PMTCT: 'Quality Mentors'

ADDRESSING THE QUALITY GAP IN PMTCT SERVICES IN LOW-RESOURCE SETTINGS THROUGH A HEALTH SYSTEMS STRENGTHENING APPROACH

An evaluation of KI PMTCT nurse 'Quality Mentors' in three South African Provinces

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XIX International AIDS conference, Washington, USA, July 2012 & 4th International Workshop on HIV Pediatrics, July 2012

This image is part of a set called Body Maps. They tell a story of the journey of women who discovered their HIV status as a result of pregnancy. They represent the HIV virus, symbols of personal power and areas of emotional significance. A shadow line of their partner was included in each painting to represent the importance of support and encouragement.

Background

- Most pregnant women living with HIV access antenatal services (ANC); however, few receive the complete package of prevention of mother-to-child transmission (PMTCT) interventions in low-income settings.
- As a result of the poor quality of services, pregnant women do not benefit from PMTCT interventions which have demonstrated effectiveness when applied appropriately.
- Although coverage of HIV testing during antenatal care is high, CD4 cell count testing and initiation of dual antiretroviral treatment (ART) and/or triple ART continues to be low.[1] Consequently, HIV transmission rates are higher than in developed countries.
- South Africa has the world's greatest burden of HIV-infected children.
- Despite being a middle income country, maternal and child health indicators in South Africa are similar to those of low income countries, with the maternal mortality rate being 310 per 100 000 live births, an infant mortality rate of 40 per 1000 live births, and an under five mortality rate of 56 per 1000 live births.
- A lack of integration of child health services in primary healthcare (PHCs) results in HIV exposed infants not receiving necessary interventions.[2]
- The scale-up of PMTCT services has accelerated over the years however; shortage of skilled healthcare workers persists.
- Little data exists on the effect of clinical mentorship on programme outcomes. We evaluated whether clinical mentorship provided by KI nurse Quality Mentors (QMs) is effective in improving processes and outcomes in the continuum of care of PMTCT services in South Africa.

Methods

- Kheth'Impilo (KI) is a South African non-governmental organisation (NGO) that, since 2004, has supported the South African department of Health (DOH) at public antiretroviral treatment, antenatal and delivery sites by employing medical and pharmacy staff, implementing electronic monitoring systems, and proving a community-based adherence support program for patients receiving antiretroviral therapy and PMTCT.
- The quality mentor (QM) health systems strenghthening initiative has been introduced by KI in three South African provinces (Eastern Cape, KwaZulu-Natal and Mpumalanga), covering five high HIV-prevalence districts with antenatal HIV prevalences of 30% - 46%.
- The quality mentor is a professional nurse with qualifications in primary health care with at least 3 years experience, general midwifery, training in HIV/TB/STIs treatment for adults and children, integrated management of childhood illnesses, skills in communication, mentorship and support for colleagues in decision and leadership. The aim was to improve PMTCT outcomes but also general HIV management of patients by nurses, supported by good data collection.
- QMs support SAG PMTCT nurses working in rural and peri-urban primary healthcare clinics.
- QMs strengthen staff capacity and clinical management skills through ongoing mentoring and supervision, and ensure proper application of the national DoH PMTCT guidelines.
- Each QM covers a number of different antenatal facilities within a particular sub-district.
- Clinical data is actively utilised to improve the quality of services and facility staff are engaged when developing strategies to address gaps in programme process.
- QMs further promote linkages in child health services thus ensuring the referral for HIV testing of HIV exposed infants.
- An observational before-after study was conducted at 31 facilities. Routine data collected by facility-based nurses and aggregated at site level as part of the District Health Information System in South Africa were analysed between April 2010 and September 2011.
- PMTCT indicators were compared for the periods before and after QMs were introduced at each facility, using risk ratios (RR), 95% confidence intervals.

Results

- A total of 4951 (pre QM introduction) and 22,507 (post QM introduction) women were included in analyses.
- Repeat HIV testing at 32 weeks gestation increased from 38% to 45% (RR=1.17; 95% CI: 1.12-1.23) (Table 1).
- Uptake of CD4 cell testing at booking increased from 82% to 85% (RR=1.03; 95% CI: 1.01-1.05).
- AZT uptake for eligible women improved from 80% to 89% (RR=1.10; 95% CI: 1.08-1.13) after introduction of QMs.
- HIV-exposed infants who received cotrimoxazole around 6 weeks of age increased from 93% to 99% (RR=1.07; 95% CI: 1.05-1.09).
- The estimated proportion of infants HIV tested at 6 weeks after birth increased from 69% to 77% (RR=1.12; 95% CI: 1.08-1.16).
- HIV testing of children at 18 months increased from 12% to 23% (RR=1.84; 95% CI: 1.63-2.08), respectively.
- HIV transmission at 6 weeks decreased from 3.3% to 2.7% (RR= 0.80; 95% CI: 0.58-1.10).
- HIV transmission at 18 months decreased from 8.3% to 3.9% (RR= 0.47; 95% CI: 0.30- 0.74).

Table 1: PMTCT indicators prior to and after commencement of nurse Quality Mentors at antenatal clinics

Indicator	Pre QM n/M	%	Post QM n/M	%	Risk ratio	95% CI	P value
Booking HIV test uptake	4486/4516	99	19,568/19,729	99	0.99	(0.99; 1.00)	0.183
32-week gestation HIV retest uptake	1184/3076	38	6404/13,809	46	1.17	(1.12; 1.23)	<0.0001
CD4 cell testing uptake	1488/1804	82	6740/7925	85	1.03	(1.01; 1.05)	0.0092
AZT receipt	1459/1804	80	6981/7925	89	1.10	(1.08; 1.13)	<0.0001
Infant cotrimoxazole uptake	1275/1341	93	7740/6878	99	1.07	(1.05; 1.09)	<0.0001
Proportion of infants PCR tested at 6-weeks*	1341/1956	69	6878/8967	77	1.12	(1.08; 1.16)	<0.0001
HIV Transmission at 6-weeks	46/1341	3.3	188/6878	2.7	0.80	(0.58; 1.10)	0.17
Proportion of infants tested at 18-months*	243/1956	12	2050/8967	23	1.84	(1.63; 2.08)	<0.0001
HIV Transmission at 18-months	22/243	8.3	84/2050	3.9	0.47	(0.30; 0.74)	0.0011

*Total number of positive women/total number of infants testing during period

Conclusions

- Kheth'Impilo's QMs were key in ensuring high-quality care in the scale-up of PMTCT services.
- QMs improved PMTCT cascade processes contributing to decreased HIV transmission.
- This is an effective strategy for health system strengthening in settings with limited human resources, to improve health systems effectiveness and to decrease the incidence of childhood HIV acquisition.
- Limitations include lack of control for confounding due to the aggregated nature of the data analysed.

References

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ACKNOWLEDGEMENT: This research was made possible by the President's Emergency Plan for AIDS Relief (PEPFAR) through the United States Agency for International Development (USAID) under the terms of grant no. P3121A0051 The contents of the presentation are the sole responsibility of "Kheth'Impilo" and do not necessarily reflect the views of USAID or the United States Government.