Implementation Issues for Prevention of Parent to Child Transmission of HIV Programs in the Simbu Province of Papua New Guinea

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Abstract

This article reports on challenges faced by church health services in the Simbu Province of Papua New Guinea to train health workers in the prevention of parent to child transmission of the human immunodeficiency virus (HIV) and implement programs in their health facilities. The importance of antenatal clinics is stressed as the entry point for the HIV prevention program. Based upon knowledge gained through antenatal clinics, further services are offered such as antenatal care for HIV positive mothers, supervised delivery with specific preventive measures, Antiretroviral (ARV) prophylactic treatment for the mother and the baby, infant feeding counseling, follow-up on the babies, and ongoing family support and counseling. The Simbu Province is in a very mountainous region with the majority of the population living in rural villages. Health services need to reach the people if programs to prevent the transmission of HIV from parents to children are to be effective.

Key words: Human Immunodeficiency Virus (HIV), Acquired Immunodeficiency Syndrome (AIDS); Prevention of parent to child transmission **(**PPTCT), antenatal clinic, Dry blood spot polymerase chain reaction testing, Antiretroviral (ARV) prophylactic treatment, Voluntary counseling and HIV testing (VCT)

Introduction

This study explored factors that facilitated and hindered the implementation of training programs by church health workers in the Simbu Province of Papua New Guinea for the prevention of parent to child transmission of the human immunodeficiency virus (HIV). The author of the article is the Catholic Health Secretary for the Simbu Province. One of her tasks is the introduction, monitoring and evaluation of health programs in church health facilities in the province. It is claimed that without any intervention, three out of ten babies will be infected with HIV from those born to HIV positive mothers. The infection can occur during pregnancy (5%), during delivery (10-15%) and during breast feeding (5-10%), but with proper and timely interventions all these infections can be prevented. Therefore there is a great challenge to help parents and their babies to be 'born to live'. Table 1 presents Catholic health service institutions in the Simbu Province, their location and their catchment population.

Table 1: Simbu Catholic Health Service institutions, their location and catchment population

Institution	District	Population 2008
Mingende Rural Hospital	Kerowagi	16,000
Goglme Health Centre	Gembogl	10,830
Kendene Health Centre	Kerowagi	8,190
Neragaima Health Centre	Kerowagi	6,800
Bogo Health Centre	Kerowagi	2,450
Mai Health Centre	Sina-Sina	6,100
Denglagu Health Centre	Gembogl	3,850
Dirima Aid Post	Gumine	About 6,000
Nondri Aid Post	Gumine	About 2,000

The first case of HIV was reported in PNG in 1987 and since then the number of HIV cases has risen to 28,294 as reported at the end of December 2008 by *The 2008 STI, HIV and AIDS Annual Surveillance Report*. The Catholic Health Service in PNG was the first care provider to take up a leading role on developing a prevention of parent to child transmission of HIV curriculum and training program for health workers. The Mingende Rural Hospital has been one of the three pilot projects sites to start with HIV testing of antenatal mothers. The 'Born to Live' program started in October 2003. At present all antenatal mothers in Mingende Hospital are offered a range of HIV information, counseling and testing services.

Photo 1: Midwife explaining the prevention of parent to child transmission of HIV program

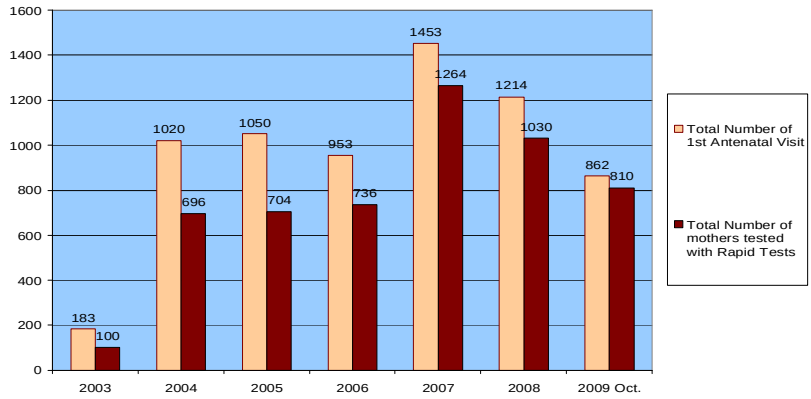
Antenatal coverage in the Simbu Province

Antenatal clinics are the entry point for the prevention of parent to child transmission of HIV program. Simbu Province is located in the highlands region of PNG, and is geographically rugged with high mountains. This is one of the constraints for women to access a health facility for various services including antenatal clinic and supervised delivery. Other factors contributing to low antenatal coverage in this country include no regular clinics conducted; staff not present or unfavorable staff attitudes; and run-down health facilities. There is a great disparity between the desired antenatal coverage and the actual coverage. If the women do not reach the health facilities due to various reasons there is no way to reach them and help them to know their HIV status and to offer the prevention of parent to child transmission of HIV program.

Antenatal clinic HIV testing

The 'Born to Live' program for the prevention of parent to child transmission of HIV started in Mingende Rural Hospital in October 2003. For the six years from then to October 2009, 5340 antenatal mothers were tested for HIV with 58 positive results. The following graph shows that 79.2% of women who attended the antenatal clinic for the first time opted for HIV testing.

Figure 1: First antenatal visits at Mingende Rural Hospital and women tested for HIV between October 2003 and October 2009



Source: Mingende Rural Hospital, Antenatal clinic statistics

All the women received group information about the 'Born to Live' program and the importance of HIV testing, as the knowledge of one's status would help to have a healthy baby. However there were barriers preventing some women from consenting to test at the first visit, like fear of the husband's reaction or fear of stigma.

Babies born to HIV positive mothers

From October 2003 until October 2009, 64 HIV positive mothers delivered babies (58 delivered in Mingende Rural Hospital; two delivered in other facilities; and four had village deliveries). Out of 64, fourteen babies died before reaching the age of one year. Most of the babies died in the first three years of the program, when many aspects were on a trial basis. Some of the babies who died were born in the village without any ARV prophylaxis; some mothers were unfaithful to the exclusive breast feeding option and introduced mix feeding very early; some never came for follow up visits and only later the death of the child was reported. Sixteen babies tested negative at the age of 18 months or shortly after. It was a long time for both the parents as well as the staff to wait for that moment to know the baby's status.

Photo 2 Sr. Kinga with little Joseph, who tested negative at 18 months

The *Dry Blood Spot Polymerase Chain Reaction* testing for the presence of the HIV virus for babies over six weeks of age started in 2009 and early results were overwhelming. In May 2009 out of 13 babies tested, all 13 were tested *negative*, and in October 2009, out of 7 babies tested, all 7 tested *negative*. The joy of such results is shared between the parents and the staff, because it takes cooperation from both sides. Some babies would need to be retested after breastfeeding is stopped, however we strongly believe that the efforts of the prevention of parent to child transmission of HIV staff are meeting the aim of the program that all these babies ***are born to live.*** So far there are a total of 36 babies born to HIV positive mothers being tested negative**.** There are 14 more babies to be tested soon.

Photo 3: Dry blood spot collection from baby's heel for polymerase chain reaction

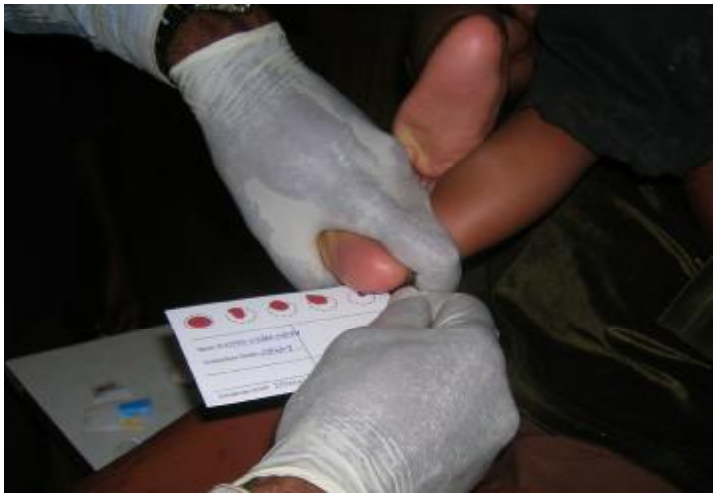
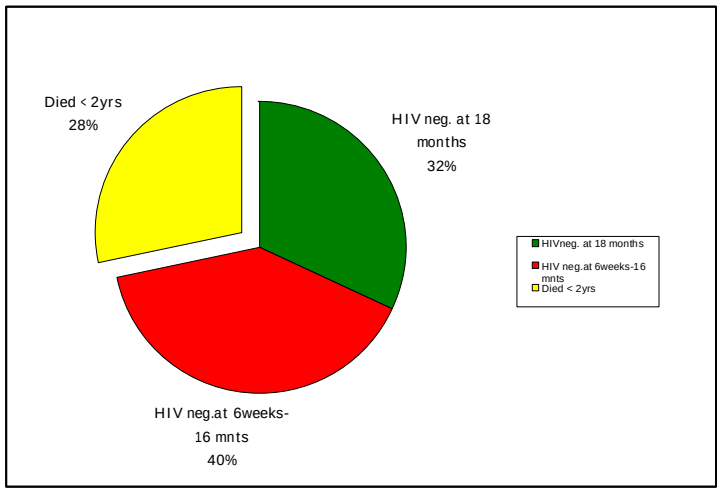


Photo 4: Parents waiting with their babies for dry blood spot – HIV testing at Mingende

The pie chart in Figure 2 shows the results of babies tested. The number of babies who died in the first two years of life is still pretty high, however most of these babies died in the first years of the implementation when only a single dose of Nevirapine was used as an ARV prophylaxis for both mother and the baby. In the last two years there were only three deaths reported to babies born to HIV positive mothers at Mingende Rural Hospital.

Figure 2: Percentage of babies born to HIV positive mothers tested negative and those who died



Source: Mingende Rural Hospital:
Prevention of parent to child transmission of HIV records

The guidelines for prevention of parent to child transmission of HIV require a comprehensive approach and consist of:

- primary prevention of HIV infections by women
- prevention of unintended pregnancies among women living with HIV
- prevention of transmission from mothers living with HIV to their infants
- care, treatment and support for mothers living with HIV, their children and their families.

(NDoH, 2007, *Guidelines for HIV Care and Treatment in PNG,* p.25)

The Mingende Hospital statistics show that, at the end of 2008, 78% of antenatal mothers had been tested for HIV at their first antenatal clinic visit. Based upon this knowledge further services are offered such as: antenatal care for HIV positive mothers, supervised delivery with specific preventive measures, Antiretroviral (ARV) prophylactic treatment for the mother and the baby, infant feeding counseling, follow up on the babies, and ongoing family support and counseling. The whole issue of parent to child transmission of HIV is very complex and there are always new aspects to be faced. Since the majority of people in PNG live in rural areas, a high number of the antenatal mothers come from such areas. If the service is not provided in the places where the majority of population are, the effectiveness of the interventions cannot be effective.

Training of church health workers

One of the priorities of the Simbu Church Health Service administration is professional staff development and regular in-service training. The first

training program for *Voluntary counseling and HIV testing* (VCT) for Church Health Workers took place in 2002 and for *Prevention of parent to child transmission of HIV* (PPTCT) in 2003. However, there is a frequent turnover of staff and there is a need for ongoing training. The table below shows the number of trained staff in *Voluntary counseling and testing* as well as in *Prevention of parent to child transmission of HIV* in church health facilities.

Table 2: Number of Simbu church health service staff trained in Voluntary counseling and testing and Prevention of parent to child transmission of HIV by facility

Institution	Nurse	No trained in VCT			No trained in PPTCT			No. trained in both		
		M	F	Total	M	F	Total	M	F	Total
Mingende RH	42	5	21	26	2	16	18	2	14	16
Goglme HC	6	1	5	6	1	3	4	1	3	4
Kendene HC	5	1	4	5		3	3		3	3
Neragaima HC	4		4	4		3	3		3	3
Bogo HC	3	1	1	2		1	1		1	1
Mai HC	4	1	1	2	1	1	2	1		1
Denglagu HC	3	1	2	3	1	1	2	1	1	2
Dirima Aid Post	2		2	2		2	2		2	2
Nondri Aid Post	1		1	1						
TOTAL	**70**	**10**	**41**	**51**	**5**	**30**	**35**	**5**	**27**	**32**

The table illustrates that all health facilities have trained staff in both HIV counseling and in prevention of parent to child transmission. However there is a need for more training, so all church health workers could be equally prepared to be part of the care team and have a share in some specific tasks. Simbu Church Health Service currently employs seventy nursing staff, both Community Health Workers and Nursing Officers. Out of this 73% (n-51) have been trained in voluntary counseling and testing, 50% (n-35) in prevention of parent to child transmission of HIV, while 46% (n-32) in both.

Methodology

Multiple methods were used to gather data for this study. Methods included questionnaire, observation, interviews and documentary analysis.

Questionnaire

The questionnaire was developed to explore the views of the health workers in rural health facilities on the importance of implementing the Prevention of Mother to Child Transmission (PMTCT) program in all church health facilities. Given that the participants were health professionals, it was prepared in English. Using a Likert Scale, respondents indicated the extent to which they

agreed or disagreed with eleven closed item statements. There was one open-ended item.

Questionnaire closed items

1. The PMTCT program is important and needs to be implemented in all health facilities.
2. I feel that the PMTCT program will not work in our health facility
3. The PMTCT program is too complicated and requires substantial modification of our facilities before it can be implemented.
4. The number of staff trained in PMTCT is adequate to start implementation of PMTCT program
5. The trained health workers are confident and competent in offering the PMTCT services to antenatal mothers.
6. The trained health workers are teaching other nurses and sharing their knowledge and experience.
7. The PMTCT program should be run only by fully trained staff.
8. The PMTCT program is already being implemented in my facility
9. My facility has adequate space for voluntary counseling and testing at antenatal clinics.
10. The duty allocations in my health facility can accommodate an extra day for first antenatal clinics to cater for the PMTCT program.
11. My facility with its current staff ceiling is able to take the new PMTCT program on board.

Questionnaire open-ended item: Suggest ways you think PMTCT can be effectively implemented in your setting and in the whole Simbu Catholic Health Service.

Interview questions

Two sets of guiding questions were developed for interviews with staff. One set was for staff who had received training for the Prevention of Parent to Child Transmission of HIV and the second set was for staff who had not received training.

Interview questions for the staff trained in the Prevention of Parent to Child Transmission of HIV program

1. How did you find the Prevention of Parent to Child Transmission of HIV training course that you undertook?
2. What do you think are the most important aspects of PMTCT that need to be considered before it is introduced and implemented?
3. What are the difficulties or obstacles that prevent you from implementing the program as well as you would like?
4. What would be helpful in the process of introducing and implementing the PMTCT program in your facility
5. Name some aspects of PMTCT where you feel you need more training?
6. How do you see the role of the management in implementing the PMTCT program in your facility?

Interview questions for the staff who had not participated in the Prevention of Parent to Child Transmission of HIV program

1. What is your understanding of the Prevention of Parent to Child Transmission of HIV Program?
2. Could you describe your role as the staff nurse in the implementation of the PPTCT program in your facility?
3. What is already happening in your facility in regard to introducing and implementing the PPTCT program?
4. How would you see the program happening?
5. What would be the role of the management in implementing the PPTCT program in your facility?

Observation checklist

The observation checklist listed nine components considered necessary for effective implementation of a Prevention of Parent to Child Transmission of HIV program. For each component, there were descriptions of what would be considered satisfactory or unsatisfactory. The checklist is presented in Table 3.

Table 3: Observation checklist indicating issues and observations considered satisfactory and unsatisfactory

Component/ Issue	Acceptable		Unacceptable	
	Ideal	Satisfactory	Needs Improvement	Unacceptable
1. Availability of PMTCT protocols/ policy (antenatal care protocol, labour ward protocol, post natal care protocol, universal precautions)	Protocols easily available and placed in accessible area	Most important policies are available	The protocols are locked in OIC office and not acceptable to other staff.	There is no PMTCT protocols in the facility
2. Sound knowledge of the staff in regard to PMTCT issues.	All staff being inserviced in PMTCT	The staff has fair idea about the PMTCT protocols	Only some of the staff are aware of such protocols	The PMTCT policy is not known to the staff
3. Adequate number of staff trained in PMTCT (at least 2 trained nurses).	3 or more nurses trained in PMTCT	2 or more	1	0
4. Regular antenatal clinics conducted where the VCT can be offered to mothers.	A/N Clinics conducted weekly (or twice a week)	A/N Clinics conducted every second week	A/N Clinics conducted once a month	No regular A/N Clinics scheduled
5. Adequate space for private counseling and testing.	A separate counseling room available	A room that can be used for VCT available	Part of the antenatal examination room being used for VCT	No space for VCT
6. Functioning labour ward with running water and the basic equipment.	Labour ward fully functioning with all basic equipment	Most necessary things present in Labour	Some missing equipments in Labour ward	Labour ward without running water and lacking basic

		ward		equipment.
7. Adequate number of staff.	5 or more	4	3	2
8. Adequate supplies of HIV Rapid Tests, ARV Drugs for mothers and babies.	Rapid Tests and ARV in limited stock	Rapid Test and ARV in limited stock	Only few rapid test available	No supplies for VCT or Treatment
9. Staff cooperation- good team work.	Staff working together and sharing the responsibilities equally	Most of the staff work well in a team	Often staff work well in a team	No cooperation among staff

Documentary analysis

The researcher was able to access documentary evidence for this study in the form of Prevention of Parent to Child Transmission of HIV records at antenatal clinics, labour wards, PPTCT clinics and Simbu Church Health Service records. Ethical considerations were extremely important in protecting identities of patients all data was handled with the greatest sensitivity in regard to responsibility, competence, moral standards, confidentiality and anonymity.

Results

Fifty-two respondents completed the questionnaire. The following table presents general information from Part 1 of the questionnaire about the respondents.

Table 4: Information about questionnaire respondents

	Number	**Percentage**
Total participation	52	100
Gender		
Male	11	21.15
Female	41	78.85
Health Profession		
Nursing Officer	20	38.46
Community Health Worker	32	61.54
Designation		
Officer-in-charge/ Sister-in-charge	11	21.15
Staff Nurse	41	78.85
Work area		
Rural Hospital	30	57.69
Health Centre	22	42.31

Training		
Trained in VCT	37	71.15
Trained in PMTCT	20	38.46
Trained in both	14	26.92

Part 2 of the questionnaire consisted of eleven closed items and one open question. The following table indicates the percentage of respondents who agreed or strongly agreed with each of the closed items on the questionnaire, followed by suggestions from the open-ended item.

Table 5: Agreement levels to questionnaire statements

The PMTCT Program is important and needs to be implemented in all health facilities. (100%)
The trained health workers are confident and competent in offering the PMTCT services to antenatal mothers. (85%)
The PMTCT program is already being implemented in my facility. (83%)
The trained health workers are teaching other nurses and sharing their knowledge and experience. (62%)
The PMTCT Program should be run only by fully trained staff. (54%)
The duty allocations in my health facility can accommodate extra day for 1st antenatal clinics to cater for PMTCT Program. (50%)
My facility has adequate space for VCT at antenatal clinic. 48%)
My facility with its current staff ceiling is able to take up the new PMTCT program on board. (44%)
The PMTCT program is too complicated and requires substantial modification of our facilities before it can be implemented. (40%)
The number of staff trained in PMTCT is adequate to start implementation of PMTCT Program. (40%)
I feel that the PMTCT program will not work in our health facility. (6%)

Suggestions to improve implementation of the PMTCT Program

All staff members to be trained or if not all, some more to be trained
More physical space needed at antenatal setting (separate VCT rooms, private space)
Staff ceiling should be increased and extra positions created to ease the workload or extra time allocated
To have staff trained in administering and monitoring of ART, and all facilities to have ART in stock
The follow up system of mothers enrolled for the program and their babies should be strengthen and extra vehicle would be helpful
Networking and strengthening the partnership with government agencies, including government funding for the program
Strengthen the awareness program and need for more educational materials
Securing more funds and extra incentives for staff involved
Men to be involved in the program

Observation check list

The observation checklist was developed to physically observe the actual PPTCT setting and the processes involved in the implementation as well as to assess the individual staff knowledge and practical skills. All seven Church Health Service facilities in Simbu, namely Mingende Rural Hospital and the health centres of Bogo, Neragaima, Mai, Kendene, Goglme and Denglagu. had been visited during the days of their scheduled antenatal clinics.

Observation checklist results

1. ***Availability of PMTCT protocols/ policy (antenatal care protocol, labour ward protocol, post natal care protocol, universal precautions)***
   The PPTCT Protocols are not clearly defined in most of the facilities. The staff trained in PPTCT use their participant's guides and developed unwritten practices at their antenatal clinics. Only in Mingende Rural Hospital a standard protocols are being used. All health centre staff are doing only antenatal education and screening for HIV. Whenever they encounter and HIV positive pregnant mother, they refer her to Mingende for direct PPTCT interventions. The protocols for Universal Precautions were noticed in all health facilities, however the staff do not follow them.

2. ***Sound knowledge of the staff in regard to PMTCT issues.***
   Mingende Rural Hospital had a number of staff trained in PPTCT and there is a general understanding of the program and all its components. However there are also new staff members including midwives who do not have the knowledge and do not like to be exposed or learn from the experienced personnel. There is a limited understanding and holistic knowledge in regard to PPTCT by most of the staff in rural health facilities. Very little is being shared among the team members.

3. ***Adequate number of staff trained in PMTCT (at least 2 trained nurses).***
   Currently a total of 35 nursing staff have been trained in PPTCT with a majority (18) working in Mingende Rural Hospital. All health facilities had at least one person trained in PPTCT, while three facilities had two nurses, and another two facilities had three nurses, which is still not the best situation. Sometimes, in the absence of the trained nurse, there is no replacement and the staff that had no explicit PPTCT training are not keen of giving the PPTCT information and screening the antenatal mothers.

4. ***Regular antenatal clinics conducted where the voluntary counselling and HIV testing can be offered to mothers.***
   There are regular antenatal clinics scheduled once a week in all facilities. Mingende Rural Hospital has a separate day for the first antenatal clinic visit where all the mothers are informed about the program and are offered the HIV test. All six health centres have combined antenatal clinics for the first as well as consecutive visits. The monthly report shows a very low number of pregnant mothers attending the antenatal

clinics at all. The average in Simbu is 51%, and for the Catholic Health Services the average is 72% of antenatal attendance.

5. ***Adequate space for private counselling and testing.***
   Mingende Rural Hospital is facing a big problem with spacing, since it has only two private antenatal rooms which are used as counselling rooms during first antenatal clinic visits. There are usually about 30-35 pregnant mothers to be counselled individually and tested so other rooms from the maternal setting are used. All other health facilities, although they do not have explicit a counselling room, have a private room for examination, counselling and testing.

6. ***Functioning labour ward with running water and the basic equipment***
   All health facilities have functioning labour wards, with running water and basic sterile equipment. All protective gears like gloves, masks, gowns, disinfectant, etc are available.

7. ***Adequate number of staff***
   The current staff, according to the staff ceiling, are overburdened. Only Mingende Rural Hospital has two extra staff employed for PPTCT. All other facilities operate with limited staff number. Shortage of staff is an ongoing problem with all new programs. In the Health Centres it is often the matter of proper time management and allocation of staff on duties.

8. ***Adequate supplies of HIV rapid tests, ARV drugs for mothers and babies.***
   Rapid HIV tests are easily available in all facilities. They are being supplied through the National Catholic AIDS Secretariat and distributed from Mingende Rural Hospital. If there is no test strips at facility level it is only because of negligence. The ART drugs are stored at Mingende Rural Hospital only. So far there were very few mothers tested positive in other rural facilities that it is not wise and not economical to keep these expensive drugs in small facilities. The practice is to refer the HIV positive mother to Mingende for further treatment and care. The supplies of drugs recently are coming regularly, although there were times that shortage of ART drugs was part of the struggle.

9. ***Staff cooperation- good team work.***
   There is a strong stand from the staff, that only those trained in PPTCT should be involved in the implementation and sometimes it is a problem with staff who have no training. Sometimes, in the small facilities there is no HIV counseling and testing done during antenatal clinic because nurses do not like to take this extra challenge.

Interviews

There were ten nurses interviewed in regard to their involvement in the implementation of the PPTCT Programs in respective health facilities. Six of

them took part in PPTCT Training while four were trained in HIV counseling but did not have explicit training in PPTCT.

Interviews with nurses trained in PPTCT

1. How did you find the Prevention of Parent to Child Transmission of HIV training course that you undertook?
   The PPTCT training was good, however two of the staff did not have HIV counselling course prior to PPTCT training and found it rather difficult to catch up with all the issues. Secondly, recently there are many changes and developments and there are gaps felt which need to be addressed by follow up training or sort of refresher course. There were suggestions to revise the training curriculum and include the DBS infant testing and ART.

2. What do you think are the most important aspects of PMTCT that need to be considered before it is introduced and implemented?
   All six nurses stressed the importance of training, that possibly all staff should be trained and also the physical space at antenatal setting. Also the need of separating the first antenatal visit from the re-visits was mentioned.

3. What are the difficulties or obstacles that prevent you from implementing the program as well as you would like?
   The three nurses from Mingende Hospital are fully implementing the program. Three others from the Health Centres stated that sometimes the OIC is not supportive and do not set proper time for the antenatal clinic or the staff trained in PPTCT are not working on that day. There is also no separate private space for counselling and HIV testing at Antenatal Clinics. Some also said that shortly after the program was introduced and lot of awareness given, many mothers were turning up for testing, but not any more.

4. What would be helpful in the process of introducing and implementing of the PPTCT Program in your facility?
   Everyone suggested that all staff should be trained in PPTCT so there would not be excuses and misunderstanding among staff. Again an issue of the spacing- separate room for counselling was mentioned. Also there is a need for the same financial support for the positive mothers or those who already delivered for their transport and nutrition. For Mingende Hospital it was mentioned that full time staff for PPTCT only would positively contribute to the outcome of the program.

5. Name some aspects of PPTCT where you feel you need more training?
   Four out of six staff mentioned the need for more training on the administration of ART for HIV positive mothers and babies. Advanced counselling skills, especially in couple counselling, follow up, feeding option was mentioned as well. Also the need for management skills was brought up.

6. How do you see the role of the management in implementing the PPTCT Program in your facility?
   All interviewed staff mentioned that the success of the program depends on one side of the commitment of the staff but on the other hand on the support from the management. The administration should organize more training, provide logistics, preferably a vehicle for follow up visits, etc. Some sort of incentives for the staff was also highlighted to motivate them and to recognize their efforts. Two nurses mentioned that there were no clear protocols in place in the health centres and some staff, especially those not trained were confused and they do not understand the complex issues surrendering PPTCT program. The three nurses from health centres would like to have the ART drugs available at the facility level, and would be happy to manage their own clients without referring them to Mingende.

Interviews with nurses not trained in PPTCT

1. What is your understanding of the Prevention of Parent to Child Transmission of HIV Program?
   All four interviewed nurses stressed the importance of the PPTCT program to help the mothers to know their HIV status and help those who are HIV positive to have health babies. 3 nurses from the health facilities were not very familiar with the basic components of the program.

2. Describe your role as the staff nurse in the implementation of the PPTCT Program in your facility?
   Three of the four nurses were trained as HIV counselors, so they are taking active part in antenatal counseling and testing for HIV. So far only one of the nurses from the health centres came across HIV positive pregnant mother, but the mother was referred to Mingende. The two staff from Mingende were hardly involved in the program. Occasionally while working in Maternity Ward they took part in antenatal clinic, so they listened to the health talks, etc. but could not actively participate.

3. What is already happening in your facility in regard to introducing and implementing the PPTCT Program?
   The two staff from Mingende are aware that the program is being implemented and that there are number of babies already tested for HIV status. The other two from the remote health facilities did not know much what was happening, besides the HIV testing at antenatal clinics.

4. How would you see it happening?
   All expressed the wish to be trained and be part of the team. As the previous group, they all expressed that all staff have to be trained in PMTCT, so team work can be strengthened. In the facilities where there are only three or four nurses working it is important that all are trained so if one is off or on holiday another one can carry on the tasks.

5. What would be the role of the management in implementing the PPTCT Program in your facility?
   Everyone mentioned again the necessity to arrange another PPTCT training. They also mentioned that administration should look into extending of the facilities and creating separate counseling rooms.

There was a genuine concern from all of the interviewees that many pregnant mothers do not come to health facilities for antenatal clinics nor for supervised deliveries. Therefore they highlighted the need to educate women but also to educate men, so that they would be knowledgeable and would support their wives to go the health facility. One of the nurses said: *'If only husbands would support their wives in terms of money for transport or by walking with them through the bush and over the mountains we would have many more mothers turning for antenatal clinics' (NO, RHF 1).* Since it is a cultural barrier for men to assist their wives to antenatal clinics, a new ways of addressing the men's involvement have to be sought. One of the initiatives taken at Mingende Rural Hospital is a Men's Clinic, where beside general medical examination other programs and issues are discussed among men only.

Conclusion

The purpose of this research project was to explore the factors that facilitate or hinder the implementation of the PPTCT Program and to find the best ways to scale up the program in all Church Health Facilities in Simbu Province in order to provide the best possible service for antenatal mothers and their babies to protect them from getting infected with HIV and be born to live. In order to probe the research problem and scrutinize the issue embedded in the guiding research question, specific questions were developed to focus on the factors having impact on the implementation of the program. They were:

- *In what way is the current PNG's PPTCT curriculum relevant and applicable for rural health facilities?*
- *What are the difficulties faced by the staff preventing the implementation of the PPTCT Program?*
- *What could be helpful in the process of introducing and implementing and expanding the program?*

These questions had been answered in the process of research and they gave light to see both aspects of the program: factors influencing the program as well as factors hindering the program. The PNG's PPTCT guidelines are being adapted to the PNG context especially considering the rural setting. They have been revised in June 2009 and the revision was based on the current experiences and global recommendations and the national guidelines should give directions to all the implementers.

The main factors facilitating and contributing positively to the implementation of PPTCT program in Simbu Church Health Facilities are:

- existing structures, established regular clinics and relatively well performing staff at all facilities

- implementation of other HIV/AIDS related programs: VCT counselling and testing, AIDS awareness program, HIV Treatment and Care (ART) STIMP, recently introduced men's clinic
- the organisation's priority on staff professional development and emphasis on regular in-service program, including training on VCT and PPTCT;
- willingness and openness of the staff to engage in piloting new programs
- well established and well managed facilities
- support from the National Catholic AIDS Secretariat in regards to training, assisting in supplies of testing kits and ARV drugs as well as some financial support
- updating the PPTCT protocols and applying the global recommendations, especially in regard to ART prophylaxis for PPTCT and guidelines for feeding options
- good reputation of the Catholic Health Services among the respective communities.

On the other hand, the following factors hindering and obstructing the smooth implementation of the PPTCT program, especially in remote facilities were identified through this research:

- limited educational level of women in remote places and lack of men's support to access any of the health services
- remoteness of the villages and ragged terrain preventing pregnant mothers to come to health facilities for antenatal clinics and supervised deliveries or late bookings
- limited number of staff on the facility level
- limited number of staff trained in PMTCT, ART, dry blood spot DBS infant testing
- lack of staff commitment to take extra responsibilities, or tendency of shifting the responsibilities only to those who have been trained
- inadequate physical spacing for confidential HIV testing at antenatal clinics
- heavy workload and not enough time for follow up visits, cases being lost, mothers not following given instructions in terms of chosen feeding option
- general poor economical status of women, preventing them from coming for follow up visits, proper nutrition, etc.
- antenatal clinics are not male friendly and not much is being done to include the male partners in the program.

In summary, the recent success stories of 20 babies tested negative for the presence of HIV virus through DBS proves that the efforts of all staff involved in the implementation of PPTCT program in Mingende Rural Hospital and in Simbu Church Health Service as a whole are bearing positive fruits and that babies of HIV positive parents are BORN TO LIVE.

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