

Factors associated with Paediatric ART uptake in Bindura and Guruve districts, Zimbabwe 2015

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DECLARATION

I certify that this dissertation is my original work and submitted for the Master in Public Health programme. It has not been submitted in part or in full to any University and or any publication.

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I, having supervised and read this dissertation is satisfied that this is the original work of the author in whose name it is being presented. I confirm that the work has been completely satisfactory for presentation in the examination.

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ABSTRACT

Background

Paediatric ART coverage in Zimbabwe remains low despite effort to improve it. Currently it stands at 56.7% compared to an adult ART coverage above 75%. Major reasons for this are largely unknown although assumptions are these children are not being tested for HIV. This is a presentation of the results of a study on factors affecting paediatric ART uptake among children aged one to fourteen years in Bindura and Guruve districts of Mashonaland Central Province.

Methods

An analytic cross sectional study was conducted among caregivers of HIV positive children and health workers in Bindura and Guruve Districts. Data were collected on socio-demographic, socio-economic, psychological and programmatic factors associated with pediatric ART uptake. Quantitative data were analysed using Epi info to calculate odds ratios. Stratified and multivariate analyses were done to check and control for effect modification and/or confounding.

Results

A total of 213 caregivers were interviewed. Control of household finances [aPOR=11.7 (95% CI 4.71 – 29.23)], sex of caregiver [aPOR=11.2 (95% CI 3.48 – 36.28)] and ethnicity [aPOR=8.38 (95% CI 3.01 – 23.31)] were the independent risk factors associated with up taking paediatric ART. Age of child [aOR=0.26 (95% CI 0.07 – 0.97)] was the independent protective factor associated with up taking paediatric ART

Conclusion

Socio-demographic factors were significantly associated with uptake of paediatric ART among respondents. Education on the importance of paediatric ART for caregivers who visit the PMTCT needs to be reinforced by the nurses attending to the caregivers on their review dates.

Key words: Control of household finances, Caregiver Ethnicity and Sex of Caregiver

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LIST OF ABBREVIATIONS

ACRONYM	MEANING
AIDS	Acquired Immunodeficiency Syndrome
AOR	Adjusted Odds Ratio
ART	Antiretroviral Therapy
ARV	Antiretroviral
COR	Crude Odds Ratios
DMO	District Medical Officer
PCR	Polymerase Chain Reaction
HBM	Health Belief Model
HIV	Human Immunodeficiency Virus
HSO	Health Studies Office
HTC	HIV Testing and Counselling
JREC	Joint Ethics Review Committee
KII	Key Informant Interview
MMR	Maternal Mortality Ratio
MRCZ	Medical Research Council Of Zimbabwe
NAC	National AIDS Council
OI	Opportunistic Infection
OR	Odds Ratio
PART	Paediatric ART
PMD	Provincial Medical Director
PMTCT	Prevention of Mother to Child Transmission
POR	Prevalence Odds Ratio
RDT	Rapid Diagnostic Kit
UNICEF	United Nations International Children's Education Fund
WHO	World Health Organisation
ZDHS	Zimbabwe Demographic Health Survey
ZIMSTAT	Zimbabwe National Statistical Agency
ZPS	Zimbabwe Prison Services
ZRP	Zimbabwe Republic Police

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CHAPTER 1

1.0 BACKGROUND

1.1 Introduction

The CDC defines HIV as a virus that moves from one human host to another via body fluids and targets the function of specific cells within the immune system called CD4 cells, or T cells¹. Many of the T cells can be destroyed over time to an extent where the body cannot fight off infections and disease¹. Sometimes the CD4 cells are so diminished that the body's immune can no longer defend itself against opportunistic infections including infection-related cancers. The last stage of HIV infection is called AIDS (Acquired Immunodeficiency syndrome). Having HIV does not necessarily mean one has got AIDS. An individual is considered to have progressed to AIDS once their CD4 cell count falls below 200 cells per cubic millimetre of blood. CD4 cell counts are considered to be normal if between 500 and 1,600 cell per cubic millimetre of blood¹.

HIV is transmitted in the following ways

- Unprotected penetrative sex with someone who is infected².
- Injection or transfusion of contaminated blood or blood products, donations of semen (artificial insemination), skin grafts or organ transplants taken from someone who is infected².
- From a mother who is infected to her baby; this can occur during pregnancy, at birth and through breastfeeding^{2,3}.
- Sharing unsterilised injection equipment that has previously been used by someone who is infected².

According to WHO, globally, close to 78 million people have been infected with the HIV virus and close to 40 million people have died of HIV since early 80s when the pandemic began. At the end of 2013, about 35 million people were living with HIV⁴. There are considerable variations in the burden of distribution between countries and regions but the general estimate is that currently an estimated 0.8% of adults aged 15–49 years worldwide are living with HIV. By far, the most severely affected region is the Sub-Saharan Africa which carries nearly 71% of the people living with HIV worldwide.

A large proportion of the estimated 3.2 million children living with HIV are found in sub-Saharan Africa⁵.

Children under the age of five are at risk of contracting HIV by vertical transmission from their HIV positive mothers. This happens either during pregnancy, labour, delivery or breastfeeding. In 2009 alone an estimate of 18,000 children in Zimbabwe were newly infected with HIV. In Zimbabwe, HIV prevalence among pregnant women (aged 15-49) is 16 % and mother-to-child transmission accounts for the highest number of HIV infections, after heterosexual sex⁶. This is the primary explanation for about 14,600 children in Zimbabwe being infected with HIV every year⁶. With 14.7% of its population living with HIV, Zimbabwe is one of the hardest hit countries⁷.

UNAIDS has estimated that if all interventions are scaled up, there would be an 87% global decline in the number child infections in 2015⁸. In Zimbabwe the goal to end new paediatric HIV cases is pursued using the Prevention of Mother to Child Transmission of HIV (PMTCT) framework. Elimination of all new HIV infections among children through effective PMTCT should be prioritized. PMTCT services are based on the four prongs of a comprehensive approach to eliminating new HIV infections among children as in the table below.

Substantially great efforts are needed to link pregnant women and children to HIV treatment and care. The WHO treatment guidelines of 2013 state that all children below the age of 5 who are diagnosed with HIV should begin antiretroviral treatment immediately, regardless of CD4 count⁴. For children, the health benefits of HIV treatment are very huge. It has been found that beginning antiretroviral therapy before the twelfth week of life reduces HIV-related mortality in children living with HIV by 75%⁹. According to the (ZDHS 2012) the paediatric HIV prevalence in Zimbabwe is 3.8% and only 56.7% (101,146) of these are on ART. Studies have showed that 50% of HIV positive infants die before the age of two if not put on ART¹⁰.

1.1.1 Infant HIV testing

Early infant diagnosis is the approach used in Zimbabwe for early identification of HIV positive children. Ideally, prior to six weeks of age, all infants need to have their HIV exposure status established at their first contact with the health system¹². This can be done by checking the child's health card or enquiring from caregiver. If a pregnant mother is HIV positive, her unborn child is considered HIV exposed and should as such have virological testing, a Dry Blood Spot (DBS) must be

collected for HIV DNA Polymerase Chain Reaction. Between the ages of 6 weeks and 18 months, the most reliable HIV test for a child is the DNA PCR ¹². If it comes out negative then the child is HIV negative. However, continued breastfeeding would keep the child at risk of infection. An infant is considered to be in the window period if their last exposure to the virus was in the last three months. This exposure is in relation to either delivery or breastfeeding. During this period the infant is considered to still be HIV exposed and may be infected and should therefore be managed as an exposed infant¹². Outside of this window period an infant is considered to be definitely negative if the RDT test is negative.

1.1.2 Types of HIV Tests for Children

HIV tests are done in three different ways which include DNA PCR tests, Antibody tests, and presumptive diagnosis of severe HIV disease¹¹. Antibody tests can be done for children over the ages of 18 months using Rapid Diagnostic Tests and Laboratory-based ELISA tests are recommended.

Presumptive diagnosis of severe HIV disease is done when the DNA PCR cannot be done for children less than 18 months and if the infant is confirmed RDT positive and diagnosis of any AIDS-defining condition(s) can be made, or the infant is symptomatic with Oral Thrush, Severe pneumonia and severe sepsis¹¹. The child would need to have a combination of any of at least two of these symptoms.

Table 1: Continuum of care for Children (adopted from National ART guidelines, Zimbabwe, 2013)

Early infant diagnosis	Care of HIV exposed Infant	Counseling on infant and young child feeding	Management of an HIV-infected child using ARVs
DNA PCR test Presumptive Diagnosis of severe HIV disease. (If DNA PCR cannot be done for under 18 months) RDTs and Lab based ELISA tests	Captured in HIV follow up register HIV DNA PCR testing at 6 weeks at least Cotrimoxazole at 6 weeks until HIV status is known If status is confirmed positive, continue cotrimoxazole and	Counseling and Support of HIV infected caregiver to adhere to ART Gradual weaning over a one month period Continue breastfeeding for as long as possible for virologically confirmed or	Follow ART initiation criteria in children

	commence ART Monthly follow up visits focusing on Growth Monitoring and Developmental Assessment	symptomatic infants Immunizations given as per schedule. Looking for and treating of all opportunistic infections Watch for medical interactions	
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Once an HIV exposed child is tested using the DNA PCR test for HIV, their caregiver must return in at least 3 weeks to get the test results. At this point the child is initiated on ART if they are found positive and the caregiver consents to the treatment.

1.1.3 ART initiation Criteria

Before the new WHO ART guidelines, the criteria for initiating a child on ART was guided by CD4 count of the child or the WHO staging cross checked against the age groups (less than 1 year, 1 to 5 years and 5 years and above). The new ART guidelines state that all HIV positive children are initiated in spite of their CD4 count or WHO staging.

Before initiating on ART it is very important to assess the readiness of patients to take in ARVs in terms of medical and psychosocial issues, disclosure and adherence issues¹². For children it is necessary to consider: Age and Weight of child; availability of paediatric formulations for the medicines; palatability of the medicines; effect of food on the absorption of medicines and PMTCT regimens used¹².

1.1.4 ART Medicines

Table 2: First line recommended treatment for children (adopted from ART guidelines, Zimbabwe, 2013).

First line treatment		Alternative first line treatment
< 3years	AZT + 3TC+LPV/r	AZT + 3TC+NVP ABC+3TC+LPV/r ABC+3TC+NVP
3 to 10years and adolescents less than 35kg	AZT + 3TC+NVP	ABC+3TC+EFV
Special circumstance	D4T+ 3TC+LPV/r D4T + 3TC+NVP	

Antiretroviral Therapy aims at achieving the following: Maximal and durable suppression of replication of HIV; Restoration and or preservation of immune system; Reduction of HIV-related morbidity and mortality; Improvement of quality of life; Prevention of mother to child transmission; Reduction of transmission of HIV from infected to uninfected individuals through use of ARVs by the infected individual now commonly known as treatment as prevention.

1.2 Study Area

Mashonaland Central Province is one of the ten provinces of Zimbabwe. To the east and south, it is bordered by Mashonaland East Province, Mashonaland West Province to the west, Mozambique and Zambia to the north. According to the 2012 census report, Mashonaland Central Province has a total population of about 1 150 000 people comprised of 567 000 males and 585 000 females¹³. According to the Zimstat 2012, about 70% of the population at least 15year old is economically active with about 69% engaging in agricultural work. The largest proportion of the economically active was that of those aged between 20 and 39 years.

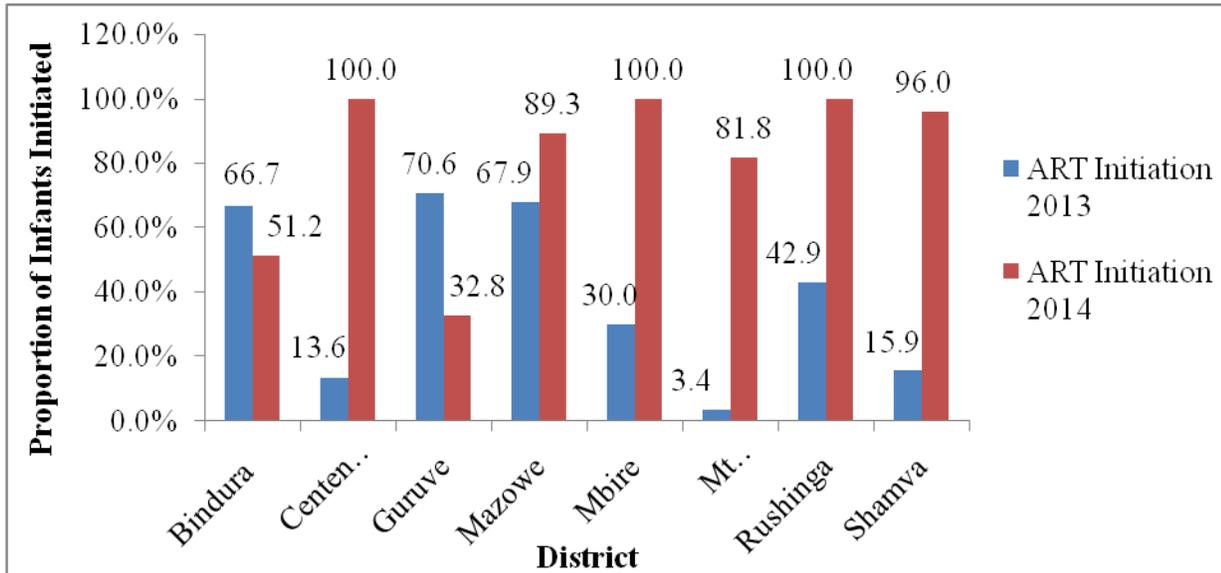
There are eight administrative districts in the province. These are namely Bindura, Centenary, Guruve, Mazowe, Mbire, Mount Darwin, Rushinga and Shamva. Bindura district harbours the provincial town which is located 87 kilometres to the north east of the national Capital, Harare. Bindura district is partly urban and partly rural. On the other hand, Guruve district which is bordered by Mazowe, Mbire, and Centenary districts is a rural district. The 2012 ZIMSTAT estimate population of Bindura district is 169 000 (125 219 rural and 43 679 urban) and for Guruve is 124 041.

There are 18 health centres in Guruve district (4 rural health centres, 13 clinics and 1 district hospital). To improve people's access to OI and ART services, the district decentralised the ART programme to 5 outreach sites within the District namely Bakasa, Kachuta, Ruyamuro, Nyamhondoro and Bepura clinics. There are approximately 10 000 people living with HIV and AIDS and well over 20 000 children are orphaned and vulnerable, NAC, 2011. Including the district hospital, the district has got 6 ART centres. Guruve has the highest infant mortality rate (IMR) in the province which is 90/1000 live births according to ZDHS 2011. The Maternal Mortality Ratio (MMR) is 558/100 000 live births. There are 25 health facilities in Bindura district (8 urban and 17 rural). Of the 25 health facilities, 19 give a comprehensive ART package whereby they carry out HIV testing and Counselling, initiate on the eligible on ART, and ART is supplied to the registered are given . Only Zimbabwe Prison Service clinic (ZPS), Zimbabwe Republic Police (ZRP) and Family health scheme give a minimum ART package one or two of the above are not addressed The infant mortality rate is 78/1000 live births and the MMR is 983/100 000 live births and this is the highest in the province⁹.

1.3 Problem Statement

The figure 1 below shows the ART initiation rates for children less than two years of age per district in Mashonaland Central in 2013.

Figure 1: Paediatric ART Uptake rates per district, Mashonaland Central



The figure above shows that in Mashonaland Central province, while all the other districts had an average 65.6% increase in paediatric ART initiation rate between 2013 and 2014, Bindura and Guruve districts decreased in their initiation rates by 15.5% and 37.8% respectively. This was in spite of the fact that during that same period, adequate paediatric ART formulations had been distributed to all districts in the province during the two year period. I therefore set to study the factors associated with paediatric ART uptake in Bindura and Guruve districts.

1.4 Justification

The factors behind the low and decreasing ART uptake in the two specific districts Bindura and Guruve districts have not been studied especially given that paediatric ART resources are being distributed equally among the districts in the province. Preliminary findings have already suggested that among other reasons, in some instances the initiating centres run out of medicines when there is a child who needs to be initiated right away. Increasing access to health services by reduction of health facility to home distances has been one of the solutions drawn from health service uptake studies. In carrying out this study, the hope is that the findings will be used to build on the existing literature on the subject of paediatric ART uptake and to address the reasons for the low uptake of paediatric ART in Bindura and Guruve districts. Recommendations drawn from the study will be used to inform programming for paediatric ART in order to increase uptake in the two districts. The improving of the programme will help prolong the lives of the HIV positive infants and enhance their quality of life as they grow into adulthood.

CHAPTER 2

2.0 LITERATURE REVIEW

Part of the intentions of ART among children is to suppress viral load and prevent opportunistic infections. The outlook is to prolong life, enhance the quality of life and to offer an opportunity for children to fulfil their dreams. There are many factors that play a role in enhancing or reducing the uptake of paediatric ART. Different studies have been done and they show that a variety of factors either negatively impact upon or improve uptake of paediatric ART.

2.1 Definition of Uptake of ART

Uptake of ART refers to the extent to which antiretroviral therapy covers the target population. Every child who is HIV positive according to the recent guidelines for ART must be put on lifelong ART. When health institutions fail to meet this 100% coverage with ART questions on whether the therapy is being received or not are raised. There are a variety of factors that determine ART uptake ranging from health system factors to individual factors. According to UNICEF's report, in the 22 priority countries only one in three children eligible for treatment had access to ART in 2012¹². Globally, only 34 percent of children living with HIV have access to ART, compared to 64 percent of adults.

2.2 Barriers to pediatric ART

Although the advantages of early infant HIV diagnosis and treatment initiation have been established through scientific research, children often present late to HIV programs in resource-limited settings. In a study carried out by Boender T et al, it was found that one barrier to initiation on ART was late stage presentation which was in turn determined by being of age below 2years, living without parents, unemployment of the caregiver and high transportation costs to clinic (OR 2.51, P=0.014)¹⁴. In another study by the same researcher which was exploring the barriers to initiation of pediatric HIV Treatment in Uganda, older children were found to be more likely to have a longer time interval between the HIV test and ART. Orphans were also found to initiate at an older stage with lower CD4 counts and more advanced WHO clinical staging by Kiboneka A et al in another study¹⁵.

In Uganda, a study by Boender T et al found that children without parents were living under poor conditions and presented later at the health facilities for care. However, it was also noted that when the caregiver is a mother and is receiving HIV care, it is more likely that the child will present early¹⁴. The effect of living in an institution (e.g., orphanage) was found to be able to have both positive and negative effects. Some institutions were able to bring children early because they recognized the

ultimate significance of HIV testing. These institutions can provide transport but those that have fewer resources generally do not prioritize HIV testing. Barriers in following-up exposed infants were also investigated in rural Zambézia Province of Mozambique¹⁶. The predictors identified in this study were, large household size, greater distance from hospital, maternal receipt of ART and independent maternal source of income.

In smaller towns, economic factors have been found to be important barriers to service uptake. The economic status and living situation at home for the caregiver affects the child¹⁷. Caregivers who do not earn much will usually not afford transport to the health care centre if it is not within a walking distance. In different studies health workers have noted that caregivers' financial constraints and lack of employment are important barriers to access health care. Unemployment of the caregiver and high travel costs has been found to be risk factors for late disease stage at presentation. Although taking time off work can be difficult sometimes, more highly educated caregivers seem to visit health facilities for care earlier. Caregivers who are afraid of disclosing their status to their employers tend to have a hard time justifying their absence from work when they visit clinics. The unemployed who tend to have more time lack the money to visit the clinical sites. In resource limited settings, a variety of interventions might be useful in overcoming the poor access to ART services that the poor end up dealing with. Such interventions are community outreaches, transportation refunds, and outreach clinics in orphanages

In 2011, the Paediatric Working Group cited health system bottlenecks to paediatric ART as occurring at three levels, policy, operations and infrastructure. At policy level low political commitment, limited funding and poor understanding of child specific issues are the key factors¹². At operations level it is poor linking of vertical programming to Maternal and Child Health, slow uptake of new drugs and few linkages from testing to treatment leading to poor retention that are major contributing factors. At infrastructural level few paediatric equipped sites, few paediatricians to manage disease burden and low uptake of supportive interventions¹². An assessment by World Education cited that at health system level, inadequate equipment, maintenance and reagent supplies and de-motivated clinical staff were a major contribution to low paediatric care and treatment uptake.

In a study by Horwood C et al which was looking at the diagnosis of HIV infection in a primary level setting with clinical algorithm in South Africa, it was found that the primary health care level can effectively identify HIV infected children¹⁷. Laboratory and rapid diagnostic tests are also used to effectively identify HIV positive children. In spite of this capacity to identify HIV positive children, other studies have found the linkage between HIV diagnosis in ANC and paediatric ART to be inconsistent. The inability of health systems to detect HIV in pregnancy, to give PMTCT services, and to follow up the HIV-exposed infants is a reflection of missed opportunities for avoidance of transmission of HIV. This lack of an integrated approach to HIV services answers the inconsistencies in ART uptake among children. As previous research has also shown, integrating antenatal services, PMTCT, early infant diagnosis, and paediatric HIV care greatly improves outcomes for HIV-infected infants in resource-limited settings.

Psychological factors have been found by far to be a major contributor to paediatric ART uptake. According to Gava E et al, independent risk factors associated with non-uptake of HIV test among infants were belief that if a child is tested for HIV the child will be discriminated against O.R 3.61 (1.01; 12.9) and that the mother defaulted ART O.R 5.16 (1.48; 17.9)¹⁸.

2.3 Facilitators to Pediatric ART

Literature review done by the John Hopkins centre revealed that inadequate knowledge and technical skills of service providers in management of HIV/AIDS in children was found to contribute to the disparity in accessing HIV medications between children and adults¹⁹. When the health care workers have not had any training in an HIV/AIDS management area, ART coverage is always then below expected rate. Health workers from across wide areas who are trained well enough to provide knowledge and skills of providers in psychosocial support and Pediatric Counseling skills are needed in health care centers. Support groups are very key for caregivers of HIV positive and they carry out a supportive role to health worker counseling. In Uganda the beneficial role of support groups and counselling in adjusting to the mother's own and her infant's HIV status was demonstrated¹⁴. Mothers of HIV negative infants stated that not knowing the baby's HIV status made them excessively anxious over minor childhood ailments often leading them to (incorrectly) interpret these as signs of infant HIV infection. A negative infant HIV diagnosis relieved the emotional stress and fear associated with not knowing and motivated women to keep themselves healthy.

An uninterrupted supply of the ARTs in the facilities and the house is essential. Institutions that have developed a well-functioning system for forecasting, procurement and supply management have been found to successfully have high pediatric uptake rates. In resource limited areas however, occasional stock-outs of specific drugs or fixed dose combinations sometimes are reported¹⁹. In a case such as this, drugs are borrowed from other clinics or prescriptions of different formulations to reconstruct the same regimen are given by the clinicians. When pharmacy stocks deteriorate below minimum stock requirements, ARV prescriptions are rendered on a monthly basis rather than the regular three monthly intervals¹⁶.

Making referrals more appropriate improves on treatment uptake. Referral systems that are clearly linked with ancillary services have been found to facilitate uptake of health services¹⁷. To improve early diagnosis and treatment of children, linking of children from PMTCT to care has to be strengthened. This calls for more recruitment and training of Staff¹⁷. In 2007, the National Pediatric HIV/AIDS Care Survey on linkage with PMTCT and HIV services found that only 17 (58.6%) reported linking of HIV exposed children with HIV care services. Only 55% of government and 85.7% of private-not-for-profit (PNFP) health facilities reported linking exposed children to care.

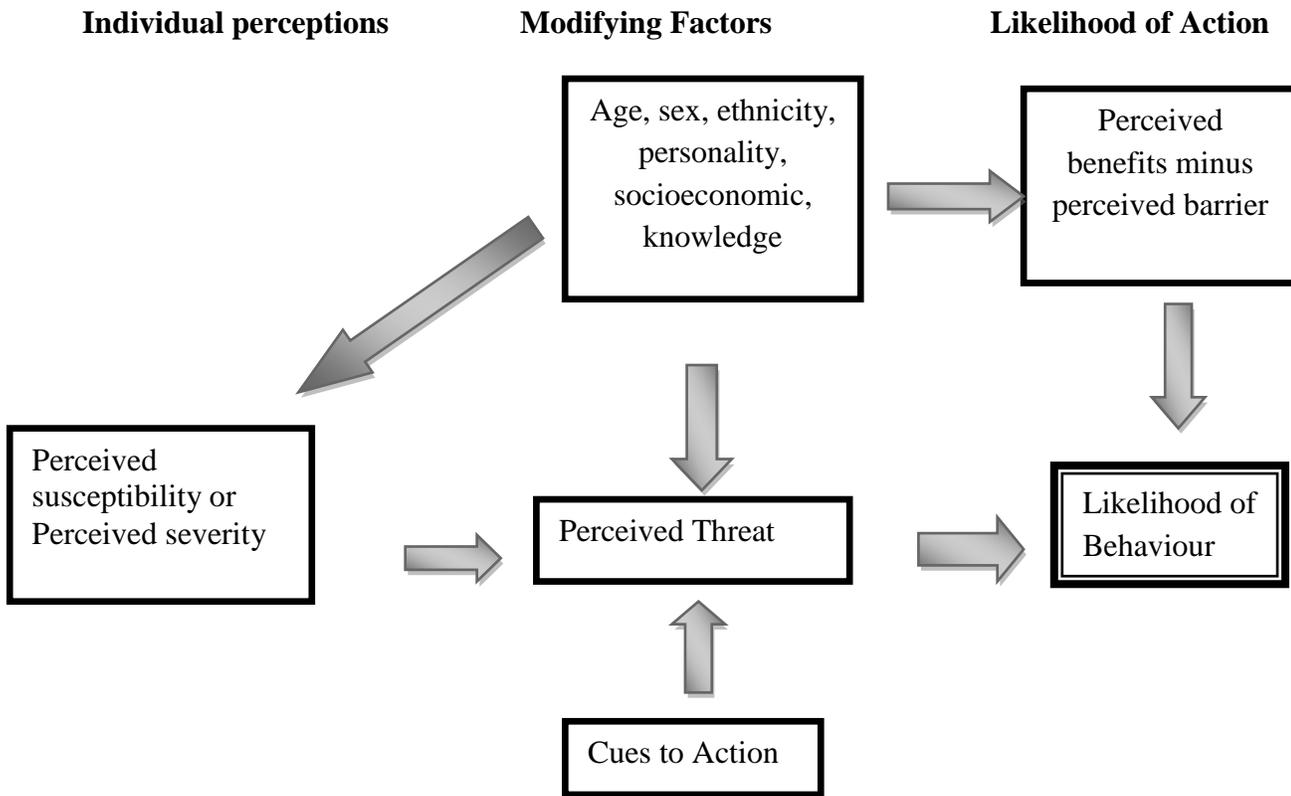
2.4 Theoretical Framework

The Health Belief Model (HBM) was used to answer the objective on psychological factors. The HBM is a psychological health behaviour change model innovated to facilitate understanding and prediction of health-related behaviours, specifically those that determine uptake of health services. The underlying concept of the HBM is that health behaviour is determined by personal beliefs or perceptions about a disease and the strategies available to decrease its occurrence²⁰. The HBM has 6 major constructs that are proposed to vary between individuals and predict engagement in health related behaviours. An impetus known as a cue to action, must also be present to bring about the triggering of the health-promoting behaviour²⁰.

Table 3: Constructs of the Health Belief model²⁰

Construct	Definition
Perceived susceptibility	An individual's assessment of his or her chances of getting the disease
Perceived benefits	An individual's conclusion as to whether the new behaviour is better than what he or she is already doing
Perceived barriers	An individual's opinion as to what will stop him or her from adopting the new behaviour
Perceived seriousness	An individual's judgement as to the severity of the disease
Modifying variables	An individual's personal factors that affect whether the new behaviour is adopted
Cues to action	Those factors that will start a person on the way to changing behaviour
Self efficacy	Personal belief in one's own ability to do something

Figure 2: Theoretical Framework for assessing Psychological Factors (Health Belief Model) ²⁰



CHAPTER 3

3.0 Objectives and Hypotheses

3.1 Research Question

What are the factors associated with paediatric ART uptake in Bindura and Guruve districts?

3.3 Hypothesis

Null Hypothesis: There is no association between home to health facility distance and paediatric ART uptake

Alternative Hypothesis: There is an association between home to health facility distance and paediatric ART uptake

3.4 Objectives of the Study

3.4.1 Broad Objective

To determine the factors associated with paediatric ART uptake in Bindura and Guruve districts

3.4.2 Specific Objectives

- To determine socio demographic factors associated with paediatric ART uptake in Bindura and Guruve districts
- To determine socio-economic factors associated with paediatric ART uptake in Bindura and Guruve districts
- To determine psychological factors associated with pediatric ART uptake in Bindura and Guruve districts
- To determine the health system related factors affecting paediatric ART uptake in Bindura and Guruve districts
- To determine health worker and caregiver knowledge on paediatric ART in Bindura and Guruve districts

CHAPTER 4

Methods and Materials

4.1 Study Design

An analytic cross-sectional study was carried out.

4.2 Study setting

Clinics and Hospitals in Bindura and Guruve districts

4.3 Study population

Caregivers of HIV positive children, PMTCT and OI/ART nurses and District Pharmacists

4.4 Inclusion Criteria

All children resident in Bindura and Guruve districts eligible for ART were potential participants in the study.

4.5 Exclusion Criteria

All children resident in Bindura and Guruve districts who were eligible for ART but were either without a caregiver or were older than 14 years.

4.6 Sample Size Calculation

In a study by Awoyemi T et al (2011), titled “Effect of Distance on Utilization of Health Care Services in Rural Kogi State, Nigeria”, 18% were found to live close (0 to 4km) to the health facility and also to highly utilize health services. Using this proportion the minimum sample size for the study was calculated using Dobson’s formula ($n = z^2 p(1-p)/d^2$). [Where n = sample size, z = maximum allowable error risk=1.96, p = proportion living close (0 to 4km) to the clinic = 18% and d = standard error (difference between point estimate and population parameter) = 0.05]. At 95% confidence interval and 10% non-response rate:

$$n = 1.96^2 \times 0.18(1-0.18) / (0.05 \times 0.05)$$

$$= 226$$

The calculated minimum sample size for this study was 226 respondents but there was a 5.8% non-response rate. So only 213 participants were interviewed

4.7 Sampling Method

To determine the proportion of respondents to select from each district, proportions of district populations were used. The 2012 ZIMSTAT estimate population of Bindura district is 169 000 (125 219 rural and 43 679 urban) and for Guruve is 124 041. The population proportion of Bindura to Guruve district is therefore $169\ 000 / (169\ 000 + 124\ 041)$. Sixty percent of the participants from Bindura district and 40% from Guruve were therefore sampled. In Guruve apart from the district hospital, 5 outreach sites within the District (Bakasa, Kachuta, Ruyamuro, Nyamhondoro and Bepura clinics) were selected using purposive sampling and were all included in the study. In Bindura district Chipadze, Chiwaridzo, Bindura Provincial Hospital, Rusununguko, Rutope, Foothills, Takunda and Manga were selected using convenience sampling. At all these clinics, caregivers were also recruited into the study using convenience sampling as they came in for the review of their children or for their own reviews.

4.8 Permission to proceed

Permission to conduct the study was sought from the Provincial Medical Director (PMD) Mashonaland Central Province, the District Medical Officers (DMOs) for Bindura and Guruve Districts, the Department of Community Medicine and the Health Studies Office (HSO).

4.9 Ethical considerations

The study involved ethically sensitive issues like the disclosure of HIV status of child, so parental or caregiver consent on behalf of the children was sought. Consent forms using key information drawn from the standard MCRZ consent forms were adopted and adapted for the purposes of this study. Ethical review and approval was obtained from the Joint Research and Ethics Committee of Parirenyatwa Hospital (JREC/171/15

The following ethical considerations were dully observed

1. Informed written consent was obtained from caregivers of children enrolled into the study. Each participant was given enough time to read through the consent form if they could read or someone was sought to read for them. Participants' right to participate was respected as they were given an option to participate or not to. (See consent form attached, Annex 3).

2. Clinic and participant names were not included on the questionnaires and all completed questionnaires were kept securely under lock and key to ensure confidentiality.
3. Disruption of clinic work and social activities of participants were kept to a minimum.
4. Any kind of harm to study participants will be avoided.
5. Participants who had questions were allowed to freely ask questions pertaining to paediatric ART after the interview and health education was given for 3 to 5 minutes after each interview.

4.10 Data Collection

In-depth interviews and key informant interviews were carried out by the researcher. Interviewer administered questionnaires were used to collect data on socio-demographic factors, socio-economic factors, psychological factors and programmatic factors associated with uptake of paediatric ART. Key informant interviews (KII) were done to determine challenges the paediatric ART programme and the knowledge of the health workers on Paediatric ART. The key informants were PMTCT nurses. Two research assistants were recruited and trained to assist the researcher with data collection. The caregivers were interviewed at the clinics when they presented for the review of the children.

4.11 Data Analyses:

Data were analysed using Epi info to calculate frequencies, proportions, means, odds ratios and 95% confidence intervals. Stratified and multivariate analyses were done to check and control for effect modification and/or confounding. Unconditional Logistic Regression was used to determine the independent factors associated with paediatric ART. Means were calculated for all continuous variables like age of child and age of caregiver. Frequency tables were drawn for demographic characteristics such as sex, marital status, employment status, religion, age and highest level of education.

4.12 Pre-testing the Study

The study was pre-tested in Mazowe district among 10 participants who were OI/ART and PMTCT clients and a report was written. Necessary adjustments were made to the tool and the database.

4.13 Definition of Terms

ART uptake	Commencement of ingestion of antiretroviral medicines by an HIV positive individual
Socio-demographic factors	Population defining factors with regards to specific person defining characteristics that determine uptake of ART such as age, sex, marital status, household size, and educational level
Socio-economic factors	Population defining factors with regards to income sources that determine uptake of ART, types of employment, monthly incomes, control over utilisation of household finances and expenditure priorities
Psychological factors	Cognitive factors that prevent uptake of ART such as fear
Health system related factors	Factors about the way the health system runs service delivery that determine uptake of ART among clients such as staff compliment, staff skills, staff attitudes, adequacy of medical supplies and equipment

4.14 Study Variables

4.14.1 Outcome variable

Initiation on ART (initiated or not initiated)

4.14.2 Independent Variables

Table 4 below shows the independent variables of this study

Table 4: Independent Variables

Variable	Category	
Socio-demographic factors	Age of caregiver	
	Relationship with child	
	Age of child	
	Sex	M F
	Sex of child	M F
	Marital status	Single Married Divorced Widowed Separated
	Highest level of education	Primary Secondary Never went to school
	HH size	<2 3 – 4 >4years
	Religion	Apostolic None Traditional Pentecostal/evangelical/ orthodox
	Area of residence	
Distance from home to ART initiating centre	<10km >10km	
Socio-economic factors	Source of income Gifts Remittances Salary Self-employment	

	Income per moth	<\$20 \$20-39 \$40 -60 \$ 60+
	Partner controlling of finance limiting access	Yes No
Psychological factors	Fear that ART harms a child	Yes No
	Shock denial on learning status of child	Yes No
	Fear of stigma	Yes No
	Fling better after taking medicine	Yes No
	Desire to protect baby	Yes No
	Fear of negative clinic staff attitudes	Yes No
	Fear of lack of confidentiality	Yes No
	Trust in supportiveness of staff	Yes No
Health system factors	Long waiting times	<1hour >1 hour
	Staff overwhelmed by workload	Yes No
	Counselling sessions too few	Yes No
	Shortage of trained staff	Yes No
	Poor record keeping	Yes No
	Failure to follow up on HIV positive infants	Yes No
	Turnaround time for DNA PCR results too long	Yes No
	Shortage of paediatric ART supplies	Yes No
	Poor referral linkages	Yes No
	No transport to health facility	Yes

		No
	Costs of service to high	Yes No
Knowledge on paediatric ART	Correctly citing where babies are taken for HIV test	Yes No
	Correctly citing the time interval to come back for collection of DNA PCR results	Yes No
	Correctly citing the paediatric ART initiating criteria	Yes No
	Correctly citing the HIV test for children less than 18 months old	Yes No
	Correctly citing first line ART medicines for infants	Yes No
	Correctly citing the care continuum for HIV exposed infants	Yes No

CHAPTER 5

5.0 Results

5.1 Socio-demographic characteristics of the participants, Bindura and Guruve Districts

Table 5 below shows the Socio-demographic characteristics of the participants

Table 5: Socio-Demographic Characteristics of Caregivers of HIV positive children, Bindura and Guruve Districts, 2015

Variable	Category	Frequency n (%)
Sex	Female	196(92.0)
	Male	17(8.0)
Marital status:	Married	158(74.2)
	Cohabiting	13(6.1)
	Widowed	23 (10.8)
	Divorced	19(8.9)
Education level:	None	6(2.8)
	Primary	84(39.4)
	Secondary	123(57.8)
Religion:	Pentecostal	90 (42.3)
	Apostolic	67(31.5)
	Orthodox	41(19.3)
	None	15(7.0)
Ethnicity:	Shona	186(87.3)
	Other	27(12.7)
Age	32.0	(Q ₁ =29.5, Q ₃ =36.0)

The median age for the respondents was 32 years (Q₁=29.5, Q₃=36.0), 92% were female, 74 % were married and 87.3% were of Shona ethnicity. The most common religions were the Pentecostal (42.3%) and the apostolic (31.5%).

Table 6 below shows socio-demographic Factors of HIV positive children

Table 6: Socio-demographic Factors of HIV positive children, Bindura and Guruve Districts, 2015

Variable	Category	Frequency n (%)	P value
Sex	F	91(43.3)	0.2
	M	119(56.7)	
Initiated	Yes	154(72.3)	
	No	59(27.7)	
Relationship with caregiver	Parent	197(92.5)	0.2
	other	16(7.5)	
Age of child	2 (Q1=0.8,Q2=5)		
Height of child/m	0.7(Q1=0.7,Q2=0.8)		
Weight of child / kgs	9(Q1=7,Q2=25)		

Of all the children recruited in the study, 56.7% were male, 43.3% were female and 72.3% had been initiated on ART. Those represented by their own parents in the study were 92.5%. The other 7.5% were represented by the relatives of their fathers or mothers. The median age of the children was 2 years and the median height was 0.70m

Table 7 below shows Socio-Demographic Characteristics of Caregivers of HIV positive children by paediatric ART uptake status

Table 7: Socio-Demographic Characteristics associated with Paediatric ART uptake, Bindura and Guruve Districts, 2015

Variable	Category	ART Uptake		POR	95%CI
		Yes n (%)	No n (%)		
Sex	F	148(96.1)	48(81.4)	5.7	1.9-16.1*
	M	6(3.9)	11(18.6)		
Ethnicity:	Shona	141(91.6)	45(76.3)	3.4	1.5-7.7*
	Nyanja	13(8.4)	14(23.7)		
Distance	<5 km	89(57.8)	24(40.7)	2.0	1.1 – 3.7*
	>5km	65(42.2)	35(59.3)		
Religion:	Apostolic	50(32.5)	17(28.8)	1.2	0.6 – 2.3
	Other	104(67.5)	42(71.2)		
Marital status:	Living with partner	104(67.5)	54(91.5)	0.2	0.1-0.5*
	Single	50(32.5)	5(9.1)		
Age	19-29	47(30.5)	23(39.0)	0.7	0.4 – 1.3
	30-77	107(69.5)	36(61.0)		
Moved residence	0 times	69(71.9)	27(28.1)	0.96	0.5 – 1.8
	1 or more times	85(72.6)	32(27.4)		

***Statistically significant**

All the demographic characteristics in the table except religion, age and moved residence were statistically significant in relationship to ART uptake. Sex, Ethnicity, Distance and Religion were the risk factors while Marital Status, Age and Moving Residence were the protective factors. Children with a female caregiver were 5.7 times more likely to take up ART. The children who were living with caregivers living with their partners were 80% less likely to be on ART. Children living within 5km to the clinic were 2 times likely to have been initiated on ART.

Table 8 below shows the Socio-Demographic Factors of HIV positive children by paediatric ART uptake status, Bindura and Guruve Districts, 2015

Table 8: Socio-Demographic Factors of HIV positive children associated with PART uptake, Bindura and Guruve Districts, 2015

Variable	Category	ART Uptake		POR	95%CI
		Yes n (%)	No n (%)		
Age of child	1 – 4	113(75.8)	56(94.9)	0.2	0.05 – 0.6*
	5 – 14	36(24.2)	3(5.1)		

***Statistically significant**

Children who were HIV positive and were younger than 5yrs were 80% less likely to be initiated on ART compared to those who were older.

5.2 Socio-Economic Factors of the participants, Bindura and Guruve Districts

Table 9 below shows the socio-economic factors of Caregivers of HIV positive children by paediatric ART uptake status

Table 9: Socio-economic factors associated with Paediatric ART uptake, Bindura and Guruve Districts, 2015

Variable	Category	ART Uptake		POR	95% CI
		Yes n (%)	No n (%)		
Control over household finances	Involved	135(91.2)	33(61.1)	6.6	3.0-14.6*
	Not involved	13(8.8)	21(38.9)		
How you go to clinic	Walk	109(70.8)	33(55.9)	1.9	1.0 – 3.5*
	Public transport	45(29.2)	26(44.1)		
Size of household	2 – 4	72(46.8)	40(67.8)	0.4	0.2 – 0.7*
	5 - 12	82(53.2)	19(32.2)		
Source of income 2	Farming	20(13.0)	16(28.6)	0.4	0.2 – 0.8*
	Other	134(87.0)	40(71.4)		
Cost to Clinic	< \$ 0.5	45(52.9)	26(56.5)	0.9	0.4 – 1.8
	> \$ 0.5	40(47.1)	20(43.5)		

***Statistically significant**

For the caregivers, income generation through sales of farm produce had a reduced likelihood of paediatric ART uptake by 60%. Control over how household finances are used had the highest likelihood for paediatric ART uptake with a POR of 6.6. The likelihood of paediatric ART uptake increased for the caregivers who travelled to the clinic on foot and decreased for those whose household size was between 2 and 4 members with PORs 1,9 and 0.4 respectively. Cost to clinic only reduced uptake likelihood by 10% although this was not statistically significant.

5.3 Psychological Factors of the participants, Bindura and Guruve Districts

Table 10 below Psychological factors of Caregivers of HIV positive children by paediatric ART uptake status

Table 10: Psychological factors associated with Paediatric ART uptake , Bindura and Guruve Districts, 2015

Variable	Category	ART Uptake		POR	95% CI
		Yes n (%)	No n (%)		
Denial on learning status of child	Yes	127(94.8)	47(88.7)	2.3	0.7 – 7.2
	No	7(5.2)	6(11.3)		
Fear that ART harms a child	Yes	142(96.1)	44(93.6)	1.6	0.4 – 6.7
	No	6(3.9)	3(6.4)		
Feeling better after taking medicine	Yes	122(87.1)	56(94.9)	0.4	0.1 – 1.3
	No	18(12.3)	3(5.1)		

None of the psychological factors were statistically significant. Nonetheless, children whose caregivers developed denial after learning that child is HIV positive and those who feared that ART harms the child were more likely to take up ART, PORs 2.3 and 1.6 respectively. For the rest of the psychological factors, PORs and CIs could not be calculated as they had a zero among the observed figures in their quadrants.

5.4 Health system factors related to PART uptake, Bindura and Guruve Districts

Table 11 below shows Health Worker Demographic Characteristics

Table 11: Health Worker Demographic Characteristics, Bindura and Guruve Districts, 2015

Variable	Category	Frequency n (%)
Sex	F	22(66.7)
	M	11(33.3)
Job	Nurse	29(87.9)
	Doctor	4(12.1)
Age		39(Q ₁ =33.0, Q ₃ =45)
Years in MOHCC		17(Q ₁ =11.5, Q ₃ =24)
Years on Current Post		9(Q ₁ =6.5, Q ₃ =19)

Of the interviewed health workers, 66.7% were female and 33.3% were male. Overall, 88.0% were nurses by profession and 12.1% were doctors. Their median age was 39, and their median number of years on current post was 9 years.

Table 12 below shows Health System related factors by paediatric ART uptake status

Table 12: Health System related factors associated with Paediatric ART uptake, Bindura and Guruve Districts, 2015

Variable	Category	ART Uptake		POR	95% CI
		Yes n (%)	No n (%)		
Pre-test counselling done	Yes	134(87.0)	45(76.3)	2.1	0.9 – 4.5
	No	20(13.0)	14(13.7)		
Clinic runs out of ART medicines	Yes	6(4.5)	3(6.3)	0.7	0.2 – 2.9
	No	129(95.5)	45(93.7)		
Follow up to collect results	Yes	32(20.8)	9(16.1)	1.4	0.6 – 3.1
	No	122(79.2)	47(83.9)		

None of the health system factors were statistically significant. However, Pre-test counselling done and Follow up to collect results increased chances of ART uptake, POR 2.1 and 1.4 respectively.

Table 13 below shows Health care worker, “System related factors”

Table 13: Health care worker, “System related factors”, Bindura and Guruve Districts, 2015

Variable	Category	Frequency n (N)
Long waiting times	Yes	1(3.0)
	No	32(97.0)
Staff overwhelmed by workload	Yes	2(6.1)
	No	31(93.9)
Counselling sessions too few	Yes	0(0.0)
	No	33(100.0)
Shortage of trained staff	Yes	0(0.0)
	No	33(100.0)
Failure to follow up on HIV positive infants	Yes	0(0.0)
	No	33(100.0)
Shortage of paediatric ART medicines	Yes	0(0.0)
	No	33(100.0)

97.0 % of the health workers did not think the waiting times in the queues were too long to discourage ART Uptake and only 6.1% thought sometimes the workload has overwhelmed them. For the rest of the questions all the health workers responded with a negative affirmative to the posed questions.

Table 14 below shows Medical Supplies by District Hospital

Table 14: Medical Supplies by District Hospital, Bindura and Guruve Districts 2015

Item	Hospital					
	Bindura Provincial Hospital			Guruve Provincial Hospital		
	Required minimum stock	Available	Comment	Required minimum stock	Available	Comment
HIV test kits	75	108	Adequate	60	100	Adequate
Cotrimoxazole	840	4420	Adequate	750	3000	Adequate
Kaletra	36	250	Adequate	36	100	Adequate
Zidolam	72	66	Inadequate	60	62	Adequate
Nevirapine	4000mls	52900	Adequate	4000mls	52900	Adequate
Efavirenz	1box	10boxes	Adequate	1box	1	Adequate
Abacavir	24	43	Adequate	24	15	Inadequate
Paracetamol	96bottles	0	Inadequate	80bottles	0	Adequate
Needles	24 b/100 (23G)	68 b/100	Adequate	20 b/100 (23G)	55 b/100	Adequate
Syringes	24 bottles 5ml	33 b/100	Adequate	30 bottles 5ml	15 b/100	Inadequate
Blood samples tubes	180	33 b/100	Inadequate	176	100 b/100	Inadequate

Most of the pharmaceutical supplies for paediatric ART were above minimum stock requirements and therefore in adequate supply. Paracetamol for children was out of stock at both district hospitals.

5.5 Knowledge on Paediatric ART of the participants, Bindura and Guruve Districts

Table 15 below shows Knowledge on Paediatric ART of Caregivers of HIV positive children by paediatric ART uptake status

Table 15: Caregiver Knowledge associated with Paediatric ART uptake, Bindura and Guruve Districts, 2015

Variable	Category	ART Uptake		POR	95% CI
		Yes n (%)	No n (%)		
Correctly citing the interval for test results collection	Yes	76(74.5)	41(78.8)	0.7	0.3 – 1.7
	No	26(25.5)	11(21.2)		
Correctly citing the interval for medical check ups	Yes	41(26.6)	18(31.0)	0.8	0.4 – 1.6
	No	113(73.4)	40(69.0)		
HIV positive Child needs a special diet	Yes	83(53.9)	39(67.2)	0.6	0.3-1.0
	No	71(46.1)	19(32.8)		
Correctly citing the change in weight for child on ART	Yes	8(88.9)	1(50.0)	2.1	0.9 - 4.0
	No	1(11.1)	1 (50.0)		
Default when child gains weight	Yes	31(75.6)	10(24.4)	1.2	0.6 – 2.7
	No	123(71.9)	48(28.1)		

None of the knowledge factors were statistically significant among the participants. However, the knowledge that ART facilitates the improvement of child growth and that there is no need default after the child starts gaining weight increased the chances of the ART uptake, PORs 2.1 and 1.2 respectively.

Table 16 below shows Healthcare workers, “Knowledge on Paediatric ART”

Table 16: Healthcare workers, “Knowledge on Paediatric ART”, Bindura and Guruve Districts, 2015

Variable	Category	Frequency n (%)
Correctly citing the time interval to come back for collection of DNA PCR results	Yes	33(100.0)
	No	0(0.0)
Correctly citing the HIV test for children less than 18 months old	Yes	33(100.0)
	No	0(0.0)
Correctly citing first line ART medicines for infants	Yes	33(100.0)
	No	0(0.0)
Correctly citing the recommended nutrition for HIV positive children	Yes	33(100.0)
	No	0(0.0)
Correctly stating the Paediatric ART initiating criteria	Yes	33(100.0)
	No	0(0.0)

The interviewed key informants all reflected their knowledge by correctly citing the responses for all the knowledge questions

5.6 Multivariate Analysis

Table 17 below shows Independent Factors Associated with PART Uptake

Table 17: Independent Factors Associated with Paediatric ART Uptake, Bindura and Guruve Districts, 2015

Variable	cPOR	aPOR	95% CI	P - Value
Finance Control (Caregiver Involved)	6.60	11.74	4.71 - 29.23	<0.001
Sex of Caregiver (Female)	5.70	11.23	3.48 – 36.28	<0.001
Ethnic Group (Shona)	3.37	8.38	3.01 – 23.31	<0.001
Age of Child (<5yrs)	0.17	0.26	0.07 – 0.97	0.04

Independent caregiver factors associated with taking up ART in this study were being in control finances, being female and being of Shona ethnic group. A child younger than 5 years was less likely to take up ART

CHAPTER 6

6.0 Discussion and Conclusions

The major findings of this study could be grouped into two groups, facilitators and barriers to paediatric ART uptake. The socio-demographic factors, socio-economic factors, psychological factors, health system related and knowledge on ART can all fall into either of the two groups. After controlling for confounding and effect modification using stratified analysis and unconditional logistic regression, only four significant independent factors (control over household finances, sex of caregiver, ethnic group and age of child) were associated with uptake of paediatric ART. In 2014, the performance of the HIV program core indicators as reported by NAC showed that 54.8% of children below 15 were on ART against a national target of 85% coverage²¹. In 2014, the average ART coverage for the children under two years of age in Bindura and Mazowe districts was 42.0%. In this study the prevalence for that age group was 55.0%. This may suggest that the districts have improved their capacity for ART initiation leading to the scale up between 2014 and mid-2015. For all children below 15 years, the two districts have performed quite well in terms of their progress towards the national 85.0% target by 17.2%. This also suggests an increasing acceptability of P ART in the communities.

Those who lived within 5 km to the paediatric ART initiating centre were 2 times more likely to uptake paediatric ART than those living further than that. There was therefore an association between home to health facility distance and paediatric ART uptake proving the null hypothesis to be false. Many studies have found distance to be a contributing factor to health service uptake in resource limited settings like Zimbabwe. M Posse et al (2008) found that in Mozambique, greater distance to hospital was a key predictor of maternal receipt of ART¹⁶.

Sex and ethnicity of caregiver were the independent socio-demographic factors responsible for the increase in uptake of paediatric ART. According to J Timyan (1988), mothers are the primary caregivers of children²². It therefore naturally follows that in this study the majority of the caregivers for HIV positive children were female and that children whose caregivers were female would be more likely to be initiated on ART than those with male caregivers. On the other hand, males are socialised more to run overall economic affairs for the household than they are to carry out child rearing duties.

The general social progression therefore is that women will tend to handle child health matters more than males.

The Shona caregivers were more likely to ensure that children are were initiated on ART than the Nyanja caregivers. This could be explained by level of education as none of the Shona caregivers had never been to school while 12.5% of the Nyanja caregivers in the study had never attended any formal school. At least 40.3% of the Shona caregivers had attained primary education and 59.7% had attained secondary education. It may be that their educational level improved their health literacy. This is similar to findings by M Braun et al (2011) that those who are of a higher educational level tend to visit the health centers early¹⁷.

Most of the caregivers (83.2%) were involved in the decision making on use of finances in the household. This involvement in decision making about use of finance helps in the prioritisation of health matters in budgetary allocations for the household. In the event that the clinic is not within a walking distance and transport money has already been allocated, caregivers will usually ensure the health of the child is prioritized. The setting in Bindura and Guruve is such that user fees are not paid for ART, and as such, transport costs can be one of the only costs associated with healthcare access. M Braun et al (2011) had similar findings on facilitators to healthcare access. They found that although high travel costs were critical barriers to health care access innovations such as transportation refunds were useful in improving access¹⁷.

In the two districts, the health system had many positives to support paediatric ART uptake. Most of the health workers scored 100% on the paediatric ART knowledge questions. Knowledgeable health care workers are known to execute duties well. The UNICEF, 2015, identified that one of the bottlenecks to paediatric ART uptake is failure to understand child specific issues¹². Good knowledge of these issues coupled with good infrastructure and medical supplies make the systems in both Guruve and Bindura districts with few to none supply side hindrances. An assessment by the World Education in 2014 cited that at health system level, adequate equipment, maintenance and reagent supplies and well-motivated clinical staff were a major contribution to improved paediatric care and treatment uptake. The two districts are well placed in terms of human resources and medical supplies.

Children aged younger than 5 years were 80% less likely to be initiated on ART compared to those who were older. A study by Boender et al (2012) showed that being below two years of age was associated with delayed presentation at clinic, which in turn was a barrier to initiation on ART. This age group may not show signs of immune suppression as readily as those who are older because of passive immunity from mother's breast milk. If the caregivers do not notice any signs of ailment on the child they may not quickly get the child on ART. When children under two years of age are not initiated early they may get opportunistic infections. Testing HIV exposed infants by the age of six weeks beginning antiretroviral therapy before the twelfth week of life reduces HIV-related mortality in children living with HIV by 75%⁹. Delaying initiation on ART until the age of two increases HIV related mortality by 50%. Further delaying it until the age of three increases the mortality to 66%¹⁰. Many governments have since resorted to early infant diagnosis and treatment to curb these deaths.

6.3 Limitations of the study

The initially proposed strategy to visit all caregivers door to door was not ethically endorsed by the provincial medical director for purposes of those who have not disclosed their status. So the calculated sample size could not be reached as the participants had to be drawn from mothers arriving at clinics for review.

The study was prone to bias because of the sampling procedures used which were non probability. The health facilities and the key informants were selected purposefully. The participants were sampled conveniently and this method might have caused under representation or over representation of the study population.

6.4 Conclusion and Recommendations

6.4.1 Conclusion

The socio-demographics factors significantly associated with paediatric ART uptake were Sex of Caregiver (being female), Ethnicity of Caregiver (being Shona) and Age of Child (being under 5 years of age). The only socio-economic factor significantly associated with PART was involvement of caregiver in decision making pertaining to the use of household finances. The rest of the other factors; Psychological factors, Health System related Factors and Knowledge related factors were not significantly associated with paediatric ART in Bindura and Guruve districts.

6.4.2 Recommendations

Sisters in charge of the PMTCT and ANC departments at the health centres must ensure that Health Education on the importance of getting children initiated on ART. For all caregivers living with their partners who visit the PMTCT and PNC programs is done. This should be done by ensuring the nurses who attend to these caregivers spend an extra minute educating the caregivers. Information Education and Communication materials such as posters need to be put up on the walls of the clinic with clear and simple messages on the importance of getting children initiated on ART. The PMTCT nurses already do follow up on caregivers of children whose HIV test results turnout to be positive. However, there is need for a mechanism that follows up on all male caregivers taking care of children with a positive HIV test result for such children. Short Message Service (SMS) could be used to send regular reminders to the male caregivers to come collect results once HIV test results have been received at the Clinic.

Community nurses and HPOs to strengthen sensitizations within farming communities on ensuring HIV positive children are commenced on ART and other communities that have got lots of minority groups like originally from Mozambique, Malawi and Zambia e. This may improve health seeking behaviour and in turn improve ART uptake among children from these communities.

The PMTCT nurses need to educate married caregivers of HIV positive children the importance of involving each other in financial decisions that pertain to family health. This could be done in group format while the women wait to pick their ART supplies at the clinic on their review dates. This will help strengthen involvement of both partners in decision making on finances for those who are married which will in turn further enhance uptake of paediatric ART.

PMTCT nurses to strengthen health education on all expecting HIV positive mothers on the importance of ensuring that when their children turn HIV positive, they need to quickly ensure the children are commenced on ART. This will improve paediatric ART uptake among children aged 4 years and below.

APPENDICES

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Appendix 2: Questionnaire for Caregivers

Introduction

My name is Bargley Makumbe. I am a Public Health Officer from the Ministry of Health and child care attached to Mashonaland Central Province, Provincial Medical Director. I am conducting a study on the factors associated with uptake of Paediatric ART. The study seeks to find ways of improving the uptake of Paediatric ART. The information collected will only be used for the purpose of this investigation. Whatever we discuss remains private and confidential. You are free to participate or not to participate.

Are you willing to participate YES [] NO [] Signature.....

Questionnaire number.....Date of interview...../...../.....

Section A: Demographic and Variables

Demographic Factors of Caregiver

1. What was your age at your last birthday? _____

2. What is your relationship to the child?_____

3. What is your marital status?

Married [] Co-habiting [] Divorced [] Widowed [] Single []

4. What is your level of education? Never been to school [] Primary []

Secondary [] Tertiary []

5. What is your religion? Orthodox [] Apostolic [] Pentecostal [] Traditional
[] Muslim [] None []

Other (specify) _____

6. What is your ethnical background? Shona [] Nyanja [] Other_____

7. How many times have you changed your residence in the past two years? _____

Demographic factors of Child

1. What was the age of the child at his/her last birthday? _____
2. What is the sex of the child? Male [] Female []
3. Weight of child _____
4. Height of child _____

Child Treatment

1. Was the child tested for HIV Yes [] No []
 - a. If child was tested when did the child get tested: _____
 - b. When was the child initiated on ART: _____

Section B: Socio Economic Factors

1. What is the size of your household? _____
2. What is your source of income?
Gifts and remittances [] Employment [] Vending [] other (specify) _____
 - a. If employed, what type of employment? _____
 - b. How much do you receive or earn per month? _____
3. Who controls finances in your household?
Myself [] partner [] In-laws []
4. How long is the distance to that clinic _____
 - a. How much does it cost you to travel to the ART centre? _____

Section C: Psychological Factors

Perceived Seriousness

1. If the child goes on without receiving ART he/she might become underweight
Strongly disagree [] Disagree [] Agree [] Strongly agree [] Don't Know []
2. If the child goes on without receiving ART, he/she will suffer from opportunistic infections
Strongly disagree [] Disagree [] Agree [] Strongly agree [] Dont Know []
3. If the child goes on without receiving ART he/she might die very young
Strongly disagree [] Disagree [] Agree [] Strongly agree [] Dont Know []

Perceived Benefits

1. Getting the child initiated on ART reduces its likelihood to become underweight
Strongly disagree [] Disagree [] Agree [] Strongly agree [] Dont Know []
2. Getting the child initiated on ART reduces its likelihood to have opportunistic infections
Strongly disagree [] Disagree [] Agree [] Strongly agree [] Dont Know []
3. Getting the child initiated on ART prolongs the life of the child to adulthood
Strongly disagree [] Disagree [] Agree [] Strongly agree [] Dont Know []

Perceived Barriers

1. I don't believe that the child is HIV positive
Strongly disagree [] Disagree [] Agree [] Strongly agree [] Dont Know []
2. ART will not help the child at all
Strongly disagree [] Disagree [] Agree [] Strongly agree [] Dont Know []
3. I fear that, the body of the child is not strong enough to manage effects of ART
Strongly disagree [] Disagree [] Agree [] Strongly agree [] Dont Know []
4. I had side effects from ART that i do not want the child to have
Strongly disagree [] Disagree [] Agree [] Strongly agree [] Dont Know []
5. I cannot let the child be on ART as i fear that there is no confidentiality at the clinic
Strongly disagree [] Disagree [] Agree [] Strongly agree [] Dont Know []
6. I fear that if child goes ART, he/she will grow up stigmatised for being HIV positive

Strongly disagree [] Disagree [] Agree [] Strongly agree [] Dont Know []

7. I cannot let the child be on ART, my partner/community will know i am HIV positive

Strongly disagree [] Disagree [] Agree [] Strongly agree [] Dont Know []

Cues to Action

1. The counseling from the clinic helped me make up my mind to get the child on ART

Strongly disagree [] Disagree [] Agree [] Strongly agree [] Don't Know []

2. Information i heard from the radio/TV helped me make up my mind to get the child on ART

Strongly disagree [] Disagree [] Agree [] Strongly agree [] Dont Know []

3. Information i got from a banner/poster/flier helped me get the child on ART

Strongly disagree [] Disagree [] Agree [] Strongly agree [] Dont Know []

4. The fact that i felt better after getting on ART helped me want to get the child on ART

Strongly disagree [] Disagree [] Agree [] Strongly agree [] Dont Know []

5. I trust the supportiveness of clinic staff will help the child do well with ART

Strongly disagree [] Disagree [] Agree [] Strongly agree [] Dont Know []

6. My desire to see the child get better made me get him/her on ART

Strongly disagree [] Disagree [] Agree [] Strongly agree [] Dont Know []

Section D: Knowledge on pediatric ART

1. What is the correct time interval within which a child should collect results?_____

2. Do you know which health facilities closest to your place of residence that initiate HIV positive children on ART?

Yes [] No []

If yes, name them _____

3. Who initiates HIV positive children on ART at the health facilities?

Nurse/Doctor [] Other_____

4. How often are you meant to go for medical follow up for the child?

Monthly [] every 3 months [] Other_____

5. Does a child on ART need a special diet? Yes [] No []

6. Which HIV positive child needs 10% and which on needs 30% more energy in their diet

With symptoms []

Without symptoms []

7. What can happen to the weight of a child on ART? Gain [] Lose []
8. Should the dose be changed if weight changes? Yes [] No []

Section E: Health system factors

1. How do you go the ART service providing health care centre?

Walk [] public transport [] drive [] Other (specify) _____

a. If you go by public transport, how much do you pay? _____

2. How many days in a week is this health facility open? _____

3. How many hours per day is it open? _____

4. Are the health staff at the clinic friendly? Yes [] No []

5. Do you find the health staff helpful? Yes [] No []

6. Do the health staff explain issues in a language that you understand?

Yes [] No []

7. Did the health staff take you through counselling before they tested the child for HIV? Yes []
No []

8. Did you receive health education on HIV while you were at the clinic with your child? Yes []
No []

If Yes, what were the topics covered?

Hygiene [] Nutrition [] Review dates [] period to collect results []

Other (specify) _____

9. Are you charged user fees when you go for check up? Yes [] No []

10. What is your general assessment of health worker attitude?

Excellent [] Good [] average [] bad [] terrible []

11. How long did it take for you to receive the HIV test results for your child? _____

12. When you were told that the child was HIV positive

13. Was your child followed up by the ART clinic staff? Yes No

If yes, after how long was the child followed up? _____

14. Does the health centre sometimes have a shortage of the pediatric art drugs?

Yes No

If yes, did this shortage cause you to postpone the date for getting the child initiated?

Yes No

Appendix 3: Shona Questionnaire for Caregivers

Nhanganyaya

Kwaziwai, zita rangu ndinoitwa Bargley Makumbe. Ndinoshanda Hndinoshandira bazi rezveutanano muHurumende yeZimbabwe muno mudunhu reMashonaland Central kwa Provincial Medical Director. Ndirikuita tsvakiridzo yakanangana nekupinda pachirongwa chekurapwa kwevanha varipasi pemakore maviri chirwere cheshramatongo chinonzi Paediatric ART. Kuita tsvakiridzo kunodikanwa kumunhu wese anenge achiita zvidzidzo zvandirikuita. Masarudzwa nhasi kuti mupinde muongororo iyi. Tsvakiridzo iyi irikutsvaka zvikonzero zvinoita kuti vana varipasi pemakore maviri vanehutachiwana hweHIV vapinde kana kusapinda muchirongwa chePaediatric ART muzvitunhu zve Bindura neGuruve muMashonaland Central.

Mhinduro dzatichawana dzichashadiswa kuwedzera fundo yakanangana netsvakiridzo iyi. Zvichabatsira kuvakiridza hurongwa hwe Paediatric ART kuti chisimbe chiwedzere kubudirira. Zvese zvatichataura zvichachengetedzwa nenzira isingakufumureyi pakati pangu nemi. Makasununguka ku pindura mibvunzo kana kusa pindura. Hamumanikidzwi kupinda mutsvakiridzo iyi. Makasununguka kubuda mutsvakiridzo iyi nguva ipi zvayo tiri mutsvakiridzo yacho kunyange manga mambobvuma pekutanga uye kubuda mutsvakiridzo iyi hakukanganisi hukama hwenyu nevashandi vepachipatara chenyu. Mibvunzo inotevera inogona kutora chinguvana chinokwana 15 maminiti. Kana mavekupindura, munokurudzirwa kupindura muzvokwadi.

Munobvuma here kupindura mibvunzo? Hongu [] Kwete []

Signature_____

Zuva_____

Chikamu A: Zvemaberekerwo

Magariro amai/anochengeta mwana

1. Mune makore mangani?
2. Ukama hwenyu nemwana hwakamira sei? Ndewangu [] Ndewehama []
3. Chimiro chenyu pasvitsa yakamira sei?
Ndakarooro/rwa [] Takasiana [] Ndakashaikirwa [] Handisati ndarooro/rwa [] Tigere
hedu []
4. Makagumira pachinambwe chipi chekudzidza? Handina kumboenda kuchikoro []
Primary [] secondary [] tertiary []
5. Chitendero chenyu ndechipi? Mupostori [] svondo isiriomweya [] svondo yomweya []
Chivanhu [] Handina chitendero []
6. Muri murudziyi? Shona [] Nyanja [] Rumwe rudzi_____
7. Pamakore maviri apfuura machinja pekugara kangani? Handina [] kamwe [] kaviri [] kakawanda
[]

Zvemaberekerwe eMwana

1. Mwana wenyu anemakore mangani_____
2. Mwanayi? Mukomana [] Musikana []
3. Anorema zvakadii_____
4. Akareba zvakadii_____

Kurapwa kwemwana

1. Akaongororwa utachiwana weHIV here? Hongu [] Kwete []
 - a. Kana akaongororwa, akaongororwa rini:_____
 - b. akatanga kurapiwa nemishonga yeART rinhi?_____

Chikamu B: Zvekuwanika nekushandiswa kwemari

1. Munogara murivangani _____
2. Mari yenyu munoyiwan sei? Zvipo [] Mubhadharo wekubasa [] Ndinotengesa []
Zvimwe_____
 - a. Kana muchishanda, munoita basa rei? Ndinorima_____
 - b. Munowana mari pamwedzi kubasa ikoko_____

3. Ndiani anosarudza mashandisirwe emari mumusha wenyu? Ndini [] Wandakawanana naye []
hama dzemurume/mukadzi []
4. Mufambo wekuenda kuKiriniki kwamunowana ART wakareba makiromita mangani? Pasi
pemashanu [] Pakati pemashanu negumi [] anopfuura gumi []
 - a. Imarii kuenda kukiriniki? _____

Chikamu C: Zvakanangana nemafungiro

Maonero ekushata kwekusarapisa mwana

1. Kana mwana uyu akasarapwa nemishonga yeART, anogona kuderera uremu hwemuviri
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []
2. Kana mwana uyu akasarapwa nemishonga yeART, anogona kungobatwa nezvirwere zvakawanda
zvinobabata vane masoja emuviri mashoma
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []
3. Kana mwana uyu akasarapwa nemishonga yeART, anogona kungofa achimudiki
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []

Maonero ekunaka kwekurapisa mwana

1. Kupinzisa mwana uyu paART kunoita kuti asaderere huremu hwemuviri
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []
2. Kupinzisa mwana uyu paART kunoita kuti asangobatwa nezvirwere zvakawanda zvinobata vane
masoja emuviri mashoma
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []
3. Kupinzisa mwana uyu paART kunoita kuti awedzereke makore ekurarama kusvika avamunhu
mukuru
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []

Maonero ezvinotadzisa kurapisa mwana

1. Handizvitende kuti mwana uyu anehutachiwana hweHIV
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []

2. Mishonga yeART haingambobatsire mwana uyu
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []
3. Ndinotyia kuti muviri wemwana uyu hausati wasimba zvekuti ungawirirana neART
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []
4. Mishonga yeART inogona kurwarisa mwana
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []
5. Handidi kuti mwana uyu apinde pachirongwa cheART nekuti zvinhu zvese zvekukiriniki
zvinodzamara zvakuzikanwa nevanhu vakawanda
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []
6. Ndinotyia kuti mwana akapinda pachirongwa cheART anozokura achisekwa nevamwe vake
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []
7. Handidi kupinza mwana pachirongwa cheART, mudikani wangu kana vavakidzani vangatozozive
kuti ndine utachiwana hweHIV
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []

Maonero ezvinogonesa kuti mwana arapwe

1. Yambiro yandakawana kukiriniki yakabatsira kuti ndide kupinzisa mwana paART
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []
2. Zvandakadzidza muchirongwa chepa Radio kana TV zvakabatsira kuti ndide kupinzisa mwana pa
ART
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []
3. Zvandakaverenga pamapepa anotaure nezve ART zvakaita kuti ndide kupinzisa mwana paART
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []
4. Iko kuti ndakatanga kunzwa zvirinani pandakapindawo paART kwakabatsira kuti ndide kuti
mwana apindewo paART
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []
5. Ndinovimba zvikuru nerubatsiro rwemaNurse kuti rungabatsire mwana uyu ne ART
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []
6. Shungu dzangu dzokuda kuona mwana achirarama arimutano dzakaita kuti ndide kuti apinde
paART
Ndarambisisa [] Ndaramba [] Ndabvuma [] Ndabvumisisa [] Handizive []

Chikamu D: Ruzivo rwezve kurapwa kwevana neART

1. Mwana kana atorwa ropa kuti aongororwe utachiwana hwe HIV, munofanira kumira nguva yakareba zvakadini kuti muzoziviswa mamiriro ake?_____
2. Ndeapi makiriniki amunoziva ari pedyo nepamunogara anopinza vana pachirongwa cheART?_____
3. Ndiani anopinza vana muchirongwa cheART pamakiiniki amataura?
Mukoti/Chiremba [] Vamwe_____
4. Munofanira kudzokera kunoti mwana aongororwe CD4 kumashure kwemwedzi mingani?
Mumwechete [] Mitatu [] Mimwe:_____
5. Mwana ari pachirongwa cheART anofanirwa kudya chikafu chakasiyana here?
Hongu [] Kwete []
6. Ndeupi mwana anutachiwana anofanira kuwana chikafu chinopa samba chakawanda kudarika mumwe
Anoratidzira kurwara [] Asingaratidzire kurwara [] vanodya zvakafanana []
7. Chii chinogona kuitika kuhuremu hwemwana ari paART? Kuwedzera [] Kuderera []
8. Huwandu hwemapiritsi hunofanira kushandurwa here kana huremu huchichinja?
Hongu [] Kwete []

Chikamu E:Zvakanangana neChipatara nevashandi vemo

1. Munoenda sei kwamunowana mishonga yeART
Ndofamba [] ndinokwira motokari dzeruzhinji [] ndinoshandisa ngoro []
Dzimwe nzira_____
2. Kunovhurwa mazuva mangani kwamunowana mishongayeART?_____
3. Kunovhurwa mahora mangani pazuva?_____
4. Vashandi vepachipatara/kiriniki iyi vakasununuka here? Hongu [] Kwete []
5. Vashandi ava vanonyatso batsira here pese pamunosvika ikoko? Hongu [] Kwete []
6. Tsananguro dzamunopihwa nevashandi ava vanodziita nemutauro yamunonzwisisa here? Hongu [] Kwete []
7. Makaitiswa Counselling mwana asati awongororwa here? Hongu [] Kwete []

8. Pamaive nemwana uyu pachipatara/kiriniki makadzidziswa nezve HIV here? Hongu []
Kwete []
- a. Kana mati hongu, makadzidziwa zvipi zvacho? Utsanana [] Chikafu [] Mazuva
ekudzoka kuzowongororwa [] mazuva ekudzoka kuzitora maresults []
9. Makabhadhariswa mari yekurapwa here? Hongu [] Kwete []
10. Mwana akatsvagwa nevekiriniki inopaART here? Hongu [] Kwete [] Ndakauya naye ndega []
Kana mati hongu, akatsvagwa mumashure menguva yakareba zvakadini? Hongu [] Kwete []
11. Kuchipatara/kiriniki kwamunoenda kunombo shomeka mishonga yeART yevana here? Hongu []
Kwete []
- Kana mati hongu, kazhinji inozowanika mumashure menguva yakareba zvakadini
-

Appendix 4: Key Informant Questionnaire

Introduction

My name is Bargley Makumbe. I am a Public Health Officer from the Ministry of Health and child care attached to Mashonaland Central Province, Provincial Medical Director. I am conducting a study on the factors associated with uptake of Paediatric ART. Conducting a study is one of the requirements that entitle one to the degree. You have been selected to participate in this study. The aim of the study is to determine the factors associated with paediatric ART uptake in Bindura and Guruve districts, Mashonaland Central province. This study is expected to generate evidence-based recommendations for the Paediatric ART program.

The findings of this study are expected to not only inform interventions, but also to impact on information communication and dissemination, training programs and policy formulation. The information collected will only be used for the purpose of this investigation. Whatever we discuss remains private and confidential. If you volunteer to participate in this study participation in this study is entirely voluntary. Refusal to participate in the study will not result in a penalty or withdrawal of any services that you are entitled to. If you choose to participate and at any stage feel uncomfortable and wish to terminate the process you are free to do so. This questionnaire is expected to be completed within 10 minutes. Please try and respond honestly

Are you willing to participate YES [] NO [] Signature.....

Questionnaire number.....Date of interview...../...../.....

Demographic Characteristics

Name of Health Facility_____ Name of

Department_____

Job Title_____

Number of years working in MOHCC_____

Number of years on current position_____

Age _____ Sex _____

Human Resources

1. Do you have trained pediatric ART initiating staff at this clinic? Yes[] No[]
2. Are the staff adequate in numbers at these centres? Yes[] No[]
If no, how many are they meant to be? _____
3. Which cadres got trained? Nurses [] Doctors [] Other _____
4. Does the staff record all the details of the child correctly? Yes [] No[]
5. Are there guidelines for good clinical care of HIV positive children available at the clinic? Yes[] No[]
6. Is there a mechanism to monitor staff and client interactions? Yes[] No[]
7. If yes, what is that mechanism? _____

Drug shortages

1. Do you encounter medicine shortages for pediatric ART? Yes[] No[]
 - a. If yes, how do you address the shortage? _____
 - b. How long does it take to address the shortages? _____
 - c. Did you not lose some infants eligible for ART induction during those periods? Yes [] No []
 - d. Which drugs do you usually run out of the most? _____

Home to clinic distance?

1. Was the catchment area for your clinic catering for one ward alone?

2. Was it reaching beyond a 10km radius? Yes[] No[]

If yes, by how much is it exceeding the radius? _____

3. Did you have any means to provide transport for those coming from the farthest points of the district?

4. Are there any you have failed to initiate because they stayed too far? Yes [] No []

Knowledge on pediatric ART

3. What is the best HIV test for children under 18 months old of age ?

RDT [] DNA PCR [] Lab based Elisa [] Other _____

4. What is the correct time interval within which a child should receive their DNA PCR results?

4 weeks [] 6 weeks [] 8 weeks [] Other _____

5. Do staff carry out follow ups for children who turn HIV positive on DNA PCR so their parents can come collect results Yes [] No []

If yes, after how long do you follow up? _____

6. Do staff carry out follow ups for children who turn HIV positive on RDT so their parents can come collect results Yes [] No []

If yes, after how long do you follow up? _____

7. For children who turn HIV positive do you sometimes have delays in initiating them on ART?

If yes, which are the causes of delay?

Caregiver out of reach [] Medicine not available []

Need to first give caregiver Health Education [] Other _____

8. Do you know the pediatric ART initiating criteria? Yes[] No[]

If yes, could you please tick current one

- CD4 count []

- WHO staging not cross checked against age group
- WHO staging cross checked against age-group
- All HIV positive children initiated regardless of CD4 count

9. Do you know the first line treatment for children under two years of age?

Yes No

If yes, please tick appropriate

AZT + 3TC+LPV/r AZT + 3TC+NVP D4T + 3TC+NVP

10. Do you know the stages of care that HIV exposed infants should go through at the health facility?

Yes No

If yes, please number them in their appropriate order:

- Counseling on infant and young child feeding
- Early infant diagnosis
- Management of an HIV-infected child using ARVs
- Care of HIV exposed Infant

11. According to the latest national treatment guidelines, what is the focus of the follow ups?

Treatment of OIs Growth monitoring Developmental Assessment

12. How much more calories should an HIV positive child without symptoms take?

5% 10% 15% Other _____

13. How much more calories should an HIV positive child with symptoms take?

10%- 20% 20%-30% 30% - 40%

14. What can happen to the weight of a child on ART? Gain Lose

15. Do you need to adjust the dose of ARVs when the child's weight changes? Yes No

Appendix 5: Checklist of Medical Supplies

Item	Required minimum stock	Available	Comments
HIV test kits			
Drugs Cotrimoxazole Kaletra Zidovudine Lamivudine Nevirapine Efavirenz Abacavir Paracetamol			
Needles Syringes Blood samples tubes Specimen Bottles Swabs			

Appendix 6: Fomu Rechibvumirano

Factors Associated with Paediatric ART uptake in Bindura and Guruve districts, Mashonaland Central Province, 2015

Mukuru weTsvakiridzo : Bargley Makumbe

Nhamba dzeFoni : 0772 388 647

Nhanga nyaya

Mabvuma kupinda mutsvakiridzo yataurwa pamusoro apo. Tsvakiridzo iyi ichatora humbowo pamusoro pachirongwa chekurapwa kwevana varipasi pemakore maviri vane utachiwan hweHIV chinonzi Paediatric ART. Chibvumirano ichi chinokupai humbowo maererano nekutorwa kwenyaya yeupenyu hwenyu, machengeterwo aichaitwa uye mashandisirwo aichaitwa mune ramangwana. Kana muine mubvunzo makasununguka kubvunza henyu. Muchakumbirwa kunyora runyoro rwenyu (kusaina) kutaridza kuti muri kubvuma kana kuramba kupinda mutsvakiridzo iyi. Muchasara nebepa rine chibvumirano ichi uye isu tichasara nerimwe ratichachengeta kwemakore matatu.

Isarudzo yenyu kupinda kana kurega kupinda mutsvakiridzo iyi

Hamumanikidzwi kupinda mutsvakiridzo iyi. Makasununguka kubuda mutsvakiridzo iyi nguva ipi zvayo tiri mutsvakiridzo yacho kunyange manga mambobvuma pekutanga uye kubuda mutsvakiridzo iyi hakukanganisi hukama hwenyu nevashandi vepachipatara chenyu.

Chinangwa

Tsvakiridzo iyi irikutsvaka zvikonzero zvinoita kuti vana varipasi pemakore maviri vanehutachiwana hweHIV vapinde kana kusapinda muchirongwa chePaediatric ART muzvitunhu zve Bindura neGuruve muMashonaland Central.

Matorero atichaita humbowo hwenyu

Tichashandisa bepa rine mibvunzo yamuchakumbirwa kupindura

Machengeterwo achaitwa humbowo hwenyu

Tichachengetera humbowo hwenyu mukadhibhodhi matichange tichigara takakiya kwemakore matatu. Mushure mezvo tichaparadza humbowo uhu

Njodzi kana kushungurudzika mutsvakiridzo iyi

Pane zvinonogona kusakusunungurai zvingaitika patinenge takachengeta humbowo hwenyu. Zvinogona kuitika kuti umwe munhu anogona kuwona humbowo hwenyu zvingaita kuti magariro enyu mudunhu ange ane kushungurudzika. Kudzivirira izvi tichachengetedza humbowo hwenyu zvakanaka nenzira isingakufumureyi. Humbowo hwenyu tichahushandisa kune zvekudzidza chete.

Zvingakuyamuraiwo pakupinda mutsvakiridzo iyi

Hapana kuyamurika kwamunoita pakupinda mutsvakiridzo iyi munguva yamunenge muri mutsvakiridzo asi imi nevamwewo munogona kuzoyamurika mune ramangwana kubudikidza neshanduko ingangoitika kumakiriniki kubudikidza nehumbowo hwatichawana.

Kuchengetedzwa kwenyaya yenyu

Hamutarisirwi kunyora zita renyu, kero yepamunogara kana nhamba dzerunhare pabepa ramuchasaina Izvi tinozviita kuchengetedza chimiro chenyu sadungamunhu

Ndinobvuma kupinda mutsvakiridzo inonzi **“Factors Associated with Paediatric ART uptake in Bindura and Guruve districts, Mashonaland Central Province, 2015”**

Siginecha (runyoro rwenyu)

Zuva

Siginecha yemutsvakiridzi

Zuva

Kana muine mibvunzo yamusina kugutsikana nayo kana yamungada kubvunza umwe munhu asiri mutsvakiridzo iyi, kuda ingava maererano nedzimwe tsvakiridzo dzingada kuzoitwa, kodzero dzenyu kana kuti mukafunga kuti hamuna kubatwa zvakanaka makasunguka kufonera Dr C. Tshuma (0772248586 kana kuti Medical Research Council of Zimbabwe (MRCZ) pa nhamba dzinoti (04) 791792 kanakuti (04) 791193. Mungada kushanyira MRCZ hofisi yavo iri pa National Institute of Health Research pana Josiah Tongogara na Mazowe Street muguta re Harare.