

Preventing vertical transmission of HIV in Kinshasa, Democratic Republic of the Congo: a baseline survey of 18 antenatal clinics

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Objective To assess the content and delivery of essential antenatal services before implementation of programmes for prevention of mother-to-child transmission (PMTCT) of human immunodeficiency virus (HIV).

Methods We assessed 18 antenatal care centres (eight public units and ten managed by nongovernmental organizations) in Kinshasa, Democratic Republic of the Congo. We used a survey to capture information about the number and type of antenatal health workers, infrastructure capacity and the delivery of basic antenatal care services such as: nutritional counselling; tetanus toxoid vaccination; prevention and management of anaemia, malaria, sexually transmitted infections, and tuberculosis; and counselling for postpartum contraception.

Findings Antenatal care units differed with respect to size, capacity, cost, service delivery systems and content. For instance, 17 of the 18 sites offered anaemia screening but only two sites included the cost in the card that gives access to antenatal care. Nine of the clinics (50%) reported providing the malaria prophylaxis sulfadoxine pyrimethamine as per national policy. Four (22%) of the sites offered syphilis screening.

Conclusion Scaling up PMTCT programmes in under-resourced settings requires evaluation and strengthening of existing basic antenatal care service delivery.

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Voir page 974 le résumé en français. En la página 974 figura un resumen en español.

يمكن الاطلاع على الملخص بالعربية في صفحة 974.

Introduction

At the end of 2005, an estimated 38.6 million people were living with human immunodeficiency virus (HIV). Nearly two-thirds of these were in sub-Saharan Africa^{1,2} where countries struggling to respond to the crisis are simultaneously battling poverty, poor infrastructure, competing health needs and, in some cases, civil unrest. In 2004, women represented 57% of all cases of HIV in sub-Saharan Africa and made up nearly three-quarters of new infections in the 15–24 years age group in the region.³

Approximately 700 000 children younger than 15 years were newly infected with the virus in 2005.¹ Almost 90% of these newly infected children were born to HIV-infected mothers and acquired HIV during pregnancy, labour and delivery, or via breastfeeding.^{1,3,4} Interventions to reduce the transmission

of HIV from an infected mother to her infant include antiretroviral regimens, Caesarean delivery, and avoidance of breastfeeding.⁵ Short-course antiretroviral regimens given during pregnancy and/or labour and delivery can reduce rates of mother-to-child-transmission by 37–50%.^{6–10} Such interventions are becoming more common in developing countries and are often integrated within existing antenatal care services. The purpose of our study was to assess the existing content and delivery of essential antenatal services before implementation of prevention of mother-to-child transmission (PMTCT) roll-out in Kinshasa, Democratic Republic of the Congo (DRC).

The DRC is emerging from nearly a decade of civil war and ethnic strife that has disrupted civil society, undermined an already weakened infrastructure and

decimated the country's standard of living. Between 1997 and 2001, annual per capita expenditures in health ranged from US\$ 11–13.¹¹ Life expectancy fell from 52 years to 45 years between 1990 and 2001.¹¹ According to the World Bank, the gross national income per capita in the DRC was US\$ 100 in 2003.¹²

The DRC was one of the first African countries to document HIV/acquired immunodeficiency syndrome (AIDS) cases in the early 1980s. Between 1986 and 1989, HIV prevalence among pregnant women in urban areas ranged from 5.8% to 6.5%.^{13,14} Since then, HIV prevalence among women attending antenatal care in Kinshasa has fluctuated, from 5.7% in 1987 to 10.8% in 1992, 5.4% in 1999, and 3.0% in 2002.¹⁵ In 2004, the HIV prevalence in the DRC population was estimated to be 4.2%.¹⁵

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The current population of Kinshasa, capital of the DRC, is unknown. The last census, conducted in 1984, placed the capital's population at 4.3 million.¹⁶ Since then, the city's population has grown as a result of high fertility rates and migration to urban centres prompted by the conflict and the search for economic opportunities. In 2000, Kinshasa's population was estimated to exceed six million people.^{16,17} If we assume that the current number of Kinshasa residents is 6.3 million, and that 4% of the population are pregnant at any given time,¹⁸ we can estimate that there are about 252 000 pregnancies in the city every year. Approximately 85% of pregnant women in Kinshasa had at least one antenatal visit in 2001.¹⁸

Assuming an HIV prevalence of 3% among pregnant women in Kinshasa, 7560 HIV-positive women are in need of antenatal care and PMTCT every year. The 2003 DRC national HIV strategic plan¹⁹ identifies nine priority areas, including PMTCT. In May 2002, the University of North Carolina at Chapel Hill, Democratic Republic of the Congo Research Collaboration began a PMTCT programme in one large maternity unit in Kinshasa run by a nongovernmental organization; subsequently, we expanded to another nongovernmental maternity unit and to one public facility.

In the first year of services 20 670 pregnant women received counselling and 15 604 were tested for HIV. Of those who were tested, 424 HIV-positive women were identified, 114 women received nevirapine during labour, and 137 children were given nevirapine within 72 hours of delivery. The programme, funded by the Elizabeth Glaser Paediatric AIDS Foundation, focused exclusively on the prevention of vertical HIV transmission. The success of this project is notable, but its efforts covered less than 10% of all pregnant women in need of such services. To plan for the expansion of PMTCT coverage in Kinshasa, we undertook this evaluation of existing antenatal care services.

Methods

We conducted a survey of selected antenatal clinics in Kinshasa in 2003 to assess the existing services and capacities of antenatal facilities to inform the planning of the expansion of PMTCT activities. The survey was developed by project staff in collaboration with the DRC National AIDS Control Program, the National

Reproductive Health Program and other key stakeholders. Eighteen sites were purposively selected from antenatal clinics that were integrated in the primary health care system and that reported to and were regularly supervised by the central bureau of their health zone.

The National Reproductive Health Program selected facilities that: provided care to at least 500 pregnant women and managed at least 500 deliveries per year; offered essential services including antenatal health education, basic examinations by trained nurses, tetanus toxoid vaccination, and prevention of malaria and anaemia; had delivery kits (gloves, needles and medication for major obstetric emergencies), basic equipment and medication for management of newborn babies such as eye drops and disinfectant. The four antenatal clinics already providing PMTCT services in Kinshasa were excluded from the survey.

Eighteen centres — eight public antenatal clinics, and ten managed by one of two religious organizations — were identified by the National AIDS Control Program and the National Reproductive Health Program as candidates for PMTCT programme expansion in Kinshasa. The survey instrument was pre-tested at two maternity units that already had a functional PMTCT programme. The 18 maternity units, located throughout Kinshasa, were surveyed in 2003 by one of the two teams, each composed of a physician and a staff member familiar with

the programmatic content of antenatal care services. Using the survey instrument, each team spent 1 day at every site observing and interviewing key staff members, consulting logbooks and collecting data. The questions were primarily open-ended to allow respondents to answer as they saw fit and to reduce the possibility of bias created by restricting answers to a list of predetermined responses.

The data were entered into a database and analysed with EpiInfo 2000 (Centers for Disease Control, Atlanta, GA, USA) and SAS software version 8.0 of the SAS System for Windows (SAS Institute, Cary, NC, USA).

Results

Data from the survey revealed substantial variation between the 18 antenatal clinics and maternity units with respect to capacity as well as services delivered. The size of the facilities varied greatly. The number of pregnant women seen in 2002 ranged from 450 to 4655 (median = 894); the number of beds available onsite ranged from eight to 200 (median = 34); the number of women seen per antenatal care clinic session was from five to 80 (median = 16), and the number of antenatal clinic sessions held per week ranged from one to six (median = 3.6).

The number and type of health workers present also varied between clinics. All surveyed facilities had a physician

Table 1. Characteristics of 18 maternity units surveyed in Kinshasa, Democratic Republic of the Congo

Characteristic	No. of clinics
Clinic type	
Public	8
Managed by religious organization	10
No. of patient beds	
< 20	8
20–50	7
> 50	3
No. of prenatal clinics per week	
1–2	6
3–4	5
≥ 5	7
No. of women seen in 2002	
< 500	3
500–1000	8
1001–2000	2
2001–3000	4
> 3000	1

onsite at least once a week, but not necessarily at the same time as the antenatal clinics; over half ($n = 10$) had one onsite every day. Only nine of the 18 maternity units reported having a trained obstetrician/gynaecologist providing consultations at the site. The different types of nurses, trained midwives and laboratory technicians reflected heterogeneous levels of training of clinical staff. Only one site reported using trained birth attendants for service delivery instead of nurses.

For nearly 40 years antenatal cards have been used across the DRC to document dates and findings from antenatal visits (D C Mbotama, personal communication, 2005). The card is purchased at the first visit to an antenatal clinic and is used by fifteen of the 18 facilities surveyed. The services included in the cost of the antenatal card varied from site to site, as did the price at which the card was sold. Neither the price of the card (250–1550 francs Congolais; US\$ 0.67–4.13 in 2003), nor the services included in the cost, was related to whether the clinic was a public facility or a facility managed by a nongovernmental organization. Table 1 and Table 2 summarize the characteristics of the centres included in the survey, the cost of the antenatal card and the services provided.

Programme components

The provision of tetanus toxoid vaccination was reported by all 18 antenatal centres. The vaccination was included in the cost of the antenatal card at 11 sites (61%); one additional site provided the vaccination free of charge. The number of doses and the timing of the vaccination varied between sites. Clinics generally provided two to three doses of the vaccine, some at particular gestational ages, while others varied the number of doses they provided based on the parity of the client.

Seventeen of the 18 sites (94%) reported providing counselling on “healthy and balanced eating” (Table 3). Twelve (67%) reported prescribing multivitamins to their patients; only one, however, included the provision of multivitamins in the cost of the antenatal card.

All but one of the sites offered screening for anaemia by measuring haemoglobin concentrations. Of these, 15 clinics (88%) conducted the test onsite but only two included the cost of the test in the antenatal card. All 18 sites prescribed some form of treatment

Table 2. Prenatal services card: cost and services provided by 18 clinics in Kinshasa, Democratic Republic of the Congo

	No. of clinics ^a
Cost of card	
< US\$ 1.00	2 (11)
US\$ 1.00–2.00	5 (28)
US\$ 2.01–3.00	7 (39)
> US\$ 3.00	4 (22)
Services included in cost of card	
First visit with nurse	12 (67)
First visit with physician	9 (50)
Tetanus toxoid vaccine	11 (61)
Medication	
Multivitamins	1 (6)
Iron/iron folate	5 (28)
Malaria treatment	2 (11)
Biological analyses	
Blood typing	0 (0)
Haemoglobin concentrations	2 (11)
Thick blood smear (malaria)	1 (6)
Urine analysis	2 (11)
VDRL ^b /RPR ^c for syphilis testing	0 (0)

^a Figures in parentheses are percentages.

^b VDRL = venereal disease research laboratory.

^c RPR = rapid plasma reagin.

for anaemia: three sites provided iron supplements only, while the remaining 15 provided iron and folic acid supplements. Fourteen sites (78%) reported that prescribed treatment was available onsite, and only 5 (28%) reported it being covered in the price of the antenatal card.

To manage sexually transmitted infections (STIs), 14 clinics (78%) reported a syndromic approach; 5 (28%) reported that they required laboratory confirmation. Laboratory tests for the diagnosis of STIs were not often done at the maternity site and were rarely included in the price of the card. Ten clinics (56%) reported that microscopic analysis of vaginal secretions could be performed onsite; however, none of the sites included the cost of the microscopic analysis in the card. Only 4 (22%) of the sites screened for syphilis in pregnant women using a venereal disease research laboratory (VDRL) test or a rapid plasma reagin (RPR) test. Of those four clinic sites, two did the tests onsite and none seemed to include syphilis screening in the cost of the antenatal card. Sixteen sites (89%) reported offering treatment to male partners or spouses of pregnant women who tested positive for STIs. Seven of these (44%) offered free consultations for the partners; however,

treatment for STIs was not offered free of charge to male partners at any of the clinics.

Of the eighteen clinics surveyed, 16 (89%) reported that they broached the subject of family planning with pregnant women. The most common contraceptive methods available at the sites were condoms and medroxyprogesterone acetate; birth control pills, and intrauterine devices were also available at most sites (Table 3). Natural family planning or timed periodic abstinence was mentioned by 8 clinics (44%). Tubal ligation and spermicides were each available at two sites. Medroxyprogesterone acetate and intrauterine devices were the family planning methods most commonly accepted by clinic attendees (55% and 50%, respectively). Although condoms were generally available, this method was not mentioned as one that was commonly accepted by clients at any of the centres.

All sites reported providing pregnant women with some type of malaria prevention message: for example, “cleaning” (72%), use of insecticide (6%), and use of bednets (78%). None of the sites had impregnated bednets available at the antenatal clinic. Blood smear for diagnosis of malaria was done by all clinics surveyed and 16 (89%) conducted the

test onsite; only one clinic included this in the cost of the antenatal card. Nine clinics reported that they provided sulfadoxine pyrimethamine, the malaria prophylaxis recommended by the DRC National Program Against Malaria. Other chemoprophylaxes prescribed include amodiaquine, artemisine, chloroquine and quinine. Only two clinics (11%) included chemoprophylaxis in the cost of the antenatal card.

Seventeen sites (94%) reported systematically exploring complaints or symptoms suggestive of tuberculosis. Thirteen centres (72%) reported conducting sputum smear microscopy onsite; 10 (56%) reported the capacity to do chest X-rays on-site. Ten centres included in the study were also tuberculosis diagnostic and treatment centres, of which eight practised directly observed therapy.

HIV testing was done at eight sites (44%). Two of these sites reported systematic testing of antenatal patients, whereas the remaining six had voluntary counselling and testing (VCT) services available onsite. Three (17%) sites reported providing antiretrovirals for the prevention of mother-to-child transmission; two of these used nevirapine. The remaining clinics reported that counselling and referrals were provided for women testing positive for HIV. Further details on HIV services were not explored as the primary purpose of the survey was to determine capacity and readiness to incorporate PMTCT services into antenatal clinics, rather than to assess existing PMTCT services.

Discussion

Our survey of 18 maternity and antenatal health units in Kinshasa, DRC, showed that antenatal care services in these facilities varied with respect to content and cost. The essential components of antenatal care — defined by WHO to include information and services for family planning, prevention and management of sexually transmitted infections, tetanus toxoid immunization, treatment of existing conditions including malaria, nutritional and dietary advice, and iron folate supplementation²⁰ — were not consistently present across facilities. When present, the services were often not included in the price of the antenatal card, resulting in additional costs for women accessing the services and additional barriers to effective and comprehensive antenatal care.

Table 3. Basic antenatal services provided by 18 clinics in Kinshasa, Democratic Republic of the Congo

Antenatal services provided onsite	No. of clinics ^a
Nutrition	
Nutritional counselling	17 (94)
Multivitamins prescribed	12 (67)
Anaemia	
Screening	17 (94)
Treatment	18 (100)
Iron and folic acid	15 (83)
Iron only	3 (17)
Sexually transmitted infections	
Syndromic management	14 (78)
Laboratory confirmation required	5 (28)
Laboratory tests done onsite:	
Vaginal smear microscopy	10 (56)
Cervical smear microscopy	4 (22)
VDRL ^b /RPR ^c	2 (11)
Family planning	
Subject broached with patient	16 (89)
Available methods/ methods discussed	
Condoms	14 (78)
Medroxyprogesterone acetate	14 (78)
Birth control pills	13 (72)
Intrauterine device	13 (72)
Natural methods ^d	8 (44)
Abstinence	1 (6)
Rhythm method	4 (22)
Exclusive breastfeeding	2 (11)
Spermicides	2 (11)
Tubal ligation	2 (11)
Malaria	
Promotion of bednet use	14 (78)
Impregnated bednets available	0 (0)
Testing: blood smear	16 (89)
Treatment	
Sulfadoxine pyrimethamine ^e	9 (50)
Amodiaquine	2 (11)
Artemisin	2 (11)
Chloroquine	1 (6)
Quinine	1 (6)
Depends on provider	1 (6)
Tuberculosis	
Routine exploration of symptoms	17 (94)
Sputum smear	13 (72)
Chest X-ray	10 (56)
Clinic also a tuberculosis diagnosis and treatment centre	10 (56)
Treatment: directly observed therapy	8 (44)

^a Figures in parentheses are percentages.

^b VDRL = venereal disease research laboratory

^c RPR = rapid plasma reagin.

^d One site mentioned natural methods, but did not specify which method.

^e Recommended treatment for malaria in the Democratic Republic of the Congo.

Limitations

The assessment of antenatal services we conducted has several limitations. First, the sample of facilities was not randomly, but purposively, selected by key stakeholders who identified locations that might potentially serve as sites for expansion of PMTCT services. The sample probably does not reflect the true diversity of the state of antenatal care services across Kinshasa and survey responses may have overstated the type and content of antenatal care services available.

Although we used an open-ended question format, responses could still be biased towards an over-representation of the services provided, as respondents might have reported services that are supposed to be delivered rather than services that are actually being offered. We attempted to limit this bias by using multiple sources of data, including verification from clinic registers; however, not all services were recorded in the registers.

The survey did not assess all components of essential antenatal services. Because of resource constraints, we did not assess early detection and treatment of eclampsia/pre-eclampsia, obstetric care, frequency of the delivery of existing services and the type and quality of services provided during delivery. Likewise, the survey did not capture the content of counselling, the appropriateness of doses prescribed or medications provided, or the consistency in the delivery of the different elements of the antenatal package.

Informed planning

Results of the survey were reviewed with the National AIDS Control Program, the National Reproductive Health Program, and other stakeholders. Our finding that there were inconsistencies in the delivery of basic antenatal care made national leaders aware of the need to implement PMTCT within a context of improved antenatal care services (Box 1). The results also allowed for consensus-building on the need for expansion of the initial PMTCT programme in both scale and scope. We subsequently used these findings to develop an implementation plan for the rollout of PMTCT that included two main components. First, PMTCT was implemented by each participating antenatal clinic through a process of participatory onsite assessments of existing practices, followed by theoretical

Box 1. Minimum package of activities included in prevention-of-mother-to-child-transmission expansion programme, Kinshasa, Democratic Republic of the Congo, 2003

- Voluntary counselling and HIV testing for pregnant women (and their partners)
- Provision of nevirapine for HIV-positive mothers and their infants
- Routine iron and folate supplementation
- Syphilis testing and treatment for pregnant women and their partners
- Tuberculosis screening and referral for case management
- Malaria prevention through promotion of insecticide treated bednets and provision of sulfadoxine pyrimethamine for intermittent presumptive malaria treatment
- Appropriate management of pregnancy-related complications
- Tetanus vaccinations for pregnant women
- Family planning counselling
- Nutritional counselling (formula or exclusive breastfeeding plus abrupt weaning)
- Referrals for psychosocial support for women with HIV

and practical training. Sustained onsite technical assistance, monitoring and evaluation were then undertaken to allow PMTCT roll-out to be embedded in improved antenatal care. Second, to maximize the effectiveness and sustainability of improved services, a memorandum of understanding was developed that clearly described the responsibilities of participating institutions.

Lessons for the field

Although our survey was conducted in Kinshasa, our findings may be relevant to other settings. Kinshasa is a city beset by severe infrastructural challenges, a situation which, unfortunately, is not unique. Many developing countries face similar challenges in the provision of PMTCT and antenatal care services. The Ndola Demonstration Project in rural Zambia previously showed that the quality of existing antenatal care delivery systems influences the effectiveness of PMTCT scaling up and delivery programmes.²⁰ Workers on the project found that beyond resource investment in infrastructure, training, and supplies for the PMTCT components, additional resources are necessary to strengthen logistical support to integrate the PMTCT components into antenatal services as part of a comprehensive maternal and child health package. Similarly, in a rural district in Zimbabwe, while integrating PMTCT into district hospital services, Perez et al.²¹ invested in the strengthening of drug and medical supply delivery systems for the routine antenatal care programme to improve the overall package of services.

The challenge ahead

The need to build primary care capacity in addition to PMTCT programmes

in a city like Kinshasa is daunting. An estimated 532 facilities, including the 18 clinics surveyed, provide antenatal care to about 85% of the pregnant women in Kinshasa (personal communication Vicky Mbutu, National Reproductive Health Program, DRC). The 18 surveyed clinics provided care to 24 657 pregnant women in 2002, 11.5% of the estimated 214 200 pregnant women attending antenatal care clinics in Kinshasa every year. Clinic-based universal access to PMTCT would require strengthening capacity of more than 500 antenatal clinics which are most likely in worse shape than the ones that we surveyed.

Planners of PMTCT roll-out programmes cannot ignore the provision of basic primary antenatal care and should use these programmes as an opportunity to strengthen comprehensive antenatal care services in under-resourced settings. Operations research is needed to investigate both the positive as well as the negative consequences of integrating new programmes into existing infrastructure. Attention must also be paid to professional development, retention and morale of staff as well as the achievement of overall programme goals — healthy mothers and children.²² ■

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Résumé

Prévention de la transmission verticale du VIH à Kinshasa (République démocratique du Congo) : enquête de référence portant sur 18 dispensaires prénatals

Objectif Évaluer le contenu et les modalités de prestation des services anténatals essentiels en préalable à la mise en œuvre des programmes de prévention de la transmission de la mère à l'enfant (PMTCT) du virus de l'immunodéficience humaine (VIH).

Méthodes Nous avons évalué 18 centres de soins anténatals (huit établissements publics et dix gérés par des organisations non gouvernementales) à Kinshasa (République démocratique du Congo). Nous avons réalisé une enquête pour réunir des données sur les effectifs et les qualifications des agents de santé dispensant les services anténatals, sur la capacité des infrastructures et sur la prestation des services anténatals de base tels que : conseils nutritionnels, vaccination antitétanique, prévention et prise en charge de l'anémie, du paludisme, des infections sexuellement transmissibles et de la tuberculose, et conseils relatifs à la contraception après l'accouchement.

Résultats Les établissements de soins anténatals différaient par la taille, la capacité et le coût, ainsi que par les systèmes de prestation et le contenu des services. Par exemple, 17 parmi les 18 centres proposaient un dépistage de l'anémie, mais 2 de ces centres seulement faisaient porter le coût de ce service sur la carte donnant accès aux soins anténatals. Neuf dispensaires (50 %) ont indiqué qu'ils fournissaient un traitement prophylactique contre le paludisme par la sulfadoxine-pyriméthamine conformément à la politique nationale. Quatre de ces sites (22 %) proposaient un dépistage de la syphilis.

Conclusion La transposition des programmes de PMTCT aux pays démunis nécessite une évaluation et un renforcement des prestations de service anténatales de base existantes.

Resumen

Prevención de la transmisión vertical del VIH en Kinshasa, República Democrática del Congo: estudio basal de 18 dispensarios prenatales

Objetivo Evaluar el contenido y la prestación de servicios prenatales esenciales antes de poner en práctica programas de prevención de la transmisión de la madre al niño (PTMN) del virus de la inmunodeficiencia humana (VIH).

Métodos Evaluamos 18 centros de atención prenatal (ocho unidades públicas y diez gestionadas por organizaciones no gubernamentales) de Kinshasa, República Democrática del Congo. Mediante una encuesta reunimos información sobre el número y el tipo de agentes de salud prenatal, la capacidad de la infraestructura y la prestación de servicios básicos de atención prenatal como el asesoramiento nutricional; la vacunación con anatoxina tetánica; la prevención y el tratamiento de la anemia, la malaria, las infecciones de transmisión sexual y la tuberculosis; y el asesoramiento para la anticoncepción posparto.

Resultados Las unidades de atención prenatal diferían en lo tocante al tamaño, la capacidad, el costo, los sistemas de prestación de servicios y su contenido. Por ejemplo, 17 de los 18 centros ofrecían cribado de la anemia, pero sólo dos sitios incluían el costo en la tarjeta que da acceso a la atención prenatal. Nueve dispensarios (50%) declararon estar suministrando sulfadoxina-pirimetamina como profilaxis de la malaria con arreglo a la política nacional. Cuatro (22%) de los centros ofrecían cribado de la sífilis.

Conclusión La expansión de los programas de PTMN en los entornos con pocos recursos exige la evaluación y el fortalecimiento de los servicios existentes de atención prenatal básica.

ملخص

أثناء السراية العمودية لفيروس العوز المناعي البشري في كانشاسا، جمهورية الكونغو الديمقراطية: مسح للقيم الأساسية في 18 عيادة للرعاية السابقة للولادة

الهدف: تقييم مضمون الخدمات الأساسية السابقة للولادة وإيانتها قبل تنفيذ برامج الوقاية من سراية فيروس العوز المناعي البشري من الأمهات لأطفالهن.

الطريقة: أجرينا تقيماً لـ 18 مركزاً للرعاية السابقة للولادة، ثمانية منها تتبع القطاع العام، وعشرة منها تديرها منظمات لاجكومية، في كانشاسا، جمهورية الكونغو الديمقراطية. وقد استخدمنا مسحاً لالتقاط المعلومات حول عدد ومط العاملين الصحيين، والقدرات في البنية الأساسية وفي الخدمات الأساسية للرعاية السابقة للولادة، مثل التوعية التغذوية، والتطعيم بذوفان الكزاز (التيتانوس)، والوقاية من فقر الدم ومعالجته، والملاريا، والعداوى المنقولة جنسياً، والسل، إلى جانب التوعية حول استعمال موانع الحمل بعد الولادة.

الموجودات: تختلف وحدات الرعاية السابقة للولادة فيما بينها من حيث الحجم والاستيعاب والتكاليف ونظم إيانتها الخدمة والمضمون. وقد كان 16 موقعاً من بين 18 موقعاً يقدمون خدمة تحري فقر الدم، على سبيل المثال، فيما لم تتضمن البطاقات بياناً بالتكاليف المترتبة على الحصول على الرعاية السابقة للولادة إلا في موقعين منها، كما أبلغت تسعة مواقع (50% من العيادات) عن تقديم الأدوية الوقائية من الملاريا وهي السلفادوكسين - بيراميثامين وفقاً للسياسات الوطنية المتبعة؛ كما، أن أربعة مواقع (22%) تقدم خدمات التحري عن الزهري (الإفريقي).

الاستنتاج: يتطلب النهوض ببرامج الوقاية من سراية فيروس العوز المناعي البشري من الأمهات لأطفالهن في المواقع القليلة الموارد تقيماً وتعزيزاً لخدمات إيانتها الرعاية السابقة للولادة المتوافرة فعلياً.

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