The knowledge of HIV transmission and MTCT was close to 100%, with the majority of women scoring at least 80%. This could be expected as they had received counselling and the scores were positively associated with their high level of education.

The women generally knew that HIV causes AIDS, but it is of concern that almost a third believed that HIV/AIDS is curable and almost another third were unsure. ARV drugs and to a lesser extent exclusion of breastfeeding were the most common responses for the prevention of the transmission of the virus. The literature indicates that the best way to prevent MTCT is to prevent the infection of girls and women of childbearing age. Education about safer sex, use of condoms and diagnosis and treatment of sexually transmitted infections should be provided. Ensuring the safety of medical procedures, such as labour and blood transfusion, and universal safety precautions also play a role in primary prevention.\textsuperscript{9,11} The effectiveness of ARV therapy in PMTCT has been shown during pregnancy, if provided intravenously during labour and if provided to the infant for 6 weeks after delivery,\textsuperscript{15} but it has not yet been proven during lactation.\textsuperscript{12} The use of ARV therapy, however, can lead to many ethical and practical problems. The literature is also conflicting regarding breastfeeding and MTCT, indicating an increased risk of transmission with breastfeeding compared with formula feeding in some studies,\textsuperscript{18,20} whereas others have shown no additional risk of breastfeeding.\textsuperscript{9,20,21} Exclusive breastfeeding has been shown to lower the risk significantly compared with mixed feeding which affects the integrity of the infant’s gut mucosal lining.\textsuperscript{20}

Terms that are supposed to be used in counselling about infant feeding options to enable the mother to make an informed decision,\textsuperscript{11} i.e. exclusive breastfeeding, mixed feeding and cup feeding, were not defined correctly by the majority of women, indicating that in the PMTCT programme not enough emphasis or reinforcement is placed on the different feeding options available. The crucial message of the PMTCT programme is that whichever feeding option is chosen, it should be implemented exclusively.\textsuperscript{4}

The women seemed positive about the health workers’ advice and they preferred to follow their advice compared with that of family and friends, which indicates the important role of the health workers and the major impact that they could have on the women’s decisions.\textsuperscript{21} Less than two-thirds of women reported receiving information from a health worker regarding feeding practices although, as previously mentioned, this is supposed to be part of the PMTCT programme. Although the mother is meant to make an informed decision herself, almost two-thirds of women in this sample reported that the health worker had advised them to formula feed. It must be noted though that three-quarters of the women stated that their reason for choosing formula feeding was to prevent MTCT, which may indicate that their perception that the health worker advised them may actually have been part of their informed decision making process. A concurrent study\textsuperscript{11} also reported that health workers influenced 80% of women in their feeding choice. It shows the importance of health workers remaining objective and providing all the necessary information when counselling patients, so that women are enabled to make informed choices.

Participants’ attitude towards breastfeeding and formula feeding did not differ between the health, nutritional value, satisfaction level and hygiene of both feeding options. Although not statistically significant, when the difference of responses in percentages is compared, more women felt that breastfeeding was more nutritionally complete (5.6%) and hygienic (8.3%), whereas more women felt that formula feeding was more satisfying to the infant (5.5%) than breastfeeding. This perception has been reported in the literature.\textsuperscript{24} The statistically significant relationship found between MTCT knowledge and attitude towards breastfeeding indicates that they appropriately based their preference for formula feeding on the risk of MTCT associated with breastfeeding.

The participants showed a positive attitude towards breastfeeding, but owing to their HIV status felt that it was too much of a risk and not the best feeding option for them. Most women indicated that they were satisfied with their decision to formula feed and had made the best feeding choice under the circumstances. Only 1 woman indicated that receiving free formula was her motivation for her feeding option, but 8 indicated that it did influence their decision. These women also reported that they would be unable to sustain the formula feeding option after the free supply ended. Davis et al.\textsuperscript{11} similarly reported that 24% of the participants in that study chose formula feeding because it was free. The question therefore arises whether had infant formula not been provided free, would more participants have chosen to breastfeed? Only 1 mother reported deciding to exclusively breastfeed her infant. Mixed feeding was reported, providing other fluids and porridge before the recommendation of 6 months. This is not advised.
due to the infant’s physiological incapacity to handle certain food types and the fact that these foods may replace the essential breastmilk or formula milk as well as affecting the integrity of the infant’s gut mucosal lining.

Although evidence exists that cup-feeding is more hygienic and is meant to be part of the infant feeding counselling of the PMTCT programme, participants did not seem to practise cup-feeding. The fact that very few participants could correctly define the term cup-feeding may contribute to this finding, i.e. ignorance regarding this method existed as they were uninformed or did not comprehend during counselling and training.

The participants reported cleaning the bottles and teats before use and preparing the formula correctly, showing that participants have the necessary knowledge to correctly and hygienically prepare the formula milk. Although not part of this study, contamination from using poor water sources may influence the hygienic preparation of the formula, thereby increasing morbidity and mortality.

The literature indicates that the more culturally acceptable a certain way of feeding is, the more likely it is that such methods will be used and that a person’s culture affects his/her attitude and beliefs and largely influences decision-making. HIV status seemed to influence the limited practice of breastfeeding in the sample, even though their attitude towards breastmilk was positive. This indicates that the participants would rather minimise the risk of MTCT than conform to culturally acceptable practices. Davis et al. also support this finding. Even though families did not always approve of the women’s chosen feeding option, they nevertheless supported the decision made. Of those using infant formula, all reported to continue with the chosen feeding method when family and friends came to visit.

Conclusions

It was found that despite the high rate of unemployment, poverty, unreliable water sources and poor housing as well as the women’s inability to sustain formula feeding after the completion of the programme, they nevertheless decided to formula feed. It was again shown that health workers play an essential role in the success and effectiveness of the PMTCT programme. The health worker’s advice was sought but they nevertheless decided to formula feed after the completion of the programme, as demonstrated by the fact that mixed feeding and bottle rather than cup-feeding was practised. The women’s decision to formula feed seems to have been influenced by their HIV status and in some cases the free supply of formula milk rather than for its superiority over breast milk (nutritional value, hygiene and health). The perception seems to exist, however, that formula feeding is more satisfying for the infant. Culture, stigma and community influence did not seem to affect their decision-making or practices.

Recommendations

In order to increase the sample size, it is recommended that the study be repeated for a longer duration and at a different time of the year, as many of the potential participants received 2 months’ supply of infant formula in December and did not attend the clinic in January. PMTCT programme counsellors should be continually trained and retrained to provide accurate information objectively. There should be more emphasis on explaining the differences between exclusive breastfeeding and mixed feeding and the subsequent consequences of inaccurate practices, and cup-feeding should be emphasised. Socio-economic factors, specifically regarding income and hygiene, should be assessed more stringently to support the decision-making process.

The authors acknowledge Ms C Witten for her input as a consultant and Abbott Clinical Services for financial support, the Department of Health, Provincial Government of the Western Cape, Ms M Lewis and Sr M Abrahams, as well as all the personnel of the MOU, ARV clinic and baby clinic of Vanguard Community Health Centre for their support and co-operation. Dr E Terblanche and Dr J Hugo are thanked for their statistical analysis and the questionnaire, respectively.