in the district hospitals and the Department of gynaecology, obstetrics and reproductive medicine (DGORM) of the National teaching hospital Souro Sanou (NTHSS) in the Region of Hauts Bassins in the Region of Hauts Bassins, Burkina Faso.

#### Materials and methods

This was a cross-sectional study conducted from January 15 January to 30 July 2017. The study method used individual interview and the literature review (content analysis of national documents and activity reports on PMTCT).

#### Results

The main results included insufficient organization of services and low levels of the workers knowledge and activities related to the second pillar of PMTCT in the all health districts concerned. The second pillar of PMTCT has not been mentioned in any structure supervised. The definition of dual/double protection was only known by 9 (9.4%) participants. The knowledge of the strategies about the double protection was limited to a single strategy. The knowledge and activities on medically assisted procreation among people living with HIV were almost nil. The knowledge and practices on FP appropriate for People living with HIV were poor.

#### Conclusion

For a successful PMTCT, it is important to implement its all four (04) pillars, taking into account the double/dual protection and the medically-assisted procreation.

**Keywords:** HIV, prevention mother-to-child, Africa, equity, access to care

**Running title:** Health services and PMTCT pillar

### Abbreviations

AIDS : Acquired Immune Deficiency Syndrome

ANC : Antenatal consultation

ARV : Antiretrovirals

DGORM : Department of gynaecology, obstetrics and reproductive medicine

DP : Dual protection or double protection

eMCT : Elimination of mother-to-child transmission of HIV

FP : Family planning

HIV : Human Immunodeficiency Virus

MAP : Medically-assisted procreation

MTCT : Mode of vertical transmission or mother-to-child transmission of HIV

NTHSS : National teaching hospital Souro Sanou

PLWHA : People living with HIV/AIDS

PMTCT : Prevention of mother-to-child transmission of HIV

WCA/HIV+: Women of childbearing age with HIV-positive status

**Introduction**

Despite decreases in its incidence and prevalence rates, HIV infection remains a major health problem. Among its modes of vertical transmission or mother-to-child transmission (MTCT) of the Human Immunodeficiency Virus (HIV) [1]. The mode of vertical transmission or mother-to-child transmission (MTCT) is the transmission of the virus from an HIV-positive mother to her child during pregnancy, labour, delivery or lactation [2]. Yet every week, about 6,200 young women aged 15 to 24 are infected with HIV, including four out of five new infections among adolescents aged 15 to 19 who are girls in sub-Saharan Africa [3].

In 2015, the global unwanted pregnancy rate was 38% and affected, in some settings, an estimated 51-90% of women living with HIV [2]. Also, various studies have shown high rates of unwanted pregnancies of 51-91% among HIV-positive women in high-prevalence countries [4]. In 2018, 160,000[110,000 - 260,000] children worldwide were newly infected with HIV [3]. Still in 2018, at least 79% [67%-92%] of people living with HIV knew their status constituting what is called the "hidden HIV epidemic", which poses a major problem regarding the transmission of the virus to children and adults, hence the 2020 target called the "90-90-90" strategy. In the context of prevention of mother-to-child transmission of HIV (PMTCT), four (04) strategies are advocated: 1. primary prevention of HIV infection; 2. prevention of unwanted pregnancies in HIV-infected women; 3. prevention of HIV transmission from infected mothers to their children; and 4. care of HIV-infected mothers and their children<sup>5</sup>. About the actions and strategies in progress, no mention is made of the case of HIV-positive pregnant women wishing to have a child whose lack of supervision may lead to new infections. In Burkina Faso, the average prevalence of HIV infection in the general population is estimated at 1% at the end of 2016 [6]. The 100% subsidy of antiretrovirals (ARVs), decentralization of care (including PMTCT sites), introduction of early diagnosis in children and option B+ have improved indicators in the fight against HIV. But this focuses on pillars 1, 3 and 4 of PMTCT.

Concrete actions must be taken towards the pillar 2 of PMTCT to prevent new infections in the reproductive age population and to prevent unwanted pregnancies [4]. This is all the more recommended because many children followed in active paediatric lines have become sexually active and want children with their numbers constantly increasing. With advances in research and the sharing of experiences, patients living with HIV have the hope of carrying out life projects, and receiving psychosocial and nutritional support [7]. For HIV-positive women, the hope is to have a healthy child, leading them to take risks: the risk of

transmission to their partner and/or child. This desire for a child seems to meet psychological, cultural, economic and social requirements [8]. Indeed, the reduction in mother-to-child transmission through the development of effective antiretroviral treatment regimens and the use of assisted reproductive technologies has led to a desire for children among people living with HIV [9,10]. If nothing is done, there is a risk that a second generation of mother-to-child transmission of HIV will occur if this is not already the case. Unfortunately, the critical elements of the elimination strategy emphasize life-long antiretroviral therapy for all pregnant and breastfeeding women living with HIV, early diagnosis in infants, and prophylaxis and treatment for infants [11].

In view of all above, it is clear that the second pillar of PMTCT is under severe pressure. Many women of childbearing age with HIV-positive status (WCA/HIV+) do not do family planning (FP): 0.6% in the Region of Hauts Bassin and 0.9% in Burkina Faso. Several factors may explain this. Socio-economic, political, geographical, demographic, cultural, biological or health services factors. In this context, service integration and the implementation of the second pillar of PMTCT are seen as one of the major opportunities to achieve these targets that escape FP services. To contribute to the global health sector strategy against HIV, 2016-2021, towards the elimination of Acquired Immune Deficiency Syndrome (AIDS) and to avoid new infections in newborns, [11] the objective of this research was to study the health service determinants that limit the supply of services and care related to the second pillar of PMTCT in the Region of Hauts Bassins, Burkina Faso.

**Materials and Methods**

This was a cross-sectional study involving maternity units and the HIV active queues in the district hospitals and the Department of gynaecology, obstetrics and reproductive medicine (DGORM) of the National teaching hospital Souro Sanou (NTHSS) in the Region of Hauts Bassins, Burkina Faso. The study took place from January 15 January to July 30, 2017.

The study included maternity unit workers (midwives) and those from the HIV active queues in the district hospitals located in the Region of Hauts Bassins, who agreed to participate in the study. As well, the opinion of the person in charge of the DGOMR of the NTHSS was sought for the referral system related to the second pillar of the PMTCT.

There were 116 health workers in maternity hospitals and HIV active queues in district hospitals. According to Raosoft for a 95% confidence level [12], a sample size of 92 health worker was expected to be investigated (Table I).

Structures	Total number of workers concerned	Expected ample size
Dafra district hospital	32	25
Dande district hospital	13	10
Do district hospital	47	37
Hounde district hospital	13	10
Orodara district hospital	13	10
Department of gynaecology, obstetrics and reproductive medicine (DGORM)	1	1
Total	117	93

**Table I :** Total number and expected sample size of health workers in maternity units and HIV active queues in the district hospitals and the Department of gynaecology, obstetrics and reproductive medicine (DGORM) of the Naitonal teaching hospital Souro Sanou (NTHSS) in the Region of Hauts Bassins, Burkina Faso

For the consecutive recruitment of the expected number per district hospital, a proportional number of the workers concerned from the different structures (table I) was carried out with a level of representativeness in our sample of 79.0% per district hospital.

The study method used individual interview with a semi-structured questionnaire and the literature review (content analysis of national documents and activity reports on PMTCT). For the validation of the questionnaire, a pre-test was carried out in the Solenzo health district (Region of Boucle du Mouhoun, Burkina Faso).

For data collection, ten (10) investigating health workers (survey focal point) were trained on 15 April 2017. The data collected period took place from May 1 to 25, 2017. The data collected were related to the socio-professional characteristics of the respondents, the organization and coordination of services, knowledge and activities on family planning (FP) and prevention of mother-to-child transmission of HIV (PMTCT), knowledge and activities on medically-assisted procreation (MAP) among people living with HIV/AIDS (PLWHA), and family planning (FP) among PLWHA.

After checking the quality of the questionnaires and filling logic, the data were coded in alphanumeric form to allow their use on the computer. The following software was used for this purpose: Epi data version 7 for data entry and SPSS software (version 20) for data analysis and results presentation.

The data were collected after obtaining the agreement of the Regional Director of Health of the Region of Hauts Bassins before starting of the study. Participation was voluntary and participants were kept anonymous and their data confidential.

## Results

The study participation rate was 100.0% for a total of 96 midwives and workers from the HIV active queues included in the study.

### **Socio-professional characteristics of respondents**

Of all participants, the average age was 36 ( $\pm 3.1$ ) years-old with a median age of 37 years-old. The sex ratio (of men to women) among midwives was 0.6. There were no worker position reserved for PMTCT. The largest number of workers were in the delivery room (52.2%). And 48.9% of the participants surveyed had received PMTCT training. Finally, 56.5% of the respondents had at least 5 years of service.

### **Organization and coordination of services**

Concerning the meetings, none were about the health care and services related to the second pillar of PMTCT in 2016. As well, 40.0% of the structures have held their general assemblies, 60% for the service meetings, 50% for the clinical staff meeting. Only 70.0% had HIV therapeutic committees but these were not worked well : 20.0% of the 70.0% of the hospital districts held a committee meeting in 2016.

Of the 27 PMTCT supervisions and missions, it emerged that the second pillar of PMTCT has not been mentioned in any supervised structure.

documents necessary for the organization and coordination of services, out of a total of 10 structures evaluated (5 maternity wards and 5 HIV active queues), there were : 20.0% with internal regulations, 100.0% with

holiday schedule, 100.0% with the permanence programme and on-call programme, 100.0% with an organizational chart, 100.0% with a work schedule, 80.0% with a description and distribution of the tasks, 20.0% with a position reserved for PMTCT, and 20.0% with a maternity-specific patient circuit. Of the 8 documents searched, 20.0% of the structures totalled at least 5 elements found out of the 8 searched (62.5%).

Concerning the technical documents and data collection media necessary for the implementation of PMTCT and FP activities, it emerged that:

- the PMTCT/HIV guidelines were available in 80.0% of structures ;
- the availability of any PMTCT register incorporating at least three elements of the second pillar;
- the availability of no monthly PMTCT 2016 report incorporating at least three elements of the second pillar;
- the calculation of 2016 PMTCT indicators that do not include at least four (04) indicators from the second pillar;
- the availability of no FP register integrating at least two elements of the second pillar;
- the calculation of FP 2016 indicators that do not include at least two (02) elements of the second pillar;
- the absence of an active queue register integrating at least one (01) element of the second pillar;
- the existence of a register of those lost to vision in PMTCT: 20% of the structures had searched for 5 people lost to vision in 2016;
- the availability of any counter-reference register showing that at least one AFP/PV/HIV has been referred for medically assisted procreation (MAP) at the higher level;
- the presence of mother-child couple and clinical records in 100% of the structures.

Regarding the availability of inputs in maternity hospitals, contraceptives were available at the sales deposit where essential generic drugs were sold. Also, inputs (HIV reagents, ARVs, condoms, contraceptives, FP mage boxes) existed in maternity hospitals at 100.0% except for condom use demonstration equipment which was available in 40.0% of maternity hospitals.

Regarding the availability of inputs in active queues, it was noted: availability of reagents (100.0%), availability of ARVs (100.0%), availability of condoms (40.0%), availability of other contraceptive methods (10.0%), availability of image boxes on FP (10.0%), availability of image boxes on PMTCT (20.0%), and availability of condom use demonstration equipment (30.0%). In only one facility where there were contraceptives other than condoms, there was a giant poster on the pillars of PMTCT.

The infrastructures were in place. The antenatal consultation (ANC), the FP and the HIV active queue were conducted in separate premises except in 10.0% of cases where there was an integration of these three (03) activities.

From the evaluation of MAP activities, the indicators were zero (0.0%): Information-Education-Communication and couple orientation for MAP; Couples referred for MAP to the DGORM; number of women of childbearing age with HIV-positive status (WCA/HIV+) who did MAP to DGORM; and at least 10 MAP completed.

**Knowledge and activities on familial planning (FP) and prevention of mother-to-child transmission of HIV (PMTCT)**

None questions related to providers' knowledge of PMTCT had a proportion of 100.0% (Figure 1). As wlel, 43.5% of participants reported having received at least one training in the last two years.

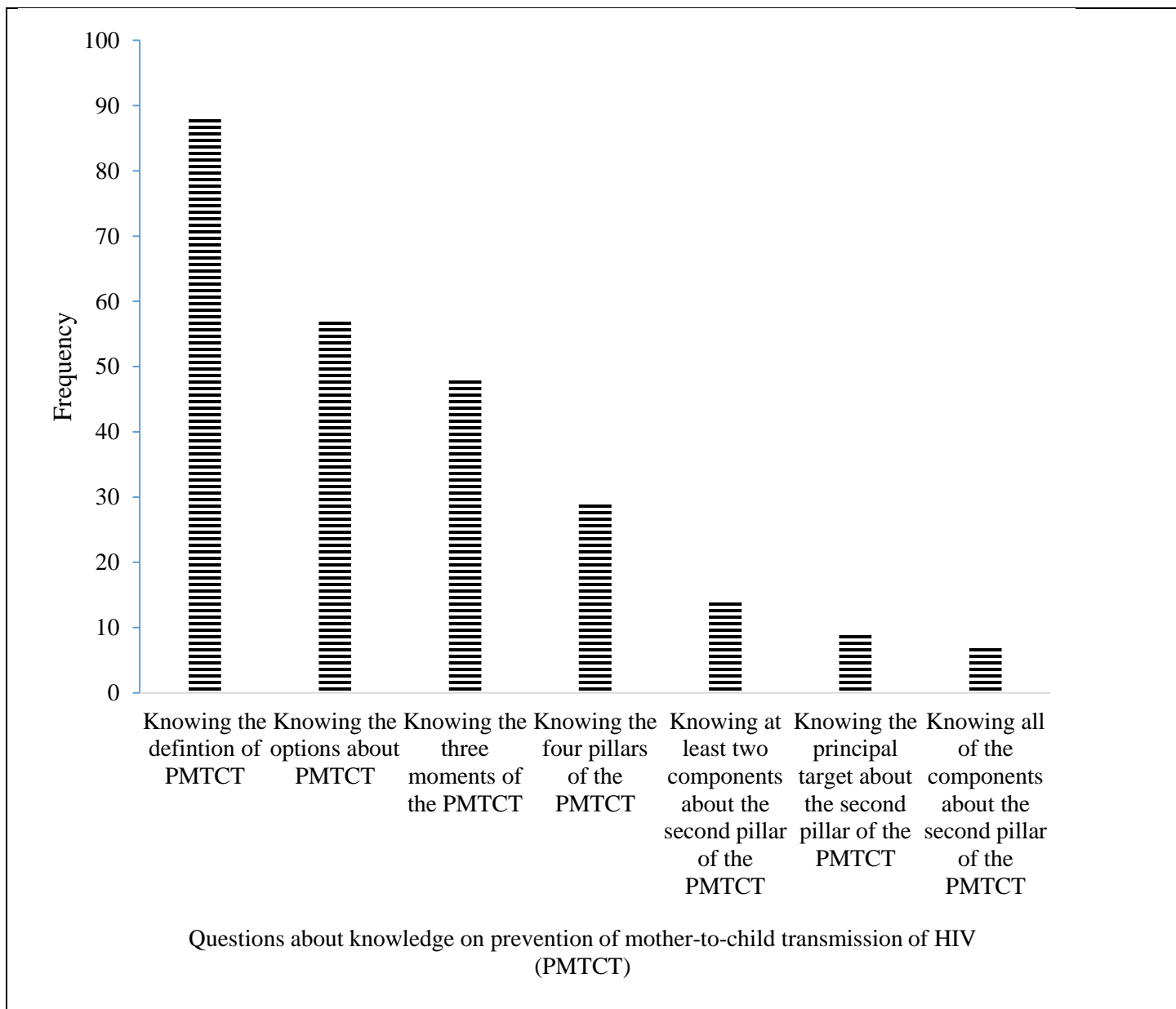


Figure 1: Frequency of the caregivers' responses per question about knowledge on prevention of mother-to-child transmission of HIV (PMTCT)

Among the respondents, 29.8% of them said they had received at least one PMTCT supervision or mission in 2016, of which 59.1% had more than five years of service.

The definition of dual/double protection (DP) was only known by 9 (9.4%) participants. The knowledge of DP strategies was limited to a single strategy: condom use (94.6%). The following five (5) other strategies were not known: abstinence; condom use regularly and correctly plus another FP method; if both uninfected partners, use of FP

method to avoid pregnancy and remain in a mutually faithful relationship; engagement in sexual intimacy without actual sex by avoiding contact with vaginal fluids and semen; and encouragement to postpone or avoid sexual activity.

### **Knowledge and activities on medically assisted procreation (MAP) among PLWHA**

With regard to medically-assisted procreation (MAP), its definition was known by 2 (2.1%) participants, and none notion on MAP by 94.6% of participants. The procedure to follow the serodiscordant couples who want a pregnancy in which the woman is HIV-negative was not known by any participant. In 2016, there were no WCA/HIV+ referred for MAP at the higher level (referral hospital for district hospitals), or none counter-referral received (from the referral hospital to the district hospital).

### **Family planning among people living with HIV/AIDS (PLWHAs)**

Concerning the knowledge on FP appropriate for PLWHA, 29 (31.5%) participants said that PLWHA were entitled to all contraceptive methods; and 59 (64.1%) of them said that the most appropriate method is the condom.

## **Discussion**

The determinants related to health services that limit the provision of services and care about the second pillar of the PMTCT in the Region of Hauts-Bassins health, were studied. The main results included insufficient organization of services and low levels of staff knowledge and activities related to the second pillar of PMTCT in the all health districts concerned. However, there were some limitations to the present study, mainly of a methodological nature, as it was cross-cutting and concerned only public structures, although the study concerned all district hospitals in the Upper Basins Health Region. Finally, the practical skills of the staff were not taken into account because the situation analysis showed that the second pillar of PMTCT is not implemented in the field.

Mother-to-child transmission of HIV infection remains a major public health problem, particularly in developing countries, particularly in sub-Saharan Africa, where transmission remains high due to lack of access to basic PMTCT services (HIV testing and counselling, family planning, infant feeding counselling and support, and ARV prophylaxis) for the majority of women and children<sup>13,14</sup>. This contributes to preventing the achievement of the elimination of mother-to-child transmission of HIV (eMCT) [14].

Beyond access to care, the question of the supply of care is raised. Indeed, the lack of continuity in the provision of PMTCT services can also be a major difficulty: when women manage to access health facilities, they are not always assured of access to all the prevention measures that are theoretically available [14]. This is the case of the second pillar of PMTCT where this study has shown that the organisation of services is insufficient and the levels of knowledge of workers and activities related to the second pillar of PMTCT are low. This is the case according to the theoretical pathway described in Cameroon, where only the proposal of an HIV test during prenatal counselling, pre-test counselling, announcement of the result, directed towards the midwife called the "PMTCT focal point", preparation for childbirth, care at birth, and care for the newborn [14], are to be taken into account.

The organization of services has already been identified as a negative determinant influencing PMTCT activities. In their study in Mali, Zongo et al showed that optimal service organization reduced maternal hospital mortality by 41% [15]. Also, analyses have shown links between caregiver investment patterns in PMTCT and the division of labour [16]. It is shown that there is a need for a "PMTCT focal point" if the positive test specifically designed to monitor HIV-positive pregnant women in the context of PMTCT and which must interact with the delivery room. Unfortunately, when there is such a focal point, he did not work in the delivery room [14].

As in this study, not all the collection tools needed to improve quality were available at all sites, or even some sites had none [13]. These are the basic aspects that can report when implementing of activities.

In the absence of official training and/or retraining or curriculum strengthening in basic schools to improve the skills of health workers, there is a lack of space for exchanges between carers on subjects related to their daily practices, functions, roles and the reorganization of tasks, the transmission of knowledge, and compliance with standards of care [14]. Whereas staffs, meetings usually organised in hospital departments, are places where knowledge about the patient is built up [17]. If nothing is done, there will be unequal access for caregivers to PMTCT knowledge as already observed by Tijou et al [14]. Consequently, this situation that characterizes these maternity hospitals, places through which legitimate information could be transmitted, confines health professionals to a situation of discomfort and insecurity regarding their knowledge [14]. Finally, the health care offer is not up to date, cannot be complete, and therefore cannot be of quality.

A collaborative approach to improving PMTCT quality can help to improve quality indicators [13]. It is a structured approach of mutual learning between several teams organized in a network. Its implementation involves successive stages, in particular the strengthening of providers' skills in standards, the establishment of quality improvement teams in network structures, continuous data monitoring, coaching visits by quality improvement teams, the organisation of periodic learning sessions to share experiences, mutual learning between teams and the development of a package of best practices for their eventual extension.

## **Conclusions**

For a successful PMTCT, it is important to remember that there are four (04) pillars to implement. If pillars 1, 3 and 4 of PMTCT are implemented, all experts agree that these interventions, even if scaled up, will not be sufficient on their own to achieve the goal of eliminating mother-to-child transmission of HIV (eMCT). [4] This reminds us of the need for better coverage of populations uncovered, such as the targets of the second pillar of PMTCT, as recommended according to the three dimensions of universal health coverage [18]. The suggestion is to operationalize strategic directions 2 (high-impact interventions covering the range of services needed) and 3 (services provided with an equity perspective covering populations in need of services) of the Global Health Sector Strategy on HIV 2016-2021 [11], taking into account double/dual protection and medically-assisted procreation.

**Funding:** None

**Conflict of interest:** None

## References

1. Girard PM, Katlama C and Pialoux G. VIH (8ème édition). Doin, Paris; 2011: 1-840.
4. Vih.org. Prise en charge — PTME : L'intégration d'une planification familiale adaptée aux besoins des couples vivant avec le VIH,
5. OMS. Approches stratégiques de la prévention de l'infection à VIHchez l'enfant: rapport d'une réunion de l'OMS, Morges (Suisse),20-22 mars 2002.
6. MS-BF. Annuaire statistique 2016 du Ministère de la santé. Direction générale des études et des statistiques sectorielles (DGESS), Ministère de la santé (MS), Burkina Faso, 2017: 1-315.
7. Méda ZC, Somé T, Sombié I, Maré D et al. Patients infected by tuberculosis and human immunodeficiency virus facing their disease, their reactions to disease diagnosis and its implication about their families and communities, in Burkina Faso: a mixed focus group and cross sectional study BMC Research Notes 2016; 9(373): 1-10.
8. Paiva V, Santos N, França-Junior I, Filipe E et al. (2007) Desire to Have Children : Gender and Reproductive Rights of Men and Women Living with HIV : A Challenge to Health Care in Brazil. AIDS PATIENT CARE and STDs; 21(4): 268-277. Accessed .
9. MS-F. Prise en charge thérapeutique des personnes infectées par le VIH. Rapport 2004 du groupe d'experts. Ministère de la santé (MS), France et Flammarion 2004; 1-280. Accessed
10. Zannou DM, Hougbe F, Lokossou A, Ade G et al. (2007) Les personnes vivant avec leVIH face au désir de procréation à Cotonou, Benin : connaissances, attitudes et pratiques. Médecine d'Afrique Noire 54(8/9): 460-465. Accessed
2. ONUSIDA. Fiche d'informaton 2015: Statistiques mondiales. Accessed
3. ONUSIDA. Fiche d'information 2019 Dernières statistiques sur l'état de l'épidémie de sida: Statistiques mondiales sur le VIH en 2018,
11. OMS. Stratégie mondiale du secteur de la santé contre le VIH, 2016-2021, vers l'élimination du SIDA. Accessed 2016: 1-59 [Accessed 04 avril 2016].
12. Raosoft. Sample size calculator. 2015 [Accessed 2 avril 2015].
13. Tiembre I, Bi Vroh JB, Attoh-Touré H, Alla KJ et al. Amélioration de la qualité de la prévention de la transmission du VIH de la mère à l'enfant en Côte d'Ivoire. Santé Publique 2013; 4(25): 499-505. Accessed
14. Tijou Traoré A and Tantchou JC. En quête de prévention : transmission des savoirs et agenceité des mères séropositives au Cameroun. Face à face, [Onligne]. Accessed 2017 [Seen 10 september 2019].
15. Zongo A, Traoré M, Faye A, Gueye M et al. (2012) Effet de l'organisation des services de gynéco-obstétrique sur la mortalité maternelle hospitalière au Mali. Santé Publique 60(4): 265-274.
16. Zongo S and Ouattara F. (2008) Quand la prévention de la transmission mère-enfant du VIH « cause problèmes » : une ethnographie des relations interprofessionnelles dans trois sites de Ouagadougou. Science et technique, Sciences de la santé Hors-série n° 1: 107-115. Accessed
17. Bonnet M. Le traitement du cancer chez l'enfant : de la parole au choix. Thèse de doctorat Ecoles des Hautes Etudes en Sciences Sociales, Marseille 2008; 1-397. Accessed
18. Nations Unies. Résolution 70/1de l'Assemblée générale des Nations Unies – Transformer notre monde : le Programme de développement durable à l'horizon 2030,



This work is licensed under Creative Commons Attribution 4.0 License

To Submit Your Article Click Here: [Submit Manuscript](#)

DOI:10.31579/2642-9756/019

### Ready to submit your research? Choose Auctores and benefit from:

- ❖ fast, convenient online submission
- ❖ rigorous peer review by experienced research in your field
- ❖ rapid publication on acceptance
- ❖ authors retain copyrights
- ❖ unique DOI for all articles
- ❖ immediate, unrestricted online access

At Auctores, research is always in progress.

Learn more [www.auctoresonline.org/journals/women-health-care-and-issues](http://www.auctoresonline.org/journals/women-health-care-and-issues)