

Household survey of HIV-prevalence and behaviour in Chimanimani District, Zimbabwe, 2005

A baseline study

Exnevia Gomo, Simba Rusakaniko, Wilson Mashange,
Junior Mutsvangwa, Brian Chandiwana & Shungu Munyati

Edited by Exnevia Gomo & Shungu Munyati



W.K. KELLOGG FOUNDATION
FROM VISION TO INNOVATIVE IMPACT



NATIONAL
INSTITUTE
OF HEALTH
RESEARCH,
MINISTRY OF
HEALTH AND CHILD
WELFARE

BIOMEDICAL
RESEARCH
& TRAINING
INSTITUTE

Prepared by the Biomedical Research and Training Institute (BRTI) and the National Institute of Health Research (NIHR) of the Ministry of Health and Child Welfare, Harare, Zimbabwe.

Published by HSRC Press
Private Bag X9182, Cape Town, 8000, South Africa
www.hsrcpress.ac.za

© 2006 HSRC, BRTI, NIHR & FACT

First published 2006

All rights reserved. No part of this book may be reprinted or reproduced or utilised in any form or by any electronic, mechanical, or other means, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

ISBN 0-7969-2149-0

Print management by comPress

Distributed in Africa by Blue Weaver
PO Box 30370, Tokai, Cape Town, 7966, South Africa
Tel: +27 (0) 21 701 4477
Fax: +27 (0) 21 701 7302
email: orders@blueweaver.co.za
www.oneworldbooks.com

Distributed in Europe and the United Kingdom by Eurospan Distribution Services (EDS)
3 Henrietta Street, Covent Garden, London, WC2E 8LU, United Kingdom
Tel: +44 (0) 20 7240 0856
Fax: +44 (0) 20 7379 0609
email: orders@edspubs.co.uk
www.eurospanonline.com

Distributed in North America by Independent Publishers Group (IPG)
Order Department, 814 North Franklin Street, Chicago, IL 60610, USA
Call toll-free: (800) 888 4741
All other enquiries: +1 (312) 337 0747
Fax: +1 (312) 337 5985
email: frontdesk@ipgbook.com
www.ipgbook.com

CONTENTS



Authors	vi
Other contributors	vii
Acknowledgements	viii
List of Tables	ix
List of Figures	xii
Acronyms and abbreviations	xiii
Executive summary	xv

1 CHAPTER 1

Introduction	1
1.1 HIV and AIDS in Sub-Saharan Africa	1
1.2 The Orphans and Vulnerable Children Project Incorporating the Behavioural Surveillance and Serostatus (BSS) survey	3
1.3 Aims of the OVC Project	4

2 CHAPTER 5

Methodology	5
2.1 Study Design	5
2.2 Study Area	5
2.3 Study Population	6
2.4 Sampling of Households	7
2.5 Informed Consent	8
2.6 Confidentiality	8
2.7 Instruments for Data Collection	8
2.8 Data Collection	10

3 CHAPTER 15

Results for the Age Group 2–11 Years	15
3.1 Introduction	15
3.2 Objectives	15
3.3 Methodology	15
3.4 Results	17
3.5 Conclusions	30
3.6 Recommendations	32

4 CHAPTER 33

Results for Age Group 12–14 Years 33

- 4.1. Introduction 33
- 4.2. Objectives 34
- 4.3. Methodology 34
- 4.4. Results 35
- 4.5. Conclusions 59
- 4.6. Recommendations 60

5 CHAPTER 61

Results for Age Group 15–24 Years 61

- 5.1. Introduction 61
- 5.2. Objectives 61
- 5.3. Methodology 61
- 5.4. Results 62
- 5.5. Conclusions 93
- 5.6. Recommendations 94

6 CHAPTER 95

Results for Age Group 25+ Years 95

- 6.1. Introduction 95
- 6.2. Objectives 96
- 6.3. Methodology 96
- 6.4. Results 97
- 6.5. Conclusions 123
- 6.6. Recommendations 123

7 GENERAL CONCLUSIONS AND RECOMENDATIONS 125

- 7.1. Introduction 125
- 7.2. Demographic details 125
- 7.3. HIV prevalence by age 126
- 7.4. HIV prevalence by locality 127
- 7.5. Rites of passage 127
- 7.6. HIV and AIDS-related knowledge 127
- 7.7. Awareness of AIDS services across age groups 128
- 7.8. Strengths and Weaknesses of the study 128
- 7.9. Future research 129
- 7.10. Recommendations 129

REFERENCES 130



AUTHORS

Consolidation and Final Editing of Report- Professor Exnevia Gomo: *PhD*, Associate Professor and Immunologist, College of Health Sciences, University of Zimbabwe, and **Shungu Munyati:** *MSc, PhD (Cand)*; OVC Research Project Director and Acting Director, National Institute of Health Research (NIHR), Ministry of Health & Child Welfare (Zimbabwe)

Professor Simba Rusakaniko: *PhD*, Biostatistician, College of Health Sciences, University of Zimbabwe

Brian Chandiwana: *BCS Econs & MBA*, OVC Research Project Manager; Health Economist, Biomedical Research & Training Institute, Harare (Zimbabwe)

Junior Mutsvangwa: *MPhil*, Medical Technologist; Laboratory Manager, Biomedical Research & Training Institute, Harare (Zimbabwe)

Wilson Mashange: *Dip Med Lab Tech*, Medical Laboratory Technologist, National Institute of Health Research (NIHR), Ministry of Health & Child Welfare, Harare (Zimbabwe)

OTHER CONTRIBUTORS



Freddie Pakuromunhu Mupambireyi: *MSc Demography BSc (Hons) Econs* Statistician, Deputy Dean, Faculty of Commerce University of Zimbabwe

Stanford T. Mahati: *MPhil, BSc (Hons) Sociology & Anthropology*, Social Scientist, National Institute of Health Research (NIHR), Ministry of Health & Child Welfare, Harare (Zimbabwe)

Natsayi Chimbindi: *BSc HEP, (Health Education)*, Biomedical Research & Training Institute Harare (Zimbabwe)

Stephen Buzuzi: *MSc & BSc (Hons) Sociology and Anthropology*, Biomedical Research & Training Institute, Harare (Zimbabwe)

Stella Gwini: *BSc (Hons) Statistics*, Biomedical Research & Training Institute, Harare (Zimbabwe)

Maxwell Chirehwa: *BSc (Hons) Applied Maths (Cand)*, University of Science and Technology, Bulawayo (Zimbabwe)

Timothy Mutsvari: *BSc Applied Maths*, Biomedical Research & Training Institute, Harare (Zimbabwe)

Teramai A. Moyana: *BSc (Hons) Sociology and Anthropology*, Biomedical Research & Training Institute, Harare (Zimbabwe)

Chenjerai K. Mutambanengwe: *BSc (Hons) Applied Maths (Cand)*, University of Science and Technology, Bulawayo (Zimbabwe)

Peter P. Chibatamoto: *MBA, MSc Infectious Diseases, Biological Sciences*, HIV/AIDS (Mainstreaming) Technical Advisor, UNDP, Windhoek (Namibia)

Mr Alfred Chingono: Clinical Psychologist, College of Health Sciences, University of Zimbabwe (Zimbabwe)

George Chitiyo: *MSc & BSc Econs*, Catholic Relief Services, Harare (Zimbabwe)



ACKNOWLEDGEMENTS

The authors would like to thank the Biomedical Research and Training Institute (BRTI) together with the National Institute of Health Research (NIHR), formerly the Blair Research Institute, of the Ministry of Health and Child Welfare for all the support it received from staff through contribution of their time, skills, expertise and resources during the survey.

Special thanks go to the new President and Chief Executive Officer of HSRC, Principal Consultant and Project Champion of the OVC Project, Dr Olive Shisana for her leadership and strategic direction concerning the project; the Principal Investigator of the Research Component of the Project Prof Leickness Simbayi; and the Overall Project Manager, Dr Donald Skinner, who together with other team members from the Human Sciences Research Council (HSRC) gave both technical and logistical support for this BSS component of the OVC research project.

The funding received for the OVC project, including this BSS Survey is from the WK Kellogg Foundation (WKKF), and to them we are indeed grateful.

Additionally, the research team would like to thank Rogers Sango and Tichaona Chirimanyemba – from the Zimbabwe Central Statistics Office – for their valuable technical input during the development of the instruments, the mapping, the training of fieldworkers and fieldwork.

The District Administrator for Chimanimani, Edgar Nyagwaya, the Rural District Council Chairman of Chimanimani, Joseph Harahwa, Traditional Chiefs and Councillors are saluted for their facilitatory role in ensuring the successful implementation of the field data collection exercise.

The research team appreciates the support they received from the Chimanimani OVC Local Liaison Team: J. Jaibesi; B. Muchinapo; P. Sibanda; Sr Sifovo, the late Sr M. Ndhlovu, Ms Ndima; and Mr Sigauke during the whole exercise. Our thanks are extended to the headmasters, teachers and nurses in Chimanimani who readily assisted the research team with free training venues and provided supervisors and interviewers with accommodation and logistical support.

The field supervisors are highly commended for the sterling work they did in directing the study on the ground. We also greatly thank the interviewers who collected data industriously.

Sincere gratitude is also extended to implementing partners, in particular the Grant Maker FACT-Mutare under the directorship of Jephias Mundondo.

The authors would like further to acknowledge the work undertaken by the data entry clerks under the supervision of Tendai Madiro and Lowence Gomo.

Last, but not least, this work would have been impossible without the support and the participation of the community of Chimanimani district. We thank them.

Shungu Munyati
Project Director

Brian Chandiwana
Project Manager

LIST OF TABLES



Table 2.1:	Ward sample size by age group	7
Table 2.2:	Areas of focus of the 2–11 and 12–14 years BSS questionnaires	9
Table 2.3:	Areas of focus of the 15–24 and 25+ years BSS questionnaires	9
Table 3.1:	Distribution of response rate	17
Table 3.2:	Demographic characteristics of the child as reported by their guardians	18
Table 3.3:	Overall HIV prevalence by sex, age and locality of child	19
Table 3.4:	HIV prevalence by orphanhood status	20
Table 3.5:	HIV prevalence of children by hospitalisation records in the past 12 months	21
Table 3.6:	Demographic characteristics of the guardians	22
Table 3.7:	Alcohol and drug use in child's home	23
Table 3.8:	Distribution of guardians by caring practices	24
Table 3.9:	Distribution of guardians' reported discussions on sexuality and HIV/AIDS with children by age group	25
Table 3.10:	Distribution of person/place where guardians have learnt the most about sex	26
Table 3.11:	Guardians' general knowledge of HIV/AIDS by socio-demographic characteristics	27
Table 3.12:	Guardian's knowledge of possible ways of HIV transmission by selected socio-demographic characteristics	28
Table 3.13:	Guardian's knowledge of prevention of HIV transmission	29
Table 4.1:	Distribution of response rate	35
Table 4.2:	Demographic characteristics of the children	36
Table 4.3:	Age when the child lost either mother or father	37
Table 4.4:	Distribution of children by age and educational status	38
Table 4.5:	HIV prevalence by sex, age and locality	38
Table 4.6:	HIV prevalence by religion	39
Table 4.7:	Children's sleeping arrangements and mode of transport to and from school	40
Table 4.8:	HIV prevalence by household situation and home environment	41
Table 4.9:	Distribution guardians caring methods	42
Table 4.10:	HIV prevalence by caring methods	42
Table 4.11:	Mean scores of children's care/protection by teachers	43
Table 4.12:	Distribution of orphanhood by school enrolment and attendance	44
Table 4.13:	Orphanhood by household situation	45
Table 4.14:	Awareness of structures in community that care for OVC	45
Table 4.15:	Distribution of child-head households by demographic characteristics	46
Table 4.16:	HIV prevalence by issues of sexuality	47
Table 4.17:	Distribution of types of reported HIV-related illnesses	48
Table 4.18:	Prevalence of HIV by history illness of children	49
Table 4.19:	Prevalence of HIV by hospitalisation history	50
Table 4.20:	Self-reported behaviour change due to HIV/AIDS	51
Table 4.21:	Attitudes scores of children towards certain sexual behaviours by respondent characteristics	54
Table 4.22:	General knowledge (scores) on HIV/AIDS by respondent characteristics	53
Table 4.23:	Knowledge scores on HIV/AIDS transmission by respondent characteristics	54
Table 4.24:	Knowledge scores on HIV/AIDS prevention by respondent characteristics	55
Table 4.25:	HIV prevalence by general knowledge on HIV and AIDS	56
Table 4.26:	Knowledge of availability of HIV/AIDS care services	57
Table 4.27:	Distribution of sources of assistance on HBCP	58
Table 4.28:	Distribution of responses on Home-based Care programmes	58

Table 5.1:	Distribution of response rate	62
Table 5.2:	Demographic and basic characteristics of the sample	63
Table 5.3:	HIV prevalence by sex, age group and sector	65
Table 5.4:	HIV prevalence by marital status	65
Table 5.5:		
Table 5.6:	HIV prevalence by sex and educational level	66
Table 5.7:	HIV prevalence by standard of living	67
Table 5.8:	HIV prevalence by orphanhood status and sex	68
Table 5.9:	Distribution of types of reported HIV-related illnesses by sex	69
Table 5.10:	HIV prevalence by types of reported HIV-related illnesses	70
Table 5.11:	Distribution of knowledge of HIV and AIDS	71
Table 5.12:	General knowledge of HIV and AIDS by socio-demographic characteristics	72
Table 5.13:	Knowledge of HIV transmission by socio-demographic characteristics	73
Table 5.14:	Responses to questions on knowledge of HIV prevention	74
Table 5.15:	Knowledge about availability of VCT services by selected demographic characteristics	75
Table 5.16:	Ever had sex by age and sex	76
Table 5.17:	Ever had sex by age and sector	76
Table 5.18:	HIV prevalence among respondents who reported never having had sex before	77
Table 5.19:	Reported condom use by selected characteristics	77
Table 5.20:	HIV prevalence by condom use and sex	78
Table 5.21:	HIV prevalence and condom use by sector	78
Table 5.22:	Condom use during the last sexual intercourse by characteristics of respondents	79
Table 5.23:	Reasons for condom use	80
Table 5.24:	Sources of condoms by age and by locality type	80
Table 5.25:	Sources of condoms by age and by sex	81
Table 5.26:	Responses to the question: 'Should you need a condom, is it possible to get one?'	81
Table 5.27:	Reasons for going for HIV test	82
Table 5.28:	HIV prevalence by HIV testing	83
Table 5.29:	Self-reported behaviour change due to HIV/AIDS by sex	84
Table 5.30:	Prevalence of HIV by self-reported change of behaviour in the last few years	84
Table 5.31:	Responses that show the stigmatisation and discrimination of PLWHA	85
Table 5.32:	Possible ways of reducing stigma of HIV/AIDS stratified by sex	86
Table 5.33:	Proportion of people who are aware of HBCP directed towards PLWHA in community	87
Table 5.34:	Reported providers of HBCP services directed towards PLWHA in community	88
Table 5.35:	Cited types of support provided for PLWHA	88
Table 5.36:	Proportion of people who are aware of HBCP directed towards OVC in community	89
Table 5.37:	Cited types of support provided for OVC in community	90
Table 5.38:	Respondents perceptions regarding HIV/AIDS related policies	91
Table 5.39:	Respondents' perceptions regarding political commitment to HIV/AIDS by sector	92
Table 6.1:	Distribution of response rate	96
Table 6.2:	Selected background characteristics of the sample	98
Table 6.3:	HIV prevalence by marital status	99
Table 6.4:	HIV prevalence by education and sex	99

Table 6.5:	HIV prevalence by sector	100
Table 6.6:	HIV prevalence by household economic status	100
Table 6.7:	HIV prevalence by employment status	101
Table 6.8:	HIV prevalence by dependency burden	101
Table 6.9:	HIV prevalence by circumcision	103
Table 6.10:	Distribution of respondents by self-reported behaviour change	103
Table 6.11:	HIV prevalence by reported change of sexual behaviour	103
Table 6.12:	HIV prevalence by number of sexual partners over the past 12 months among males	104
Table 6.13:	HIV prevalence by risk perception	105
Table 6.14:	HIV prevalence by condom use	105
Table 6.15:	Prevalence of HIV by history of HIV testing	106
Table 6.16:	Distribution of types of reported STIs by sex	106
Table 6.17:	HIV prevalence by self-reported history of STIs	107
Table 6.18:	Alcohol use by gender	109
Table 6.19:	HIV Prevalence by alcohol consumption	109
Table 6.20:	Attitudes towards PLWHA	110
Table 6.21:	Attitudes towards PLWHA by sex	111
Table 6.22:	Ways of reducing stigma of HIV/AIDS stratified by sex	112
Table 6.23:	Awareness of HBCP directed at PLWHA in community	113
Table 6.24:	Reported providers of HBCP services directed towards PLWHA in community	114
Table 6.25:	Support provided to PLWHA	114
Table 6.26:	Reported provider of HBCP services directed at OVC in community	115
Table 6.27:	Cited types of support provided to OVC	115
Table 6.28:	Support provided to the household with a sick person	116
Table 6.29:	Type of support preferred for household with a sick person.	116
Table 6.30:	Knowledge of HIV and AIDS prevention and care services available in community	117
Table 6.31:	Perception of respondents on policies related to HIV and AIDS	118
Table 6.32:	Perception of policies related to HIV and AIDS by sex	118
Table 6.32a:	Perceptions regarding policies related to HIV and AIDS by education – controlling HIV/AIDS	119
Table 6.32b:	Perceptions regarding policies related to HIV and AIDS by education – recognising HIV/AIDS	120
Table 6.32c:	Perceptions regarding policies related to HIV and AIDS by education – allocation of funds	120
Table 6.32d:	Perceptions regarding policies related to HIV and AIDS by education – treatment of PLWHA	120
Table 6.33:	Perceptions regarding political commitment	121
Table 6.34:	Perceptions regarding political leadership public support	121
Table 6.35:	Perceptions regarding government support for HIV and AIDS control activities	122
Table 6.36:	Perceptions regarding government commitment	122



LIST OF FIGURES

- Figure 1.1: Trends in HIV Prevalence in Sub-Saharan Africa, 1986 – 2001 1
- Figure 1.2: HIV Prevalence among pregnant women attending antenatal care, Zimbabwe 1990 – 2005 2
- Figure 2.1: Location of Chimanimani District 5
- Figure 2.2: Wards of Chimanimani District 6
- Figure 3.1: Distribution of types orphanhood (%) 18
- Figure 4.1: Distribution of orphanhood status 37
- Figure 5.1: HIV prevalence by age and sex 64
- Figure 5.2: Orphanhood status in the 15–18 age group 67
- Figure 6.1: Age distribution of respondents by sex 97
- Figure 6.2: Distribution of HIV prevalence by age and sex 92
- Figure 7.1: Prevalence of orphanhood by age group 125
- Figure 7.2: Prevalence of HIV by age group 126
- Figure 7.3: Prevalence of HIV by sector 127

ACRONYMS AND ABBREVIATIONS



ABCDE	A: Abstinence B: Be faithful to one partner C: Correct and Consistent use of Condoms D: Delay early sex E: seek Early treatment for STIs
AIDS	Acquired Immune Deficiency Syndrome
ANOVA	Analysis of Variance
ART	Antiretroviral Therapy
ARV	Antiretroviral
BRTI	Biomedical Research and Training Institute
BSS	Behavioural and Sero-status Surveillance Survey
CBO	Community-based Organisation
CI	Confidence Interval
CIHP	Centre for International Health and Policy
CSO	Central Statistics Office
CYFD	Child, Youth and Family Development
DBS	Dried Blood Spot
EHT	Environmental Health Technician
ELISA	Enzyme Linked Immuno-sorbent Assay
FACT	Family AIDS Caring Trust
HBC	Home-based Care
HBCP	Home-based Care Programme
HIV	Human Immunodeficiency Virus
HPAZ	Health Professions Association of Zimbabwe
HSRC	Human Science Research Council
IEC	Information, Education and Communication
IRDP	Integrated Rural Development Programme
KABP	Knowledge, Attitudes, Behaviour and Practices
KAPB	Knowledge, attitude, behaviour and practices
LLC	Local Liaison Committee
NIHR	National Institute for Health Research
MCH	Mother and Child Health
MoU	Memorandum of Understanding
OMT	Oral Mucosal Transudate
OVC	Orphans and Vulnerable Children

PLWHA	People Living with HIV and AIDS
PMTCT	Prevention of mother-to-child transmission
RA	Research Assistant
RH	Reproductive Health
SAfAIDS	Southern Africa HIV/AIDS Information Dissemination Service
SADC	Southern Africa Development Community
SAHARA	Social Aspects of HIV/AIDS Research Alliance
SI	Sampling Interval
SOP	Standard Operational Procedures
STI	Sexually Transmitted Infection
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations International Children's Fund
VCT	Voluntary Counselling and Testing
WKKF	WK Kellogg Foundation

EXECUTIVE SUMMARY



1. The Behavioural Risks and HIV Serostatus (BSS) Survey forms part of a project on The Development, Implementation, and Evaluation of Interventions for the Care of Orphans and Vulnerable Children in Chimanimani district, Manicaland Province, Zimbabwe. This report presents information on HIV prevalence and risk factors thereof, knowledge of HIV and AIDS, and awareness about HIV and AIDS services among children and adults in the district in the community.
2. A total of 2 934 individuals were randomly selected to participate in the survey. Of these, 752 were guardians of 2–11 year olds, 634 were 12–14, 756 were 15–24 and the remaining 792 were 25+ years old. Specific questionnaires were designed for each group. Guardians of children 2–11 years of age answered questions on the child's behalf. The response rate was 97.3%. Blood specimens for HIV testing were collected as spots on filter paper, dried and stored until tested, using commercial HIV-1/2 enzyme immunoassay (EIA) kits. The study population derived from urban, communal, resettlement, small scale commercial and large scale commercial sectors. Bivariate association between HIV prevalence and potential risk factors were assessed.
3. Overall, HIV prevalence was 9.7%, and generally increased with age. The levels and trend were expected and similar to national statistics. Prevalence was highest in the urban sector (14.6%) followed by large-scale commercial (LSC) at 12.2% and was lowest in communal and small-scale (SSC) commercial sectors both at 8%.
4. Among the 2–11year olds:
 - Prevalence of orphanhood was 15.7% with 63.9% of orphanhood being paternal. The majority of orphans were younger than 6 years old when they lost one or both parents.
 - HIV prevalence was 3.3% with highest rates (5.8%) among children aged 6–8 years.
 - HIV prevalence was more than twice as high in urban than all other sectors.
 - HIV prevalence was higher among orphans (5.6%) than non-orphans (2.9%). Prevalence was highest among maternal orphans indicating that most infections were from mother-to-child transmissions.
 - HIV prevalence was significantly higher among children with a history of hospitalisation. Thus, HIV is a major cause of morbidity among children in this district.
 - Few guardians ever discussed sexuality with the children. Similarly, only 3.2% of guardians reported circumcision of boys, while 6.3% of girls were reportedly tested for virginity. These practices may therefore not be important risk factors for HIV transmission in the district.
 - Guardians' general knowledge of HIV/AIDS was about 70% and differed significantly with age and level of education. Younger guardians were more knowledgeable, while knowledge increased with education. The age difference may be a reflection of differences in access to education among the younger and older guardians along the years.
5. Among the 12–14 year olds:
 - Prevalence of orphanhood was 28% with paternal orphanhood being four times higher than maternal orphanhood. Eight per cent of the children had lost both parents. Two thirds of the children were 6–14 years of age when they lost their parents.

- HIV prevalence was 3% and twice as high among females than males. Although the difference was not statistically significant, it suggests earlier sexual initiation among girls, for various reasons.
 - HIV prevalence was highest in the urban (10.2%) and lowest in the small scale commercial (0%) sector.
 - There were no differences in HIV prevalence by orphanhood status, religion or education. HIV prevalence was also not associated with the child's home environment, and care and protection practices.
 - Overall, 2.5% of the children reported ever having sex. No associations were observed between HIV prevalence and sexual history.
 - General knowledge of HIV/AIDS was above 75% with significant sectoral but not educational differences.
 - HIV prevalence was significantly higher among those who had heard about HIV/AIDS, suggesting a temporal but not necessarily a causative relationship.
 - One percent of the boys reported being circumcised while 14.7% of girls reported being tested for virginity. There were no associations between HIV prevalence and the two practices.
 - Generally the majority of households in the district did not have money for basic things but with higher proportions among orphaned (82.7%) than non-orphaned (65.7%) households. This suggests that, either HIV/AIDS worsened existing poverty or poverty is a risk factor for HIV infection.
 - Child-headed households were 4%. Most of these were from the communal and resettlement areas.
 - Overall, awareness of OVC care and support services in the community was similar between orphans and non-orphans (28.6% versus 25.4%, respectively). Awareness was highest in the communal sector suggesting that OVC services were more available in this sector. Awareness was also highest among children with primary school education, possibly because OVC services target mainly the more vulnerable and younger age groups.
 - Only 23.2% of respondents were aware of HIV prevention services with highest awareness levels in small scale commercial (48.5%) and urban sectors (35.6%). There were differences in awareness by level of education.
6. Among the 15–24 year olds:
- HIV prevalence was 9.3% and increased with increases in age. Prevalence showed a rapid rise between 19 and 24 years of age. Prevalence was 5.6% among the 15–18 and 12.1% among the 19–24 year old.
 - HIV prevalence was twice as high among females (12.3%) than males (5.6%) suggesting earlier initial sexual activity among the former. Alternatively, the results emphasise the role of intergenerational sex in the transmission of HIV among young girls and women.
 - HIV prevalence was highest in the SSC and urban sectors.
 - Married males and females were more likely to be HIV infected than their single counterparts. However, the divorced, cohabiting, widowed together constituted the group with the highest prevalence. Similar findings have been reported in Zimbabwe and elsewhere.
 - Among the 15–18, prevalence of orphanhood was 36.9% with paternal orphanhood being predominant. HIV infection was not associated with orphanhood.
 - Just over half of the respondents (50.9%) reported ever having sex. Mean age of sexual initiation was 17.9 years and was similar for males and females.

- Overall, 31.1% reported ever having used a condom. Frequency of condom use differed by age and sector, suggesting differences in access to condoms or awareness of services. No associations were found between HIV infection and condom use.
 - Reported HIV testing was low at 8.6%. The most commonly cited reason for seeking HIV testing services was wish to know HIV status. HIV prevalence was not associated with history of HIV testing.
 - General knowledge of HIV/AIDS was above 85% and significantly differed with sector and level of education. Awareness was lowest in the SSC and highest in the communal sector, suggesting lack of services in the SSC sector. Awareness increased with increases in levels of education. Similar trends were observed with regards specific knowledge of HIV transmission.
 - Awareness of home-based care (HBC) services directed at people living with HIV/AIDS (PLWHA) was low (26.5%) and did not differ by sex, education, religion and sector. This suggests that the services are generally not available in the district.
 - Fifty-six per cent of respondents were aware of OVC care services. There were significant sectoral and educational differences in awareness among females but not among males.
 - Generally the majority (over 60%) of respondents thought that there was political commitment to the fight against HIV/AIDS, but government was not putting enough resources into the responses.
7. Among the 25+ year olds:
- Mean age was 39.9 years, ranging from 25 to 89 years. There were more female (54.7%) than male respondents, while the majority of respondents (79.6%) were married.
 - HIV prevalence was 21.1% and was slightly higher among females (22.3%) than males (19.7%). There was no defined age trend but prevalence was higher among younger females than males, further emphasising the vulnerability of women.
 - HIV prevalence was one and a half times higher among the single and never married, more than twice as high than among the cohabiting/divorced/widowed than among the married. The differences were magnified and significant among females.
 - There were no significant sectoral differences in HIV prevalence, although the urban sector recorded the highest prevalence (25.9%) and the SSC sector the lowest at 12.5%.
 - Few males (7.5%) reported having been circumcised. Mean age of circumcision was 11.2 years. Circumcision was not associated with HIV infection.
 - HIV prevalence was higher among respondents who thought that they could get infected compared to those who did not. The result showed that people were aware of their risky behaviours.
 - Condom use was reported by 44.9% of the respondents with more males (55.9%) than females (35.8%) reporting use. HIV prevalence was significantly higher among those reporting condom use (25.4%) compared to those reporting not using (17.7%). This suggests that condoms were used inconsistently or that use started after the respondents were already infected. Indeed, prevalence was one and a half times higher among those reporting selective use of condoms with multiple partners.
 - Around one tenth (10.2%) of respondents reported having been tested for HIV, and HIV prevalence was one and a half times higher among those reporting HIV

testing (21.2%) compared to those who were not previously tested (20.1%). This suggests that those seeking voluntary counselling and testing (VCT) may be those aware of their risky behaviour.

- Generally most respondents expressed positive attitudes towards PLWHA, although nearly one-third thought that infected children should be isolated and two-thirds thought that infected women could not be trusted as babysitters.
 - Only about 40% of respondents were aware of HBC programmes in the district, with no significant sectoral differences.
 - The most commonly cited HBC providers were community-based organisations (CBOs), followed by non-governmental organisations (NGOs) and faith-based organisations (FBOs). None mentioned the government as a provider of HBC. The most common form of support was food, although significant proportions mentioned home visits.
 - Awareness of VCT, prevention of mother-to-child-transmission (PMTCT) and sexually transmitted infections (STI) services was very low (below 10%) indicating that these services were either not available or not accessible to the community.
 - While the majority thought the government was committed, they also agreed that the resources allocated to the fight against HIV/AIDS were not adequate.
8. Pending more detailed data analysis the following general recommendations can be made:
- There is a need for interventions to address the orphan problem. The interventions should range from direct food and material support to OVC, to improving the sustainable livelihoods of widows and OVC.
 - There is a need to address the issue of infected children. While the government is moving as quickly as possible in making antiretrovirals (ARVs) available to the vulnerable, generally there has been lack of emphasis on children. HIV and AIDS service organisations should mobilise and prepare communities for antiretroviral therapy (ART). The mobilisation should be supported by strong advocacy for immediate introduction of ART for children as well as adults. The association between HIV and morbidity was observed in this study, albeit not significant at this stage of the analysis.
 - Appropriate and properly targeted preventive interventions are called for to address HIV transmission dynamics for the various age groups, cognisant of the sectoral differences observed in the present study. The one size fits all approach to prevention, using standard ABCDE approaches alone are unlikely to yield the desired results. Thus, each sector requires an indepth analysis that would lead to directing interventions with regard the fundamental determinants of transmission.
 - Despite the long-standing awareness campaigns, general and specific knowledge about HIV and AIDS remains disconcertingly low at about 70%. There is thus a need to ensure that the general and specific population groups access information on HIV and AIDS. This calls for multi-media approaches that bring the information to the doorstep of the people.
 - Awareness about HIV and AIDS services depends on the availability and accessibility of the services. The study suggests that these services are limited in the surveyed area. There is therefore a need to increase the services, including HBC, OVC and prevention services. Existing services as well as other health-related services should strengthen and scale up the HIV-related activities. In particular, reproductive and maternal and child health services need to mainstream HIV and AIDS into their services.

-
9. Limitations of the study include:
- Bias could have been introduced during data collection. Firstly, randomisation was effected through counting households based on a given interval. It is possible that research assistants could have made errors in the counting since there was no systematic way of counting, especially in communal areas where households are randomly placed. Also possible, considering the terrain of the study area, is that some research assistants may not have conducted adequate follow-up visits. Whether the respondents found at home have similar characteristics to those not found cannot be verified.
 - The study was conducted during school term, hence the school-going ages were not easily assessable.
 - This report is based on bivariate analysis. Therefore, the interpretation on associations between HIV and the various variables is very limited, since there was no control for confounding. Similarly, no interactions were assessed. Thus the discussion, conclusions and recommendations made at this stage are not definitive.

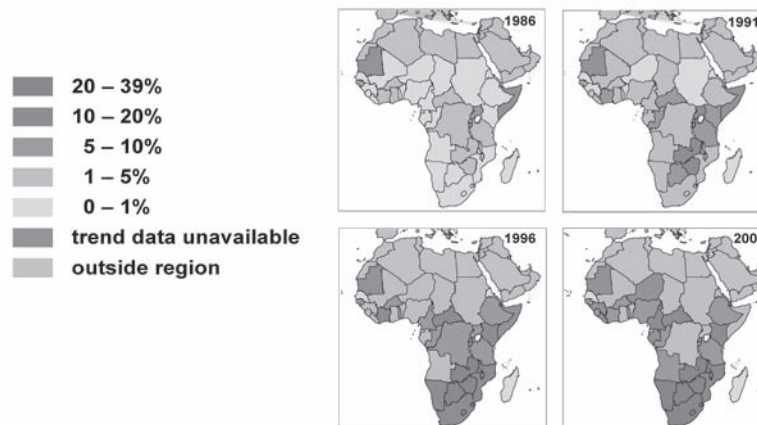


1. Introduction

1.1. HIV and AIDS in sub-Saharan Africa

The HIV and AIDS burden has continued to increase globally, and more so in Africa. The latest Joint United Nations Programme on HIV/AIDS (UNAIDS) report (2004) still reflects the disproportionate distribution of HIV and AIDS in the world. Africa harbours nearly 70% of all infections and yet has a small proportion of the world's population (UNAIDS 2004). At the same time, the epidemic is beginning to take grip in Asia, with increasing numbers of new infections. Sub-Saharan Africa, and in particular the Southern Africa region, is particularly affected by HIV and AIDS, with infection rates ranging above 20% in most SADC countries. The evolution of the HIV and AIDS epidemics in Africa is shown in Figure 1.1.

Figure 1.1: Trends in HIV prevalence in sub-Saharan Africa, 1986 – 2001



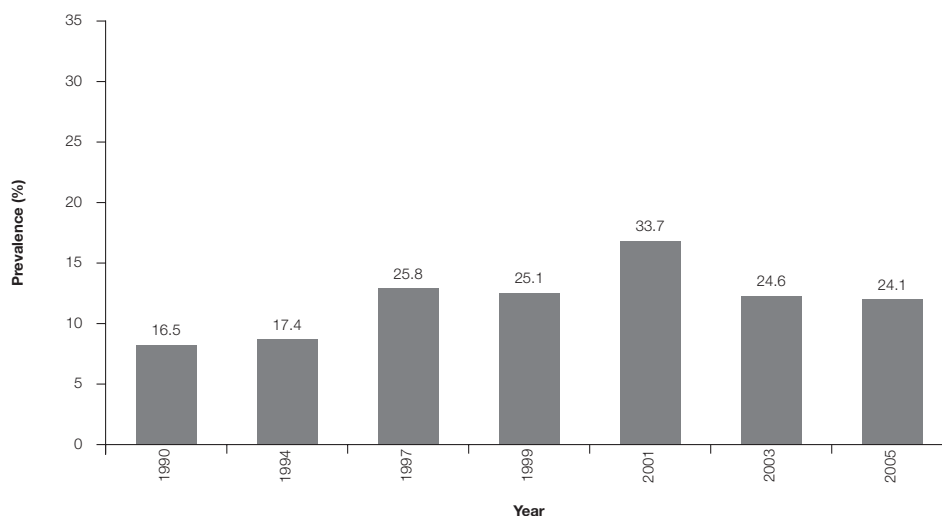
Source: UNAIDS/WHO 2002

Unfortunately, Southern Africa offers only faint hints of impending declines in HIV prevalence. With the exception of Angola (where the epidemic's progression may have been retarded during the country's long civil war with the result that national HIV prevalence has not exceeded 5%), each country in this sub-region is experiencing national HIV prevalence of at least 10% (Gisselquist et al., 2004). Thus, an estimated 10.5 to 12.6 million people are living with HIV in these nine countries – almost 30% of the global number of people living with HIV in an area where only 2% of the world's total population resides.

Sexual abuse and violence, most of it directed against females and children, are serious problems that transcend economic, social, ethnic and geographical lines. Adolescents, children and young women and girls, in particular, experience abuse in the form of domestic violence, rape, sexual assault and sexual exploitation, or undergo female genital mutilation. For some young women, their first sexual encounter occurs under coercion or force, which can be associated with an increase in HIV transmission.

Since the first HIV case was identified in Zimbabwe in 1985, prevalence has increased consistently to the current levels of about 30%, based on UNAIDS statistics (UNAIDS, 2003). It is estimated that over two million people, including children, are living with HIV and AIDS in Zimbabwe today. The latest HIV surveillance data from antenatal women suggests that prevalence of HIV may be declining (Figure 1.2) (MOHCW, 2004). However, it is not known whether this is due to declining incidence or simply an increase in mortality due to HIV and AIDS.

Figure 1.2: HIV prevalence among pregnant women attending antenatal care, Zimbabwe 1990 – 2005



Source: MOHCW 2000 & 2005; UNAIDS 2002

As in the other countries in the region, women are disproportionately bearing the brunt of HIV infection. UNAIDS estimates for 2001 show that HIV prevalence among women aged 15–24 years ranged from 24.6 to 39.6%, compared to 9.9 to 14.9% for men in the same age cohort (UNICEF, 2003). The trend of more women than men being infected was recorded as early as the mid 1990s, reflecting a shift in the epidemiological profile some 10 years into the epidemic. Overall, almost 57% of people living with HIV in 2003 were women and an equal proportion of AIDS deaths were among women (Ministry of Health and Child Welfare Zimbabwe, 2004).

Disaggregation of surveillance HIV and AIDS data by gender, geographically, by socio-economic status and demographically shows that the burden differs in some sectors reflecting different transmission dynamics. ZHDR (2003) identified some of the key determinants of transmission in Zimbabwe. The report pointed out the perceived factors fuelling the epidemic in order to inform government and other key stakeholders on formulating or guiding their interventions. Furthermore, the report attempted to dissect and detail some of the proximal, intermediate and distal political, economic, socio-cultural, and behavioural determinants of HIV transmission. However this was not based on appropriately designed large-scale community-based studies. Thus, gaps still exist in our understanding of the dynamics of HIV and AIDS, including the relevance and effectiveness of prevention, care and support and mitigatory interventions by all stakeholders. There is, therefore, need to further explore the factors fuelling the epidemic at national, community and individual levels.

1.2. The Orphans and Vulnerable Children Project Incorporating the Behavioural Risk and HIV Serostatus Survey (BSS)

During 2001, the WK Kellogg Foundation (WKKF) funded the Human Sciences Research Council's (HSRC) Social Aspects of AIDS and Health (SAHA) Programme through the Social Aspects of HIV/AIDS Research Alliance (SAHARA) to prepare a policy document reviewing social and economic problems linked directly or indirectly to the HIV/AIDS problem in Southern Africa. The brief for the work required that an analysis of problems related to orphans and vulnerable children (OVC) be prepared, together with recommendations on potential interventions in rural development programming. The report (HSRC, 2001) was completed and submitted to WKKF who accepted it. WKKF then asked the HSRC to produce a draft strategy for the care of OVC in Botswana, South Africa and Zimbabwe, a task that was undertaken jointly by SAHA and the Child, Youth and Family Development (CYFD) programme of the HSRC. This was accepted by WKKF and led to the signing of a Memorandum of Understanding (MoU) between them and the HSRC which required that the latter prepare an Operational Framework for Research-Driven Interventions for Orphans and Vulnerable Children (OVC), including performance targets and indicators. The framework was submitted to WKKF and also approved. The MoU also required the HSRC to develop systems to implement and monitor the HIV/AIDS OVC Operational Framework and provide research to support innovative and sustainable models that target OVC, as well as families and households coping with an increased burden of care for affected children. Hence, the project 'The Development, Implementation, And Evaluation of Interventions for the Care of Orphans and Vulnerable Children in Botswana, South Africa and Zimbabwe', commonly known as the OVC Project, was designed. As part of the OVC project, a Behavioral Risk and HIV Sero-status Survey (BSS) was conducted in Zimbabwe to assess the magnitude of the HIV and AIDS problem, as well as the socioeconomic, cultural and behavioural aspects of transmission, care and support. The BSS Survey has proven to be a powerful tool in gathering evidence in understanding the underlying dynamics of the HIV epidemic. Employed as a second-generation behavioural surveillance model that involves combining both biological (HIV testing) and behavioral surveillance surveys in the same study, the BSS is useful in monitoring trends in HIV risk behaviour, informing effective programme design/direction and evaluation and explaining HIV transmission dynamics and variations in prevalence.

1.2.1. Structure of BSS Report

This report presents the findings of the BSS component of the OVC project. The report has five chapters. The first chapter includes the above literature review, highlighting the burden of HIV and AIDS in Zimbabwe, with pointers to some of the key issues related to transmission, impact and the response to the epidemic. The second chapter presents the detailed methodology used in carrying out the BSS Survey. Chapter 3 presents the key findings for the age group 2–11 years. Chapters 4, 5 and 6 present the key findings for the age groups 12–14, 15–24 and 25+ years. Within each chapter brief discussions are provided for specific sections to put the results into perspective and context and avoid a lengthy discussion at the end. The final chapter (Chapter 7) attempts to present a global view of the findings by highlighting similarities and differences between the four age groups (where possible) with regards HIV prevalence and related factors.

1.3. Aims of the OVC Project

The overall aims of the OVC Project are to:

- Improve the social conditions, health, development and quality of life of vulnerable children and orphans;
- Support families and households coping with an increased burden of care for affected and vulnerable children;
- Strengthen community-based support systems as an indirect means to assist vulnerable children; and
- Build capacity in community-based systems for sustaining care and support to vulnerable children and households over the long term.

1.3.1. Specific objectives of the BSS

- To quantify the magnitude of HIV and AIDS problem in the district, especially among children.
- To determine the HIV and AIDS knowledge, attitudes, behaviour and practices (KABP) of the general population.
- To identify prevention and care programmes and human rights issues concerning HIV and AIDS among the general public.
- To provide evidence-based information to policy makers on HIV and AIDS preventive mitigatory needs.



2. Methodology

2.1. Study design

The BSS Survey employed the second-generation behavioural surveillance model that involves combining both biological (i.e. HIV testing) and behavioural surveillance surveys in the same study in order to determine the link between the two (Shisana & Simbayi, 2002). In this cross sectional survey, 13 wards were randomly selected from the total of 23 wards of Chimanimani district, located in the Manicaland Province of Zimbabwe. In each of the 13 wards, individuals in four age strata of 2–11, 12–14, 15–24 and 25+ years were randomly selected based on proportional sampling using the total populations of each age group in each ward. Age specific questionnaires on demographic, socioeconomic and child care practices and HIV-related behavioural aspects were administered and blood samples collected for HIV testing.

2.2. Study area

The study was conducted in Chimanimani district, Manicaland Province in the Eastern Highlands of Zimbabwe (Figure 2.1).

Figure 2.1: Location of Chimanimani District¹



¹ Permission from the CRLS to use the research data from this study is gratefully acknowledged. All tables are from Du Toit & Ally (2001).

The district, which is predominantly rural, is 155km south-east of the provincial capital Mutare and borders Mozambique to the east, Buhera district to the west, Chipinge district to the south and Mutare district to the north. The district is divided into 23 wards. The total population of Chimanimani district is 107 120, with 51.9% being female (BRTI OVC Census, 2003). The average household size in the district is 4.4 and the population is predominantly Ndau, a Shona sub-ethnic group. The district represents all five agro-ecological zones found in Zimbabwe. The high and rugged terrain in the eastern side at 6 000m above sea level experiences high rainfall, while the low lying flat lands in the western part at 1 600m above sea level is characterised by a very erratic rainfall pattern. The main economic activity in the district is agriculture. The district has five hospitals (two mission hospitals and three government hospitals). One of the mission hospitals acts as the district hospital. Primary health care centres include five rural health centres, thirteen clinics and two aid posts.

2.3. Study population

The study population comprised children aged 2–11 and 12–14, youths aged 15–24 and adults of 25 years and older who were identified in randomly selected households in the 13 wards.

2.3.1. Sample size determination

The 23 wards of Chimanimani were numbered 1 to 23 and 13 wards were randomly selected for the BSS study using EPI TABLE calculator in EPI INFO version 6. Households within each ward were systematically selected using the calculated sampling interval. The selection of households from each ward was based on the 2003 BRTI OVC census data (BRTI, 2003). To make sure that all households in the ward were covered, two scenarios for the selection of households were employed. In both scenarios, the sample size was calculated proportional to the size of the ward (weighted by population size of each ward).

Assuming a 50% response rate and target of 1 000 participants in each age group, the target group sample size was increased to 1 500 and the ward sample size was calculated as follows:

$$\text{Sample size} = \frac{\text{Number of households in the ward}}{\text{Total number of households in the 13 wards}} \times 1500 \text{ (targeted sample size)}$$

$$\text{For example Ward 1: sample size} = \frac{995 \times 1\,500}{13\,982} = 106$$

The sampling interval (SI) was calculated using the number of households divided by the sample size per ward, i.e:

$$\text{SI} = \frac{\text{Number of households in the ward}}{\text{Ward sample size}}$$

$$\text{For example Ward 1: SI} = \frac{995}{106} = 9$$

Table 2.1 shows the ward sample size for the 13 wards based on the above calculations. The household sampling interval for this sample size was 9.

Table 2.1: Ward sample size by age group

Ward name	Households	Sample size	2–11 N = 1 500	12–14 N = 1 500	15–24 N=1 500	25+ N = 1 500
Cashel	995	107	107	107	107	107
Chakohwa	920	98	98	98	98	98
Chayamiti	700	75	75	75	75	75
Shinja Resettlement	1 159	124	124	124	124	124
Shinja Communal	344	36	36	36	36	36
Nyahode	1 874	201	201	201	201	201
Charter	993	106	106	106	106	106
Chimanimani	935	100	100	100	100	100
Gwindingwi	2 369	254	254	254	254	254
Biriwiri	1 094	117	117	117	117	117
Mhakwe	601	64	64	64	64	64
Chikwakwa	708	76	76	76	76	76
Changazi	1 290	138	138	138	138	138
	13 982	1 500	1 500	1 500	1 500	1 500

2.4. Sampling of households

The sampling of households in each ward was based on the systematic interval of 9 households. On entering the selected ward, the research team went to the furthest north-west point where there was an outstanding feature (e.g. a mountain, river, dip tank, school, business centre, borehole etc. as their starting point). From that selected point a household was randomly selected going in an easterly direction. Where the respondent was not at home or not in a position to respond (e.g. due to busy work schedule), the research team made an appointment for one return visit. There were no call-backs for those who refused to be interviewed or were not at home on the second visit.

2.4.1. Sampling within households

After identifying the household, the head of the household or any other household representative described the household composition. The interviewer then stratified household members into the four age groups (2–11, 12–14, 15–24, and 25+ years). Where there was more than one person of the same age group and/or sex in the household, their names were written on pieces of paper, put in a hat, shuffled and one name

randomly picked by the supervisor. However, in order to have an equal number of male and female respondents in each age group, an interviewer alternated in choosing a male or a female respondent from one household to the other. If the interviewer's last respondent was a female in a particular age group then his/her next interviewee in that age group ideally should have been a male. If consecutively the respondents chosen were of the same sex then the numbers were balanced in the subsequent households.

2.5. Informed consent

The research team obtained two written consent forms (assent for those below 18 years), from each respondent for both the interview and the specimen. For the 2–11 years age group, the parent/guardian signed the consent form on behalf of their children. One of the forms remained with the respondent and the research team took the other one. Where the guardian consented to the interview (for those children below 12 years) but the child refused to give assent/consent, the interviewer did not proceed with the interview. Similarly, the 12–14 years age group was only interviewed after informed consent supported by parental permission.

2.6. Confidentiality

After informed consent was obtained, the interview was conducted in a 'secluded' place to avoid distraction and maintain confidentiality and privacy during the interview. The blood and OMT samples, questionnaire and laboratory forms belonging to one respondent were labelled with bar codes bearing the same identification number.

2.7. Instruments for data collection

Four questionnaires each specific for an age group were developed. The questionnaires were adapted from the recently completed Nelson Mandela/HSRC Study of HIV/AIDS (2002a; 2002b) with the adaptation informed by an initial situational analysis in the study area. The content of the questionnaires remained basically the same but some responses were changed to suit the local situation; for example, educational level was changed from standards to grades. The questionnaires aimed to assess behavioural risks for HIV/AIDS, HIV prevention, OVC care programmes, and human rights issues. The major areas of focus of each age group specific questionnaire are shown in Tables 2.2 & 2.3 below.

Table 2.2: Areas of focus of the 2–11 and 12–14 years BSS questionnaires

Measures	Parents/guardians of children aged 2–11 years old	Children 12–14 years
1. Demographic - age, sex, race, geotype (urban/rural), province, marital status*, education, language, religion, employment*, source of income* and adequacy of such income*, relationship to child*, number of dependants*	X	X
2. Orphanhood status	X	X
3. Child's home environment	X	X
4. Care and protection of the child	X	X
5. Hospitalisation history and health status	X	X
6. Knowledge and communication about HIV/AIDS	X	X
7. Sexual experience and behaviour		X
8. Circumcision	X	X
9. OVC care issues	X	X
10. PLWHA – human rights issues	X	X

* This was only asked of the guardian/parent

Table 2.3: Areas of focus of the 15–24 and 25+ years BSS questionnaires

Measures	Youth	Adult
1. Demographic – age, sex, race, education, province, language, religion, employment, source of income and adequacy of such income, geotype (urban/rural)	X	X
2. Orphanhood status	X	
3. Rites of passage	X	X
4. Marital status	X	X
5. Initiating intimate relationships and sexual experience	X	X
6. Sexual practices, including HIV/AIDS-related behaviour and condom use	X	X
7. Perceived risk of HIV	X	X
8. Voluntary counselling and testing	X	X
9. Sexual violence and coercion	X	X
10. Alcohol	X	X
11. Knowledge, attitudes and perceptions of HIV/AIDS	X	X
12. OVC care issues	X	X
11. PLWHA – human rights issues	X	X
14. Health status, including history of hospitalisation	X	X

An independent body was mandated to translate the questions from English into the local language (*Shona*). The team comprised people who were familiar with the local dialects. A Local Liaison Committee (LLC), established for the OVC project, was also involved in the translation as it was well-versed in the local dialects. The translation process took three months and incorporation of changes was carried out for a month. The questionnaires were not translated back, but to ensure accuracy in translation, the translated versions were each reviewed by an independent group of experts to compare them with the original English texts.

The questionnaires were pre-tested among the relevant age groups. A total of 26 questionnaires were administered; 7 for the 2–11 guardians, 4 for the 12–14 age group, 8 for 15–24 and 7 for the 25+ age groups. The instruments were revised and piloted in the study area. The pilot study was done for one week and involved working through the entire research procedure and logistics. The pilot identified a number of problems, and the questionnaires, procedures and logistics were revised accordingly.

2.8. Data collection

2.8.1. Training of research assistants

Research assistants were identified from among health professionals within and outside the study area. Most of the research assistants were nurses or Environmental Health Technicians (EHTs) and selection was based on success in interviews conducted by the principal investigators. Preference during selection was given to those who had research backgrounds and to local people as a way of empowering local research communities.

The research assistants were trained for five days in Chimanimani. The training employed lectures, demonstrations, group work and role-plays. The training focused on how to:

- Gain entry into the study area;
- Read ward maps and ward boundaries;
- Conduct interviews;
- Administer questionnaires and complete the laboratory forms;
- Observe research ethics;
- Collect DBS and OMT from the respondents;
- Keep records of forms and questionnaires;
- Package samples for transportation to coordinating centre; and
- Store samples in the field.

All research assistants participated in mock interviews and research nurses practiced taking both the DBS and OMT. Team supervisors were identified during the training process and were further trained on:

- Checking and collecting interviewers' work;
- Editing all completed questionnaires;
- Registering DBS and OMT samples in the laboratory register;
- Problem solving in the field; and
- Sampling procedures and calculation of sample intervals.

2.8.2. Administration of questionnaires

Household and participant sampling have been described above. The questionnaire for the 2–11 group was administered to the guardian, while the child provided both the blood and OMT samples. Those 12 years and above responded directly to the questionnaire.

2.8.3. Biological sample collection

Standard operational procedures (SOPs) for collection, processing and laboratory analysis of the blood and OMT samples were developed and piloted. The SOPs also included guidelines on quality control and assurance during collection, transport, receipting, storage and laboratory assays.

2.8.3.1. Dried Blood Spots (DBS)

DBS samples were collected on Whatman No.3 filter paper from participants in all age groups. Rectangular pieces of filter paper were cut to form three strips or fingers on a base that was left for labeling. A lancet was used to prick the middle finger after swabbing with cotton wool soaked in methylated spirit. Gently squeezing the finger, blood was dropped onto labeled filter paper strips until they were soaked. The spots were air-dried for at least 15 minutes and placed in paper envelopes.

2.8.3.2. Oral Mucosal Transudate (OMT)

OMT was collected from children 2–14 years only. The OMT was collected using the Orasure device, following the manufacturer's instructions (Organon Technika, Holland). In brief, the Orasure device, which comes individually sealed in plastic containers, was opened and placed between the cheek and the gum. The device was left for a few minutes and then gently rubbed against the wall of the cheek and the gums. On removal, it was placed in the plastic vial containing preservative fluid. The vial was labeled with the same study number (bar code) as the DBS and placed in the same envelope.

2.8.3.3. Sample processing and storage

The samples were transported to the command centre in Chimanimani ward every evening. Quality and quantity of samples was checked before they were stored at room temperature until transported to the laboratory. All samples were transferred to the laboratory within 14 days of collection. Transit duration was approximately 5 hours. Three dispatches of samples were done during the data collection phase of the study.

2.8.3.4. Quality Control of field activities

Sample collection from the participants was done by registered nurses. In odd situations where the RA was not a trained nurse, the supervisor who in all cases was a registered nurse, took the samples. On a daily basis, the supervisor checked the quality of the specimen together with the information on the question. Quality checks included verification of labeling, quantity and quality of sample. If satisfied, the supervisor registered the samples in a register and packed them, ready for handing over to the research team leaders. Storage of these samples prior to collection by the monitoring team was supposed to be in a cool place away from direct sunlight and wind. It was also mandatory that the monitoring team sampled 10% of the specimens to confirm quality, quantity and completeness of the clerical details on the laboratory form, the specimen and the questionnaire.

2.8.4. Laboratory Procedures

2.8.4.1. Sample receipt and recording

On receiving the samples, the laboratory team checked and documented the date and time of arrival, state of the boxes in which the samples were packed, state of the individual samples, quality and quantity of samples and information on the form and on the specimen. Registration of samples included giving a laboratory code, registering all the pertinent information into the registration book and filing the samples in a manner that would be easy to retrieve during processing.

2.8.4.2. Storage

After registration all samples were kept in specific order in a freezer at -20°C until tested for HIV using ELISA. DBS samples have been shown to remain viable at sub-zero temperatures for long periods (extending to years). However, OMT samples are generally considered to be viable for periods not exceeding six weeks after collection.

2.8.4.3. HIV testing

Four senior medical laboratory scientists under the supervision of the Laboratory Manager of the Biomedical Research and Training Institute performed the laboratory testing. The entire process took six weeks. The Vironostika Uniform II commercial ELISA kits were used (Biomuriex, Netherlands). The manufacturer optimised the kits used to test OMT samples. Briefly, DBS were eluted and assayed on the following day. An algorithm for determining the result was available from the manufacturer.

2.8.4.4. Quality control of laboratory procedures

The DBS were assessed for sufficiency based on whether they were soaked, as well as the size of the spot. Samples considered insufficient were excluded from analysis. Before performing the initial ELISA, the eluted DBS were visually inspected to ensure complete elution. In the case of incomplete elution, incubation was continued for a maximum of 24 hours after which the specimen was discontinued whether elution was complete or not. Several factors, such as specimen age and heat exposure, affect the elution of dried blood spots.

Positive and negative control specimens were available from the manufacturer, and these were used in all assays in order to assess intra-run and inter-run variation. In addition, in-house controls were also used. These were used to construct the Levy-Jennings chart. Any analytical run (ELISA plate) that violated the standards were rejected, regardless of results obtained for other control materials. The controls were also sent to an external laboratory for further quality control.

2.9. Data management

2.9.1. Training of data entry clerks

Ten data entry clerks were recruited and trained for one week. The selection of data entry clerks was based on their performance during the OVC census data entry. The training of the data entry clerks involved the following:

- Familiarisation with the four BSS questionnaires;
- Familiarisation with the template;
- Development of the codes for open-ended questions;
- Statistical package (EPI Info 6);
- Development of a data entry template using EPI6;

- Trial runs (mock runs) to check whether the template was complete and user-friendly for data entry;
- Double entry (what it involved, how to do it and why it should be done); and
- Pre-primary data cleaning (checking whether denominators are tallying) of the data entry template was done.

2.9.2. Questionnaire data entry

Questionnaires were sorted by age group. Questionnaires belonging to one age group were sequentially numbered. These questionnaires were then divided among the ten data entry clerks. Each one of the data entry clerks had a unique identifier for quality control purposes. The data was entered into ten separate files using the statistical package EPI Info version 6.0. The data entry clerks inter-changed their files for validation of accuracy of data entry. Preliminary data cleaning was done for each of the ten files. The ten files were then merged into a single file for each age group. The merged file was then transferred to STATA Version 6.0 using Stat Transfer version 5.0 and further cleaned.

2.9.3. Data Entry for laboratory data questionnaires

Four data entry clerks were selected from the ten who were involved in the main BSS questionnaire data entry. A data entry template for the laboratory form was designed in EPI Info version 6.0 and used by the four data entry clerks. Each data entry clerk was allocated a specific age group for data entry. The data entry clerks inter-changed their files for validation of accuracy of data entry. Data cleaning, merging and further cleaning was conducted as described for questionnaires.

2.9.4. Data analysis

For this report data analysis was limited to simple descriptive summary statistics such as means and frequency distributions. Bivariate analysis was also done to assess associations between HIV prevalence and selected demographic, socio-cultural, economic and behavioural factors. Chi-square tests were used to assess relationships between variables and analysis of variance (ANOVA) was also used on continuous variables where comparisons across more than two groups were done. In situations where the normality assumptions were not met, the non-parametric equivalents of the above tests were used. A 95% CI was used as a measure of precision on the estimated population parameters (e.g. HIV prevalence). No attempts were made to use advanced statistics to further delineate the predictors of HIV infection.

Response Rates

The response Rate was calculated at three levels.

$$\text{Household Response Rate (HRR)} = \frac{\text{Number of households that agreed to participate in the study}}{\text{Number of households approached}}$$

$$\text{Interview response Rate (IRR)} = \frac{\text{Number of respondents who agreed to be interviewed}}{\text{Total number of interviewees approached}}$$

$$\text{HIV test Response Rate (HIVRR)} = \frac{\text{Number of respondents who provided samples for HIV}}{\text{Total number of respondents who were requested to provide samples}}$$

$$\text{study response rate (srr)} = \text{hrr} \times \text{irr} \times \text{hivrr}$$

In this survey, data for refusals at household, interview and HIV testing level that would have enabled the computation of response rates at each level were not collected for some of the wards. Some supervisors did not provide information for refusals and where this information was available, it was not complete. For this BSS, response rate was based on the proportion of respondents who had completed questionnaires and provided blood samples divided by the total number of questionnaires with samples, refusals and respondents who were not at home. Thus the following formula was used:

$$\text{Response rate} = \frac{\text{Completed questionnaires with samples}}{\text{Total questionnaires} + \text{refusals} + \text{respondent not at home}}$$



3. Results for age group 2–11 years

3.1. Introduction

This chapter presents socioeconomic and HIV prevalence data on 689 children aged 2–11 years as well as socio-behavioural data on the guardians of the children. There is a paucity of information on HIV infection rates in children, especially those from 2–11 years old. Most data available in Zimbabwe and other countries are on children younger than two years. It has always been assumed that most infected children die before their second birthday and there are few studies following up on children beyond two years. HIV infections in older children, some of school-going age, have been reported in Zimbabwe. While it is conceded that these infections are most probably due to vertical transmission, there is a need to confirm this and explore whether there are other sources of infection in appropriately designed studies. This is particularly true in the wake of the South Africa national BSS (Shisana & Simbayi, 2002) that showed relatively high levels (6.2%) of HIV infection in children 2–9 years. Equally important is the need to also understand the environment in which infected children live, especially orphans. The latter are particularly vulnerable to infection and the impact of HIV and AIDS. The environment denotes the protection practices of the parents or guardians, as well as the economic status of the households. In this context, the parents/guardians' level of awareness and knowledge about HIV/AIDS becomes important in appreciating both vertical and possible horizontal transmission of HIV to children.

An understanding of the extent and magnitude of HIV infection among children from 2–11 years old is important in the prioritisation, design, implementation and evaluation of programmes to support HIV-infected children, other vulnerable children and those caring for children. It is equally important to understand the extent and depth of knowledge about HIV and AIDS among children's caregivers in order to design appropriate interventions that ensure improved care and protection of children in general and more specifically for vulnerable and HIV-infected children.

3.2. Objectives

The main objectives of the study were:

- To describe the extent and magnitude of HIV infection among children 2–11 years old and relate the prevalence to selected characteristics such as sex, age and orphanhood status;
- To determine the childcare and protection practices, and knowledge about HIV and AIDS of parents/guardians; and
- To describe cultural practices related to communication about sexuality, HIV/AIDS and child abuse between parents/guardians and children.

3.3. Methodology

The general methodology is presented in Chapter 2. The targeted sample size was 1 500 children. A structured questionnaire was administered to the guardians of children aged 2–11 years old. Blood and Oral Mucosal Transudate (OMT) specimens were collected from the children only.

3.3.1. Assessment of guardians' knowledge of HIV transmission

To analyse the relationships between guardians' knowledge of HIV transmission routes and selected demographic characteristics, a composite scale of knowledge was developed in each case, based on the generic questionnaire developed by FHI, which has been tested for reliability and validity. A score of 1 was assigned to respondents who disagreed or strongly disagreed with the statements '*HIV can be passed on by kissing*'; '*HIV can be transmitted by sharing a cigarette*'; and '*HIV can be passed on by touching a person who has HIV/AIDS*'. A score of 0 was assigned to those who were unsure/neutral, who agreed or strongly agreed. Similarly, a score of 1 was assigned to those who agreed or strongly agreed that '*Unprotected vaginal sex transmits HIV*'; '*Unprotected anal sex transmits HIV*'; and '*Receiving contaminated blood transmits HIV*'. Again a score of 0 was assigned to those who were unsure/neutral, disagreed or strongly disagreed. A higher score reflects a better level of knowledge of HIV transmission. The maximum possible score was 14.

3.3.2. Assessment of guardians' general knowledge, perceptions and attitudes with regards HIV and AIDS

To analyse the relationships between the various demographic variables and knowledge and perceptions regarding HIV/AIDS, a composite scale of knowledge was developed. A score of 1 was assigned to guardians who disagreed or strongly disagreed with the statements '*HIV can be passed on by kissing*'; '*AIDS can be caused by witchcraft*' and '*HIV can be passed on by touching a person who is HIV positive*'. A score of 0 was assigned to those who were unsure/neutral, who agreed or strongly agreed. In the same way, a score of 1 was assigned to those who agreed or strongly agreed that '*HIV causes AIDS*' and 0 assigned to those who were unsure/neutral, disagreed or strongly disagreed. Every respondent obtained a score of knowledge on a scale from 0 to 7. The higher the score the better the level of knowledge and correctness of perceptions of HIV/AIDS issues. The maximum possible score was 7.

3.3.3. Assessment of guardians' knowledge of preventive measures

The guardians' knowledge of preventive measures/methods was assessed and scores were developed. A score of 1 was assigned to guardians who indicated that they could protect themselves from getting HIV if they: *use a condom correctly and consistently; do not have penetrative sex; have sex with only one uninfected partner; are faithful to one partner; do not touch other people's blood; and do not share needles/razor blades*. A score of 0 was assigned to guardians who indicated that they could protect themselves from getting HIV if they: *only have sex with someone they really love; take certain medicines, have sex with a virgin; and wash well after having sex*. The maximum possible score was 10.

The findings presented below are based on HIV tests conducted on DBS only. OMT data are presented in a separate report.

3.3.4. Assessment of children's HIV status

DBS and OMT specimens were collected and processed as described in Chapter 2. HIV status was determined from tests on DBS only.

3.4. Results

3.4.1 Study sample

Table 3.1 shows that a total of 934 respondents were approached and of these, 732 (78.4%) completed the questionnaire and provided blood samples. The refusal rate was 2.4%.

Table 3.1: Distribution of response rate

	Response rate	
	[n]	%
Completed questionnaires with samples	732	78.4
Target respondent not at home	180	19.2
Refusals (sample + questionnaire)	22	2.4
Total	934	

Calculation of response rate

$$\begin{aligned} \text{Response rate} &= \frac{\text{Completed questionnaires with samples}}{\text{Total questionnaires + refusals + respondents not at home}} \\ &= \frac{732 \times 100}{934} = 78.4\% \end{aligned}$$

Of the 732 respondents who provided completed questionnaires and blood samples, 43 (5.9%) had insufficient samples for HIV testing. The results that follow are based on the 689 respondents with complete questionnaires and sufficient samples.

3.4.2. Demographic characteristics of children

The demographic characteristics of the children as reported by their guardians are summarised in Table 3.2. The age distribution shows there were more children within the age range 2–5 compared to the other age groups.

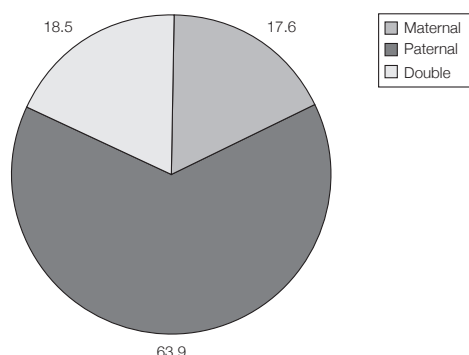
The magnitude of orphanhood was 108/689 (15.7%). Table 3.2 below highlights that the majority (48%) of orphans had lost a parent before the age of five years.

Table 3.2: Demographic characteristics of the child as reported by their guardians

Demographic variable (n = 689)	n	%
Sex		
Male	340	49.3
Female	349	50.7
Age (years)		
2–5	331	48.0
6–8	187	27.2
9–11	171	24.8
Orphanhood		
Magnitude of orphanhood	108	15.7
Type of orphans (n = 108)		
Maternal	19	17.6
Paternal	69	63.9
Double	20	18.5
Age when child lost mother (n = 39)		
≤ 5 years	28	71.8
6–11 years	9	23.1
Don't know	2	5.1
Age when child lost father (n = 89)		
≤ 5 years	73	82.0
6–11 years	15	16.9
Unspecified	1	1.1

The distribution of orphanhood type as shown in Figure 3.1 indicates that there were three times more paternal than maternal orphans.

Figure 3.1: Distribution of orphanhood types (%)



A total of 292 children (42.4%) were of school-going age. Overall, 6.5% were not attending school with slightly more girls than boys (8.2% versus 5.1%, respectively: $p > 0.10$).

3.4.2.1. Discussion: Children's demographic characteristics

The majority of children about whom guardians responded were below five years, most likely because these were at home during the visits by research assistants, while the older children were in school or carrying out other household chores. Evidently, orphanhood is a major concern in the district. That the majority of orphans had lost a father suggests that men are dying earlier than their spouses. Furthermore, most children lost their parents (mother or father or both) at an early age, further increasing their vulnerability. That 6.5% of children of school-going age (7–11 years) were not in school is of concern and should be noted and addressed in designing and implementing interventions for OVC. There were no significant differences in educational enrolment between orphans and non-orphans in this age group. However, anecdotal evidence in the country suggests that the numbers of school drop outs are increasing, partly attributed to the impact of HIV and AIDS where the child drops out of school to care for sick parents or to head an orphaned household (ZHDR, 2003).

3.4.3. HIV prevalence among children

The overall HIV prevalence among the 689 children was 3.3% (95% Confidence Interval (CI): 2.1–5.0). HIV prevalence by selected characteristics is presented below.

3.4.3.1. HIV prevalence by selected socio-demographic characteristics of children

Table 3.3 shows prevalence by sex, age and sector. HIV prevalence was slightly lower among males than females. Prevalence was highest among 6–8 and lowest among 9–11 year olds. Prevalence was nearly twice as high among children in urban areas than in other sectors. None of the differences were statistically significant.

Table 3.3: Overall HIV prevalence by sex, age and locality of child

Variable	n	HIV positive %	95% CI
Sex			
Male	340	2.4	1.0 – 4.6
Female	349	4.3	2.4 – 7.0
p = 0.155*			
age group (years)			
2–5	330	2.7	1.3 – 5.1
6–8	189	5.8	2.9 – 10.2
9–11	170	1.3	0.4 – 5.1
p = 0.093			
Sector			
Communal	326	2.8	1.3 – 5.2
Resettlement	166	2.4	0.7 – 6.1
Large-scale commercial	103	3.9	1.1 – 9.6
Small-scale	31	3.2	0.08 – 9.64
Urban	63	7.9	2.6 – 17.6
p = 0.269			

*all p-values are based on chi-square test

When stratified by sex and age, HIV prevalence was twice as high among females than males across all age groups, though the difference was not statistically significant.

3.4.3.2. HIV prevalence by orphanhood status

The HIV prevalence among orphans and non-orphans was 5.6% (95% CI: 2.1–11.7) and 2.9% (95% CI: 1.6, 4.6), respectively. Table 3.4 highlights that prevalence was twice as high among those who had lost a mother compared to those who had lost a father or both parents but this was of no statistical significance.

Table 3.4: HIV prevalence by orphanhood status

Orphanhood status	n	HIV positive %	95% CI
Maternal	19	10.5	1.3 – 33.1
Paternal	69	4.3	0.9 – 12.2
Double	20	5.0	0.1 – 24.9

Both parents alive	559	2.9	1.6 – 4.6
Not known	22	4.5	0.1 – 22.8
p-value = 0.224			

3.4.3.3. HIV prevalence and hospitalisation records

Nearly a tenth (7.7%) of the children had a history of hospitalisation in the past 12 months. HIV prevalence was more than twice as high among children who were hospitalised compared to those who were not (Table 3.5), with more frequent hospitalisation being associated with prevalence that was nearly ten times higher than a single hospitalisation ($p = 0.016$; Table 3.5). However, the numbers were too small to make any conclusions about this finding.

Table 3.5: HIV prevalence of children by hospitalisation records in the past 12 months

Hospitalisation	n	HIV positive %	95% CI
Hospitalised	53	7.7	2.1 – 18.2
Not hospitalised	636	3.0	1.8 – 4.6
p-value= 0.092			
Frequency of hospitalisation N=52*			
Once (in the past 12 months)	39	2.6	
More than once (in the past 12 months)	13	23.1	
p-value = 0.016			

* one did not indicate the frequency of hospitalisation

3.4.3.4. Discussion: HIV prevalence

This is the first study in Zimbabwe to provide HIV prevalence data for this age group using a significantly large sample. The overall prevalence of 3.3% among children aged 2–11 years is less than that reported for the age group 2–9 year (6.2%) in South Africa (Nelson Mandela/HSRC study of HIV/AIDS, 2002). The most affected are the 6–8 year olds where prevalence was more than twice as high as the age groups 2–5 and 9–11 years. However, the sub-sample sizes were too small for meaningful statistical comparisons. While there is no obvious explanation, the data suggest that a significant proportion of HIV-infected children are living beyond five years of age but not much further than 8 years. The difference in prevalence between orphans and non-orphans is expected considering that the majority of orphans are children orphaned due to HIV/AIDS. Morbidity was closely associated with HIV infection, suggesting that HIV contributes significantly to the morbidity profile in this community.

3.4.4. Demographic characteristics of guardians

The demographic characteristics of guardians of children aged 2–11 years are summarised in Table 3.6. Of note, most guardians were married females who were relatively young (75% were <40 years old). The major language was Ndaou (92.5%), while 6.4% spoke Shona and the rest (1.1%) Kalanga, Shangani, Sena or Barwe. Most guardians had undergone primary or secondary education and most were from communal areas.

Table 3.6: Demographic characteristics of the guardians

Demographic variable (n=689)	n	%
Sex		
Male	52	7.5
Female	637	92.5
Age (years)		
Median (Q1; Q3)	32.5 (27.5; 40)	
Marital status		
Married	558	81.0
Cohabiting	8	1.2
Single (Never Married)	18	2.6
Widowed	70	10.2
Divorced/Separated	33	4.8
Religious grouping		
Apostolic sects	290	45.7
Protestant	139	21.9
Pentecostal	134	21.1
Catholic	60	9.5
Traditional African	8	1.3
Other	2	0.3
Moslem	1	0.2
Educational status		
No schooling	87	12.6
Primary school	311	45.2
Secondary school	274	39.8
Tertiary non-degreed	14	2.0
Tertiary degreed	3	0.4
Sector		
Communal	326	47.3
Resettlement	166	24.1
Large-scale commercial	103	15.0
Small-scale commercial	31	4.5
Urban	63	9.1

3.4.4.1. Discussion: Demographic profile of guardians and children

In our study community, almost all guardians were females and one possible reason for this is that women are usually at home and culturally expected to fulfil the role of housewives. This is in line with what obtains in the country, as a number of studies have shown that there are more women caregivers than males (Gregson et al., 2002). Of note however, is the fact that almost all guardians were married implying that the marriage institution may offer stability that augurs well for the care of children.

The guardians in Chimanimani were mostly young to middle-aged married women, a group that is also at high risk of HIV infection yet is caring for their parents and children, hence the possibility of increased burden of care.

3.4.5. Child's home environment, care and protection

The prevalence and frequency of alcohol and drug use was explored among guardians and the findings are presented in Table 3.7. Overall, nearly a third of the guardians reported alcohol use, mostly once a month or less while 10% reported using recreational drugs.

Table 3.7: Alcohol and drug use in child's home

Alcohol and drug use (N = 689)	n	%
Household member who gets drunk at least once a month	197	28.6
Presence of any household member who uses recreational drugs at least once a month	69	10.0
Presence of guardians/parents who consume alcohol	43	6.2
Frequency of alcohol consumption (N = 43)		
Once a month or less	22	53.7
Once a week	12	29.3
Two to three times a week	6	14.6
Every day	1	2.4

Table 3.8 highlights that by and large the majority of guardians reported never having exposed their children to practices that increase vulnerability to abuse.

Table 3.8: Distribution of guardians by caring practices

Care practices and the extent of care a week before the study	N = 689							
	Often		Some-times		Never		Un-specified	
	n	%	n	%	n	%	n	%
Sent out of the home yard	44	6.4	236	34.3	406	58.9	3	0.4
Left at home alone	31	4.5	172	25.0	484	70.3	2	0.3
Left at home in the care of a person 15 years old or younger	40	5.8	281	40.8	366	53.1	2	0.3
Left in the care of male family member	41	6.0	221	32.1	425	61.7	2	0.3
Left in the care of a male non-family member	5	0.7	25	3.6	656	95.2	3	0.4
Left in the care of a female non-family member	11	1.6	75	10.9	601	87.2	2	0.3
Out of the home yard without adult supervision	17	2.5	96	13.9	572	83.0	4	0.6

3.4.5.1. Orphan care and protection

Referring back to Table 3.2 one sees that 15.7% of the children were orphans and that the majority of orphans had lost a father, while 18.5% had lost both parents. Furthermore, most orphans had lost either their father or mother when they were five years old or below. There were no differences in household economic situation of orphans and non-orphans with 96.3% and 95.3% of households, respectively, reporting having little or no money for basics such as food and clothes. Similarly other child protection practices such as: *always present when the child was at home; always near enough for the child when they need help; always require children to tell where they will be going, and sleeping arrangements*, were similar between guardians of orphaned and non-orphaned children. The majority of orphans either shared a room or shared a bed with someone (data not shown).

3.4.5.2. Discussion: Child's home environment, care and protection

General

The questions on use of alcohol aimed at establishing potential exposure of children to a culture of drinking alcohol and recreational drug use within the household, as well as potential risk of neglect and abuse of children. Nearly a third of respondents indicated infrequent alcohol use by a member of the household although few guardians reported

alcohol use themselves. Nevertheless, this remains an area of concern especially in a climate where economic stress is increasing in the population. Of note is the reported use of recreational drugs. Also significant is the finding that although expected to be stringent on alcohol use, about a fifth of the Apostolic households surveyed had someone who used alcohol.

Orphans

This BSS has shown that in the Chimanimani community orphans are equally cared for and protected by their guardians, as are those children whose parents are alive. This was further supported by the finding that similar proportions of orphans and non-orphans were attending school. However, it is equally obvious that the household economic situation was generally very poor, such that the majority of non-orphan children could be considered vulnerable. Organisations involved in orphan care need to carefully consider implementing their interventions in communities where vulnerability is generalised.

3.4.6. Education of children on sexuality and HIV/AIDS

Guardians were asked whether they ever discussed issues of sexuality and HIV/AIDS with their children. A minority (6.2%) reported ever discussing sex and 10.7% sexual abuse with their children. Furthermore, whereas 18.9% reported that their child had heard about HIV/AIDS, less than 10% reported having ever discussed HIV prevention (9.7%) or transmission (8.4%) with the child. Frequency of discussions about sexuality with children increased with the age of the children (Table 3.9).

Table 3.9: Distribution of guardians' reported discussions on sexuality and HIV/AIDS with children by age group

Variable	Age group (years)					
	2-5 N = 330		6-8 N = 189		9-11 N = 170	
	n	%	n	%	n	%
Ever discussed sex with child	6	1.8	11	5.8	26	15.3
Ever discussed sexual abuse with child	17	5.2	24	12.7	33	19.4
Child ever heard of HIV and AIDS	11	3.3	40	21.2	79	46.5
Ever discussed HIV prevention with child	15	4.5	17	9.0	35	20.6
Ever discussed HIV transmission with child	7	2.1	14	7.4	37	21.8

3.4.6.1. Rites of passage of children

According to guardians, 11 (3.2%) of the 340 boys had been circumcised while 22 (6.3%) of the 349 girls reportedly underwent virginity testing.

3.4.6.2. Guardians' sources of information about sex

A summary of the guardians' reported sources of information about sex is given in Table 3.10. The most frequently cited sources of information were uncles/aunts and followed by health services.

Table 3.10: Distribution of person/place where guardians have learnt the most about sex

Source of Information about sex (N=689)	n	%
Parents	77	11.2
Spouse	128	18.6
Grandparents	124	18.0
Aunt/uncle	259	37.6
Friend	79	11.5
Initiation school/tradition	15	2.2
Formal school	60	8.7
Media	42	6.1
Hospital/clinic	166	24.1
Church	110	16.0
Other	59	8.6

3.4.6.3. Discussion: Sexuality, HIV and AIDS

Although the frequency of reports by guardians that they discussed issues of sexuality with the children increased with the age of children, this does not reach 50% – even at ages between 9–11 years. Of note is the observation that more children had heard about HIV/AIDS elsewhere than from their guardians, most likely at school or through the radio and television. Cultural practices of sexual initiation appear to be low in this community probably due to religion or modernisation. Virginity testing (chastity test) has received a lot of attention in Zimbabwe after a traditional chief in Manicaland Province initiated the practice as a prevention strategy. Advantages and disadvantages of the practice were highlighted in national discussions but no consensus has been reached to date.

3.4.7. Guardians' general knowledge of HIV/AIDS

A summary of guardians' HIV/AIDS general knowledge by various demographic characteristics is given in Table 3.11. The overall general knowledge mean score was 4.7 (SD = 1.2). The level of knowledge was just above the 50th percentile (and decreased with increasing age of respondents) was lowest among guardians from smallscale commercial and highest among those from urban areas. Similarly, the level of knowledge was higher among guardians with tertiary education. Knowledge levels did not differ by sector, sex, employment and household economic situation.

Table 3.11: Guardians' general knowledge of HIV/AIDS by socio-demographic characteristics

Variable	n	Score*	SD	P-VALUE**
Sex of respondent				
Male	52	4.69	1.00	0.802
Female	637	4.65	1.18	
Age group				
15–24	97	4.92	1.01	0.002
25–49	472	4.67	1.17	
50+	79	4.25	1.28	
Unspecified	41	4.56	1.05	
Locality type				
Communal	326	4.70	2.47	0.033
Resettlement	166	4.67	2.69	
Large-scale commercial	103	4.64	2.62	
Small-scale commercial	31	4.00	1.84	
Urban	63	4.71	3.74	
Level of education reached				
No schooling	87	4.10	1.53	<0.001
Primary school	311	4.53	1.13	
Secondary School	274	4.93	1.00	
Tertiary non-degreed	14	5.29	0.91	
Tertiary degreed	3	5.00	0.00	
Employment				
Yes	86	4.83	1.00	0.146
No	600	4.63	1.19	
Household economic situation				
Not enough	556	4.63	1.18	0.307
Just enough	103	4.74	1.11	
Most things	20	5.15	0.81	
Extra money	1	4.00	0.00	
None of the above	7	4.57	1.13	

* Possible range of scores = 0 – 7 ** Oneway Anova test

3.4.8. Guardians' knowledge about HIV transmission

The overall mean score of the guardians' knowledge with regards HIV transmission was 9.3 (SD = 2.7). Knowledge levels, regardless of sex and age, were just above the 50th percentile of the range of scores (Table 3.12). Of note is that while the knowledge level of guardians in communal areas was very low, knowledge was significantly higher among guardians with tertiary education. Similarly, levels were higher among guardians who were employed and also those with a better household economic situation.

Table 3.12: Guardian's knowledge, of possible ways of HIV transmission by selected socio-demographic characteristics

Variable	n	Score*	SD	P-VALUE**
Sex of respondent				
Male	52	8.89	2.96	0.204
Female	637	9.38	2.66	
Age group				
15–24	97	9.56	2.77	0.156
25–49	472	9.37	2.74	
50+	79	8.73	2.35	
Unspecified	41	9.63	2.21	
Locality type				
Communal	326	4.70	1.14	0.003
Resettlement	166	8.79	2.69	
Large-scale commercial	103	8.93	2.62	
Small-scale commercial	31	9.45	1.84	
Urban	63	9.51	3.74	
Level of education reached				
No schooling	87	8.60	2.86	<0.001
Primary school	311	8.84	2.53	
Secondary school	274	9.99	2.62	
Tertiary non-degreed	14	12.14	0.95	
Tertiary degreed	3	11.00	2.65	
Employment				



Yes	86	10.06	0.27	0.007
No	600	9.23	0.11	
Household economic situation				
Not enough	556	9.20	2.69	0.004
Just enough	103	10.05	2.52	
Most things	20	10.25	2.02	
Extra money	1	12.00	0.00	
None of the above	7	7.43	4.08	

* Possible range of scores = 0–14 ** Oneway Anova test

3.4.9. Guardians' knowledge on prevention of HIV transmission

The overall mean of the knowledge score was 7.3 (SD = 1.6). Generally, the levels of knowledge on prevention were high and did not differ by sex, age, locality, education and household economic situation (Table 3.13).

Table 3.13: Guardian's knowledge of prevention of HIV transmission

Variable	n	Score*	SD	P-VALUE
Sex of respondent				
Male	52	7.23	1.53	0.630
Female	637	7.34	1.56	
Age group				
15–24	97	7.35	1.68	0.662
25–49	472	7.35	1.51	
50+	79	7.13	1.60	
Unspecified	41	7.41	1.75	
Locality type				
Communal	326	7.33	1.50	0.482
Resettlement	166	7.20	1.55	
Large-scale commercial	103	7.56	1.57	
Small-scale commercial	31	7.32	1.78	
Urban	63	7.32	1.74	
Level of education reached				

No schooling	87	6.86	1.56	
Primary school	311	7.39	1.53	
Secondary school	274	7.41	1.60	0.058
Tertiary non-degreed	14	7.29	1.20	
Tertiary degreed	3	7.33	0.58	
Employment				
Yes	86	7.35	1.62	0.953
No	600	7.34	1.55	
Household situation				
Not enough	556	7.35	1.54	
Just enough	103	7.43	1.64	
Most things	20	6.95	1.70	0.744
Extra money	1	7.0	0.00	
None of the above	7	7.0	1.63	

* Possible range of scores = 0 – 10 ** Oneway Anova test

3.4.9.1. Discussion: Knowledge about HIV transmission and prevention

Knowledge of HIV transmission had a positive but not necessarily linear relationship with behaviour and positive attitudes towards people living with HIV and AIDS. This BSS assessed the knowledge of guardians about HIV and AIDS since guardians are expected to build prevention and care competence amongst themselves, as well as in the children they look after either as parents or guardians. The level of knowledge of HIV transmission was disturbingly low among guardians, especially those from rural areas. One possible reason for the generally low levels is lack of access to information. The much lower knowledge levels in rural areas is most likely due to lack of structures and systems for information dissemination and access by rural communities. That knowledge increased with education and employment is expected.

Improving knowledge of the means of protection from HIV is the immediate objective of prevention campaigns. In this study, knowledge about protection methods was generally high. These high levels of knowledge can be credited to the IEC (Information Education and Communication) strategy that has been put in place, which emphasises the ABC method (Abstinence, Being faithful to one uninfected partner and Correct, consistent use of condoms) as a means of prevention.

3.5. Conclusions

This part of the study aimed to determine HIV prevalence among children aged 2–11 years and relate prevalence to various socio-demographic variables in order to contribute to the understanding of the epidemic in Zimbabwe. It was further aimed that the BSS would inform implementers in developing and/or strengthening strategies and interventions to prevent transmission; care for the sick and orphans; and to mitigate the impact of the epidemic at individual and community level.

The findings are based on a random sample of households in the district, thus providing a sample representative of children 2–11 years old in Chimanimani district. The study focused on children aged 2–11 years from whom blood samples were collected for HIV testing, while guardians provided information about themselves and the children. Several conclusions can be drawn from the findings of this part of the overall study.

Socio-demographic profile of children

- The sex distribution of the children closely resembled that determined by the BRTI OVC census (2003), as well as the national profile (CSO, 2002). The majority of children sampled were aged 2–5 years, mainly because these were more likely to be at home than the 6–11 years old who are of school-going age.
- A significant proportion of the children of school-going age were not attending school for reasons not elucidated. Possible reasons include poverty, access and religious affiliation.
- There was no difference in school attendance between orphans and non-orphans. This suggests that orphans are being cared for either by the remaining parent or by relatives.
- There is a significant orphan problem in the district. The higher proportion of paternal orphanhood implies that more men than women are dying.
- Levels of protection practices are similar for orphans and non-orphans.

HIV prevalence among children

- This study is the first to report HIV prevalence in this age group based on a significantly large sample size. The HIV prevalence of 3.3% is lower than that recorded in South Africa. Indeed, assuming that 30% of the mothers of the children were HIV infected (MOHCW, 2002), and that a further 30%, in the absence of intervention (Bryson, 1996), transmitted the infection to their children, then it would be expected that about 9% of the children would be HIV infected if they lived beyond two years of age. Thus, the low prevalence may be due to prevention-of-mother-to-child transmission, (PMTCT) interventions or that most of the infected children die early in infancy. The latter may explain why prevalence is higher among the 6–8 year olds than 2–5 year olds. Furthermore, the much lower prevalence among the 9–11 olds suggests that most infected children are not living beyond the age of 9 years or, albeit highly unlikely, that they resolve the infection and lose seropositivity.
- Most HIV infections in children are a result of transmission from mother to child. The other possible routes of transmission are through needle sticks/injections in hospital, transfusion, invasive traditional practices and sexual abuse. While there was no evidence of the latter in the present study, of note is that, though not significant, HIV prevalence was higher among female children. Whether preferential MTCT to female children occurs is not known.
- HIV prevalence was higher among children from the urban sector reflecting the higher prevalence recorded among pregnant women (MOHCW, 2002) as well as among the 15+ year olds from urban Chimanimani (see tables 5.3 and 6.2 in this report).
- Similarly, the higher prevalence among orphans simply demonstrates that HIV/AIDS is a major cause of orphanhood in the district.
- HIV and AIDS are major causes of morbidity and, hence, hospitalisation among the children.

Guardians' socio-demographic profile and knowledge about HIV and AIDS

- The median age of guardians/parents was 34 years and most were married women. This is further evidence that women are more likely to be at home, unemployed and also bear the burden of care at home.
- The majority of respondents were of the Apostolic religious sect. Thus, HIV/AIDS programmes need to be cognisant of the role of religion in shaping the perceptions, attitudes and practices with regards to education about HIV and AIDS.
- The level of literacy is relatively low, with 60% of respondents having reached primary school or had no education at all. This is an important factor to consider in developing communication strategies for HIV/AIDS programmes.
- Most households reported that they were unable to provide for the basic needs of their families. Thus, poverty is a major problem in the community. The impact of poverty, in particular the gendered aspects, on access and acceptance of interventions should be considered.
- Guardians' general knowledge about HIV and AIDS was relatively high but specific knowledge about transmission was low. In contrast to the latter, knowledge of ways of protecting self was relatively high. These specific intervention areas need to be strengthened.
- Education was a major determinant of knowledge about HIV and AIDS. Knowledge increased with education, suggesting increased access to information and prevention intervention programmes as levels of education increased. Education may thus improve the person's ability to act on prevention and awareness messages.

3.6. Recommendations

- Medical management of HIV and AIDS in children should be considered urgently in view of the fact that ARVs are not currently available, in particular child formulations.
- Psychosocial support systems for OVC in general and HIV infected children in particular should be established and/or strengthened.
- Prevention of MTCT should be strengthened through various strategies, including meaningful involvement of men and ensuring that ARVs for prevention are available and used.
- Interventions to enhance awareness and knowledge about HIV/AIDS among the adult population should be strengthened, particularly in both urban and rural areas of the district.



4. Results for age group 12–14 years

4.1. Introduction

It is estimated that, in Zimbabwe, about 240 000 children aged 0–14 were living with HIV and AIDS by the end of 2001 (UNAIDS 2002) and by that 2010, 34% of children under 15 years will be orphaned by HIV/AIDS (SAFAIDS, 2002). The previous chapter presented data on HIV prevalence among children 2–11 years of age. This chapter focuses on 618 children 12–14 years of age. This age group represents a highly vulnerable group because of the transitional stage in sexual development. The age 12–14 heralds the onset of puberty (sexual maturity), with girls maturing earlier than boys. During this early adolescence period, young boys and girls begin to experiment with sex. This stage therefore is critical in shaping sexual behaviour during adulthood. Vulnerability stems from the naivety of the children, which can be exploited by the older generation of the same or opposite gender. Young people today begin engaging in sexual intercourse at an early age, make little use of contraceptives, and have multiple sex partners and poor sexual negotiation skills. Peer pressure and coercion (for girls) limits young people's ability to abstain from sex (SAFAIDS, 2002).

By and large, mother-to-child transmission (MTCT) accounts for almost all childhood HIV infections. Up to 40% of HIV infected mothers may pass on the infection to their children. Transmission occurs in-utero (17%), during labour and delivery (50%) and through breastfeeding (33%) (Kuhn & Stein, 1995; Bryson, 1996). The introduction of ARVs has made it possible for mothers to prevent the transmission of the virus to their children. However, the drugs have generally been unavailable, including the cheaper ARVs such as Nevirapine, in most developing countries including Zimbabwe, due to lack of not only the funds to purchase the drugs, but the basic infrastructure essential for prevention of MTCT (PMTCT) programmes.

While MTCT accounts for most childhood HIV infections, there is a growing concern, particularly in Africa, about horizontal transmission of HIV to children through injections in routine health practice, cultural practices and sexual abuse. Some scientists have suggested that transmission of HIV through medical injections may have contributed significantly to growth of the epidemic in Africa (Gisselquist et al., 2002; 2003). While this has been challenged by others (Kallestrup et al., 2003), it remains a pertinent issue, especially with the severe resource limitations experienced in the health sector. This may lead to unsafe practices such as multiple use of equipment or materials such as needles and cloth.

A growing concern is sexual abuse of children in Zimbabwe. The number of cases reported in the media has increased frighteningly in recent years. While some of the culprits are tested, a larger number go untested, and neither are the abused children tested. Furthermore, it is very likely that child sexual abuse is more prevalent than is realised but goes unreported. Traditional beliefs, such as that having sex with a virgin will cleanse and cure a man of STIs, including HIV and AIDS, has led to the increase in child sexual abuse including babies. In this context, it is essential to understand the level and relevance of HIV/AIDS knowledge of parents/guardians and the community in general in relation to protection of children against abuse. Such knowledge should be translated into improved protection of children.

Some culturally-based beliefs and behavioural practices, such as rites of passage (circumcision and virginity testing), sex games between adolescent boys and girls, actual penetrative vaginal sex, scarification either as decoration or for traditional medical care practices, among others, may have played a pivotal role in facilitating transmission of HIV in children (Kamwendo & Kamowa, 1999). While male circumcision, done under clinical conditions as provided for by modern medical environments, is considered safe, those carried out among African cultural groups have been noted to occur in unsterile conditions, and may also include repeated use of the same instrument on different initiates. However, research has shown that there is a reduction in the transmission of STIs and HIV among circumcised males, suggesting an association between male circumcision and risk of infection (Krantz & Ahlberg 1995; O'Farrell & Egger, 2000; Van Howe, 1999), indicating that it is not the practice itself but the environment/conditions under which the practice occurs that is risky.

There has been no empirical evidence to suggest that cultural practices are facilitating transmission. Thus, there remains a dire need to explain the prevalence among children between 12–14 years who are not sexually active and whose infection rates are not explained by sexual abuse alone. More children than previously estimated are also living with HIV infection beyond the age of 5 years in Southern Africa. There is, therefore, a need for studies to clearly describe the epidemic among children in the 12–14 years age group in order to provide information for policy and programming to reduce infection rates and mitigate the impact of HIV and AIDS on children.

Poverty is a key factor in leading to behaviours that expose people to risk of HIV infections. Existing evidence from Zimbabwe and elsewhere is that transactional sex is common in Zimbabwe, especially among young women who date older men for economic reasons (ZHDR, 2003).

This chapter presents and describes the demographic, socio-cultural, behavioural and economic characteristics of children 12–14 years. The chapter further attempts to establish associations between HIV prevalence and the factors mentioned above.

4.2. Objectives

- To quantify the magnitude of HIV and AIDS in the district among children aged 12–14 years;
- To determine the knowledge, attitudes, behaviour and practices (KABP) of the 12–14 age group;
- To determine prevention and care programmes and human rights issues concerning HIV and AIDS among 12–14 year old children; and
- To provide evidence-based information to policy makers on HIV and AIDS preventive and mitigatory needs among the 12–14 year olds and their families.

4.3. Methodology

The general methodology is described in Chapter 2. In brief, besides the sections that were common to the other questionnaires in the study (questionnaires for parent/guardians of children aged 2–11 years, youths and adults), the questionnaire for 12–14 year old children was specific with regards to risk of sexual abuse, sexual initiation and pregnancy. While there is little information available to guide the selection of indicators of infection in children aged 12–14 years, existing literature suggests that the above

areas should be taken into consideration. In addition, risk at caregiving facilities such as schools, levels of care, monitoring and supervision were also assessed.

Dried blood spots (DBS) and Oral Mucosal Transudate (OMT) were collected for HIV testing. Consent was sought from both parents and children. Parents who wished to know the HIV results of their children were referred to the nearest health facilities offering VCT services.

4.4. Results

4.4.1 Study sample

Table 4.1 shows that a total of 885 potential respondents were approached and of these, 618 (69.8%) completed the questionnaire and provided a blood sample for HIV testing. The refusal rate was 1.8%. For this age group, the response rate was based on the proportion of sampled respondents who provided both the questionnaire and a blood sample.

Table 4.1: Distribution of response rate

	Response rate	
	n	%
Completed questionnaire with sample	618	69.8
Target respondent not at home	251	28.4
Refusals (sample + questionnaire)	16	1.8
Total questionnaires	885	

Calculation of response rate

$$\begin{aligned} \text{Response rate} &= \frac{\text{Complete questionnaires with samples}}{\text{Total questionnaires} + \text{refusals} + \text{respondents not at home}} \\ &= \frac{618}{885} \times 100 = 69.8\% \end{aligned}$$

Of the 618 respondents who provided completed questionnaires and blood samples, 17 (2.8%) had insufficient samples for HIV testing. The results that follow were based on the 601 respondents with complete questionnaires and sufficient samples.

4.4.2. Demographic Characteristics

Table 4.2 summarises the demographic characteristics of the children. The table shows that the distribution of children by sex was almost the same. Almost all the respondents (99.8%) were Africans, with Ndaun being the predominant language; while more than half the children were from the communal areas. The common religious denomination was Apostolic. Nearly 90% reported having primary education while less than 1% reported no education at all. Overall, 88.4% were in school. The prevalence of orphanhood in this group was 28%. Notably, 3.7% of the children were heads of households.

Table 4.2: Demographic characteristics of the children

N = 601			
Demographic variable		n	%
Age	12 years	229	38.1
	13 years	177	29.5
	14 years	195	32.4
Sex	Male	295	49.1
	Female	306	50.9
Nationality	Zimbabwean	598	
	Non-Zimbabwean	3	
Main Home Language	Shona	22	
	Kalanga	4	
	Ndau	574	
	Other African	1	
Sector	Communal area	311	
	Resettlement	149	
	Large-scale commercial area	49	
	Small-scale commercial area	33	
	Urban area	59	
Education	No school	4	
	Primary	526	
	Secondary	70	
	Not mentioned	1	
Children attending school		531	
Prevalence of orphanhood		168	
Heads of households		22	
N = 543			
Religious grouping	Catholic	39	7.2
	Protestant	138	25.4
	Pentecostal	131	24.1
	Apostolic Sect	224	41.3
	Traditional African	10	1.8
	Moslem	1	0.2

As observed in the 2–11 age group (Chapter 3), frequency of paternal orphanhood was higher than maternal orphanhood (Figure 4.1). Over two-thirds of the children lost either parent when they were more than 5 years of age (Table 4.3).

Figure 4.1: Distribution of orphanhood status

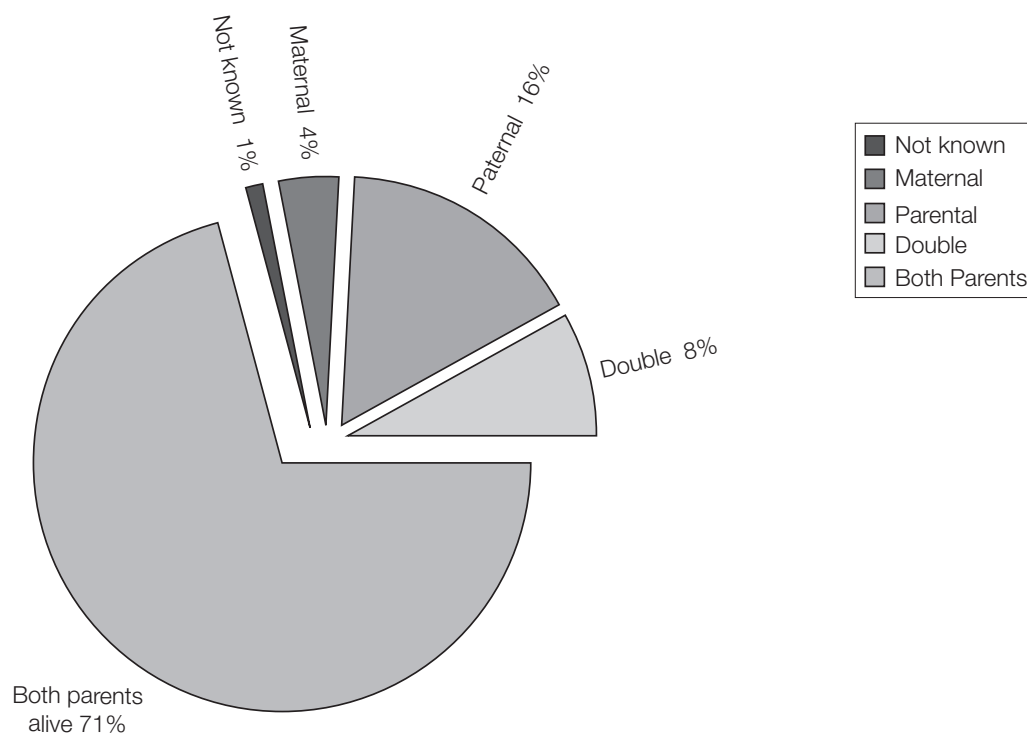


Table 4.3: Age when the child lost either mother or father

Age when child lost mother (N = 74)		n
≤ 5 years		16
6–14 years		49
Unspecified		9
Age when child lost father (N = 143)		n
≤ 5 years		40
6–14 years		88
Unspecified		15

Table 4.4 shows the educational level of the children at the time of the study. Overall, most children interviewed were in primary school. Of note, 11.8% of the respondents were not school attending and this proportion increased with age (Table 4.4). Of those who were not school attending 45.7% were orphans and there were no significant difference ($p=0.311$).

Table 4.4: Distribution of children by age and educational status

Age group	Educational status						Total	
	Not school attending		In primary school		In secondary school		n	%
	n	%	n	%	n	%		
Total	70	11.8	369	62.1	155	26.1	594	100.0
12	9	3.9	212	92.6	8	3.5	229	38.5
13	20	11.6	106	61.2	47	27.2	173	29.2
14	41	21.4	51	26.5	100	52.1	192	32.3

4.4.3. HIV prevalence

4.4.3.1. Prevalence by sex, age and sector

Overall, HIV prevalence was 3.0% with a 95% CI of 1.8–4.7. Prevalence was twice as high among females than males but this was not significantly different (Table 4.5). Prevalence tended to decrease with increasing age and was more than three times higher in urban than in all other sectors.

Table 4.5: HIV prevalence by sex, age and locality

Demographic characteristics	n	HIV positive (%)	95% CI
Overall	601	3.0	1.8–4.7
Sex			
Male	306	2.0	0.7–4.2
Female	295	4.1	2.1–7.0
p=0.130*			
Age (Years)			
12	229	3.9	1.8–7.3
13	177	3.4	1.3–7.2
14	195	1.5	0.3–4.4
p=0.332*			
Sector			
Communal area	311	2.9	1.3–5.4
Resettlement area	149	1.3	0.2–4.8
Large-scale commercial area	49	2.0	0.1–10.9
Small-scale commercial area	33	0.0	
Urban area	59	10.2	3.8–20.8
p=0.011*			

* Chi square test

4.4.3.2. HIV prevalence by religion

HIV prevalence was not significantly associated with religion although prevalence was nearly four times higher among those reporting that they belonged to Christian compared to Apostolic religion (Table 4.6). The highest prevalence was noted among Catholics.

Table 4.6: HIV prevalence by religion

	N	HIV positive (%)	95% CI
Belong to a faith/religion			
Yes	543	3.1	1.8–5.0
No	58	1.7	0.0–9.2
p=1.000*			
Type of religious grouping (N=543)			
Catholic	39	10.3	2.7–24.2
Protestant	138	4.4	1.6–9.2
Pentecostal	131	2.3	0.5–6.5
Apostolic sects	224	1.8	0.5–4.5
Traditional African	10	0.0	
Moslem	1	0.0	
p=0.115*			

* Chi square test

4.4.3.3. HIV prevalence among orphans

HIV prevalence among orphans was 2.4% and was not significantly different from that of non-orphans (3.3%) ($p=0.84$). Prevalence was 3.2% and 2.0% among paternal and double orphans, respectively, while none of the maternal orphans were infected.

4.4.3.4. Discussion: HIV prevalence and demographic characteristics

The sex distribution of children reflects that of the national profile (CSO Census Report, 2002) as well as that reflected in the results of the BRTI OVC Census (Munyati, Rusakaniko, Mupambireyi et al., 2003). More than a quarter of the children in Chimanimani were orphans, indicating that these children were prematurely deprived of parental love, care and protection. The proportion of 4:1 for paternal to maternal orphans reflects that male parental mortality in Chimanimani is higher than that of females. As a result, most of the households are left with no breadwinner since in this rural setup it is predominantly males who take up this responsibility.

That almost four per cent of children between 12 years and 14 years were heading a household is worth noting. Such responsibilities increase the children's risk of HIV infection, as they are prone to early transactional sex and sexual abuse.

The prevalence of HIV in the 12–14 years age group of 3% suggests that either some children who were infected perinatally are surviving to this age, or that these children are

exposed to infection sexually or otherwise during this developmental stage. Of note is the fact that all the children who had sex were HIV negative (data not shown).

4.4.4. Child's home environment

A third (33.6%) and over a tenth (13.0%) of the children reported that there was a household member who got drunk at least once a month and used recreational drugs in the household, respectively. Another 13.5% of children also reported that there was a business being operated from their home. One per cent of the respondents reported consuming alcohol.

Table 4.7 shows children's sleeping arrangements and mode of transport to and from school. As with the 2–11 year olds, most children shared a room or bed with someone and nearly all walked to school.

Table 4.7: Children's sleeping arrangements and mode of transport to and from school

Place where child sleeps (N=601)	n	(%)
Alone in own bed, own bedroom	95	(15.8)
In own bed (or on the floor), shared room	243	(40.4)
In shared bed	263	(43.8)
Mode of transport (N=531)		
To school:		
On foot	522	(98.3)
Other modes of transport	9	(1.7)
From school:		
On foot	523	(98.5)
Other modes of transport	8	(1.5)

4.4.4.1. HIV prevalence and child's home environment

Table 4.8 shows HIV prevalence by home environment. There were no significant associations between HIV prevalence and standard of living and alcohol/drug use by a member of the household. However, paradoxically, HIV prevalence tended to increase with increasing standard of living.

Table 4.8: HIV prevalence by household situation and home environment

	n	HIV positive (%)	95% CI
Standard of living			
Not enough money for basics	424	2.6	1.3–4.6
Have money for basics only	102	3.9	1.1–9.7
Have most important things	63	4.8	1.0–13.3
Don't know	9	0.0	–
p=0.625			
Presence of household members who get drunk at least once a month			
Yes	202	2.0	0.1–3.9
No	396	3.5	1.7–5.4
p=0.293			
Household members who used drugs at least once a month e.g Dagga, Mandrax, Ecstasy, Cocaine, Heroin			
Yes	78	0.0	–
No	493	3.5	2.0–5.5
No response	30	3.3	0.9–17.2
p=0.215			
Current alcohol consumption			
Drink	6	0.0	–
Do not drink	590	2.9	1.7–4.6
p=0.153			

4.4.5. Care and protection

4.4.5.1. Care and protection at home

Table 4.9 highlights that, by and large, the majority of children reported never having been exposed by their guardians to practices that increase vulnerability to abuse.

Table 4.9: Distribution of guardians' caring methods

Care practices (N=601)	Often n (%)	Sometimes n (%)	Never n (%)
Sent out of the home yard	104 (17.3)	316 (52.8)	181 (30.1)
Left at home alone	67 (11.1)	275 (45.8)	259 (43.1)
Left at home in the care of a person 15 years old or younger	46 (7.7)	199 (33.1)	356 (59.2)
Left in the care of male family member	69 (11.5)	192 (31.9)	340 (56.6)
Left in the care of a male nonfamily member	12 (2.0)	37 (6.2)	551 (91.7)
Left in the care of a female non- family member	23 (3.8)	83 (13.8)	493 (82.0)
Out of the home yard without adult supervision	51 (8.5)	154 (25.6)	395 (65.7)

4.4.5.2. HIV prevalence and care and protection

Table 4.10 shows that prevalence of HIV did not vary significantly with caring practices. Contrary to expectations, those who were considered most vulnerable were not at greatest risk of HIV infection.

Table 4.10: HIV prevalence by caring methods

Care practices	Response						p
	Often		Sometimes		Never		
	n	%	n	%	n	%	
Sent out of home yard alone	104	1.0	316	3.8	181	2.8	0.331
Left home alone	67	0.0	275	2.9	259	3.9	0.254
Left at home in the care of a person 15 years old or younger	46	2.2	199	3.5	356	2.8	0.845
Left in the care of a male family member	69	0.0	192	3.7	340	3.2	0.290
Left in the care of a male non-family member	12	0.0	37	0.0	551	3.3	0.438
Left in the care of a female family member	23	0.0	83	1.2	493	3.5	0.375
Left in the care of a female non-family member	51	2.0	154	4.6	395	2.5	0.417

4.4.5.3. Care and protection by teachers

As a way of establishing how much protection teachers were giving to children, school-going children were asked questions such as: *How often did your teachers attend classes at your school? How often did your teachers watch children at break time at your school? How often did your teachers monitor the toilets at your school?* The possible responses to these questions were *always, often, sometimes* and *never*. A total of eight questions were asked and these were scored according to how much they reflected good care practices, with the best practice (indicated by always) scoring the highest (score of 3) and the worst care practice scoring the least (indicated by never) which was a zero. Total scores were calculated for each respondent from the eight statements and the mean scores are summarised in Table 4.11. The maximum possible score was 24.

Table 4.11: Mean scores of children's care/protection by teachers

Variable	n	Score*	SD
Overall	531	15.3	4.1
Sex of respondent			
Male	279	15.0	4.0
Female	252	15.6	4.1
P = 0.094			
Sector			
Communal	288	15.0	4.1
Resettlement	118	15.2	3.8
Large-scale commercial	44	14.4	3.4
Small-scale commercial	29	14.0	4.2
Urban	52	18.4	3.5
P < 0.001			
Current level of education			
Primary School	369	15.2	4.0
Secondary School	155	15.5	4.2
P = 0.404			

* maximum score is 24

The overall mean score (SD) was 15.3 (4.1). Care and protection levels, regardless of sex, sector and educational level, were just above the 50th percentile of the range of scores. The mean score in the urban areas was higher compared to the other sectors.

4.4.5.4. Discussion: HIV prevalence and child's home environment

The environment in which a child grows is important in child development and is shaped by their parents' and caregivers' activities within the home. This study has shown that at least a third of the households had someone who occasionally drank alcohol.

This may be linked to the observation that some of the children reported consuming alcohol themselves. The lack of association between care practices and HIV prevalence suggests that abuse may not contribute significantly to risk of HIV infection among the respondents. This needs to be interpreted with caution in this bivariate analysis.

Care and protection at home

Inadequate care and protection and outright abuse exist to some extent in all communities. In the present study, most children reported never having been exposed by their guardians to practices that increase vulnerability to abuse. This suggests that, overall, the reported quality of care for children aged 12 to 14 years in Chimanimani is acceptable. However, the less than 10% who may be at increased risk need to be considered in designing interventions for this highly sensitive area.

Care and protection at school

Generally, the quality of care and protection from teachers was just above average, although teachers in urban areas tended to fare better. This is possibly because parents in urban areas are more enlightened regarding their children's rights in schools. As a result, teachers are more careful in the manner they handle children. Most schools in urban areas have welldeveloped infrastructure, hence it is easier for teachers to monitor the flow of people in and out of school, as there are designated entrance and exit points.

4.4.6. Orphanhood

Overall, prevalence of orphanhood was 28%. Further details on orphanhood were described in Sections 4.4.2 and 4.4.3, and illustrated in Table 4.2 and Figure 4.1.

4.4.6.1. Orphanhood by school attendance

Table 4.12 shows that a significantly higher proportion of orphans were not in school compared to non-orphans. Similarly, a higher proportion of orphans than non-orphans reported having missed school but this was not statistically significant.

Table 4.12: Distribution of orphanhood by school enrolment and attendance

Demographic variable	Orphanhood status (%)			
	Orphans (N=168)	Non-orphan (N=425)	Not known (N=8)	Overall (N=601)
Overall	28.0	70.7	1.3	
Enrolled into a school				
Yes	136 (81.0)	387 (91.1)	8 (100.0)	531 (88.3)
No	32 (19.0)	38 (8.9)	0.0	70 (11.7)
p-value=0.003				
School attendance (N=136)				
Missed school in the last month	64 (47.1)	143 (37.1)	3 (37.5)	210 (39.7)
Never missed school	72 (52.9)	242 (62.9)	5 (62.5)	319 (60.3)
p-value=0.220				

NB. P-value indicates comparison across orphanhood status

4.4.6.2. Orphanhood by household situation

Table 4.13 summarises household conditions in the children's households. Although the majority of orphans and non-orphans reported that they did not have enough money for basic things, the proportion was higher in the former.

Table 4.13: Orphanhood by household situation

Household situation	Orphans N = 168	Non-orphans N = 425
Not enough money for basics things	139 (82.7)	279 (65.7)
Have money for food and clothes, but short of many other things	14 (8.3)	87 (20.47)
Have most important things, but few luxury goods	11 (6.6)	52 (12.2)
Don't know	2 (1.2)	6 (1.4)
No response	2 (1.2)	1 (0.2)

4.4.6.3. Orphanhood by awareness of OVC structures

Awareness levels of structures in the community that care for OVC are shown in Table 4.14. The table shows that the awareness was similar between orphans and non-orphans but with slightly more males than females in both groups being aware. Respondents from the communal areas and those who were in primary school were more aware of structures that care for OVC in their community.

Table 4.14: Awareness of structures in community that care for OVC

Variable	Orphan N=168 n (%)	Non-orphan N=425 n (%)
Overall	48 (28.6)	108 (25.4)
Sex of respondent	N = 48	N = 108
Male	26 (54.1)	60 (55.5)
Female	22 (45.9)	48 (44.5)
Sector		
Communal	33 (68.8)	49 (45.4)
Resettlement	7 (14.6)	31 (28.7)
Large-scale commercial	3 (6.3)	6 (5.6)
Small-scale commercial	0 (0.0)	10 (9.3)
Urban	5 (10.4)	12 (11.1)
Level of education		
No schooling	8 (16.6)	6 (7.4)
Primary school	27 (56.3)	66 (61.1)
Secondary school	13 (27.1)	36 (33.3)

4.4.6.4. Discussion: Orphanhood

Orphanhood and school attendance:

Loss of one or both parents has an impact on school attendance as some children will either drop out of school or miss school more often. In other cases, especially in the case of the death of a mother, the child is left to do all the household chores, and take care of the younger siblings or a remaining sick parent.

Orphanhood and household situation:

Household situations of orphans usually differ from those of non-orphans. This study has shown that orphans were more likely not to have enough money for basic things. This is not surprising considering that the breadwinners were no longer there to support them.

Orphanhood and awareness of OVC structures:

This study has shown that there were some support systems/services for OVC and that awareness levels of OVC services were similar among orphans and non-orphans. There were more OVC services in communal areas compared to others.

4.4.6.5. Child-headed households

Table 4.15 shows that there were more male than female child-headed households (15 and 7, respectively). Most of these households did not have enough money for basic things and were from communal areas. Most child-headed households were from communal and resettlement areas.

Table 4.15: Distribution of child-headed households by demographic characteristics

Variable	n
Total (N=601)	22
Sex of respondent (N=22)	
Male	15
Female	7
Sector (N=22)	
Communal	7
Resettlement	6
Large-scale commercial	3
Small-scale commercial	3
Urban	3
Household situation (N=22)	
Not enough money for basic things	17
Just enough money for food and clothes	3
Money for most things	1
Not known	1

4.4.6.6. Discussion: Child-headed households

That more male than female children-headed households may reflect the cultural norms that men, even if younger than their female siblings, are considered as heads of families in the absence of parents. The higher frequency of child-headed households in communal and resettlement sectors suggests an increased burden of orphans. It is common that most people, when seriously ill, will relocate and die in rural areas, leaving their children to care for themselves or in the care of grandparents and extended family. Not surprisingly, more orphaned than non-orphaned children headed households.

4.4.7. Sexual experiences and behaviour

Overall, 15 (2.5%) reported having had sex. Over a fifth (21.3%) and 27.6% of the children reported ever discussing sex and sexual abuse, respectively, with their parents.

4.4.7.1. HIV prevalence by issues of sexuality

Table 4.16 summarises the prevalence of HIV by sexuality issues. Of note is the fact that of the respondents who reported that they had sex, none was found to be HIV-positive. Those who had either discussed sex or sexual abuse with parent/guardian had a higher HIV prevalence compared to those who had not discussed these issues.

Table 4.16: HIV prevalence by issues of sexuality

	n	HIV-positive (%)	95% CI
Ever had sex			
Yes	15	0.0	
No	586	3.1	1.8–4.8
p=0.491			
Discussed sex with parent/guardian			
Yes	128	5.5	2.2–10.9
No	466	2.4	1.2–4.2
p=0.130			
Discussed sexual abuse with parent/guardian			
Yes	166	5.4	2.5–10.0
No	417	1.9	0.8–3.7
p=0.023			

Though many children escape HIV infection through mother-to-child transmission, they still remain at risk of being infected with the virus through sex and other transmission routes. The average age of initial sexual activity is probably higher than 14 years, considering that less than five per cent of children reported having had sex before. However, the early onset of sex in the small proportion remains a major concern. Most children never discussed sex or sexual abuse with their parents or guardians. This is

congruent with the culture where discussion of sexuality with parents is considered taboo. Interventions aimed at improving knowledge about sexuality to empower adolescents would need to tackle these cultural barriers.

That HIV prevalence was higher among those who reportedly discussed sexuality issues with their parents or guardians may indicate that discussions may start after sexual activity has already begun. However, that HIV infection was detected only in those who reported never having sex suggests that some of the respondents may have not told the truth. Alternatively, it could suggest that the infections were not acquired through sexual exposure but nosocomial or vertically.

4.4.7.2. HIV Prevalence by history of STI-related illness

Overall, 12 (2.0%) reported previous history of STI. Fifty per cent of the STIs were genital ulcers and the other 50% genital warts.

HIV prevalence was nearly three times higher among those reporting a history of STI (8.3%; 95% CI: 0.2–38.5) compared to those with no history of STI (2.9; 95% CI: 1.7–4.6) but the difference was not statistically significant.

4.4.8. HIV prevalence by reported HIV-related illness

Table 4.17 shows that the most common illnesses related to HIV were burning urine (8.3%) and diarrhoea (7.8%).

Table 4.17: Distribution of types of reported HIV-related illnesses

Reported HIV-related illnesses	n (%)
Troubled by burning urine	
Yes	50 (8.3)
No	547 (91.0)
Not stated	4 (0.7)
Had diarrhoea that lasted for more than three days in the last three months	
Yes	47 (7.8)
No	551 (91.7)
Not stated	3 (0.5)
White sores in the mouth over the last three months	
Yes	23 (3.8)
No	576 (95.8)
Not stated	2 (0.3)
Swollen lymph nodes in neck, under arms or in groin	
Yes	35 (5.8)
No	564 (93.8)
Not stated	2 (0.3)



Had shingles/herpes zoster over the last 12 months	
Yes	4 (0.7)
No	594 (98.8)
Not stated	3 (0.5)

HIV was about three times higher among respondents reporting a history of swollen lymph nodes compared to those who did not (Table 4.18). Similarly prevalence was about eight times higher among those with a previous history of herpes zoster. Other HIV-related diseases were not associated with HIV prevalence.

Table 4.18: Prevalence of HIV by history illness of children

Form of illness	n	HIV positive (%)	95% CI
Burning urine			
Yes	50	2.0	0.1–10.6
No	547	3.1	1.8–4.9
Not stated	4	0.0	–
Diarrhoea in the last three months that lasted for more than three days			
Yes	47	2.1	0.0–11.3
No	551	3.1	1.8–4.9
Not stated	3	0.0	–
Whites sores in the preceding three months			
Yes	23	0.0	–
No	576	3.1	1.8–4.9
Not stated	2	0.0	–
Swollen lymph nodes in neck, under arms or in groin			
Yes	24	8.3	1.0–27.0
No	574	2.8	1.6–4.5
Not stated	3	0.0	–
Shingles/herpes zoster over the preceding 12 months			
Yes	4	25.0	0.6–80.6
No	594	2.9	1.7–4.5
Not stated	3	0.0	–

4.4.8.1. HIV Prevalence by hospitalisation history

Of the 601 children interviewed 60 (10%) reported having been hospitalised in the 12 months preceding the study, the majority of whom (70.7%) had been hospitalised

only once. Table 4.19 shows that there was no significant difference in HIV prevalence between children who had been hospitalised and those who had not. Furthermore, HIV prevalence was not associated with frequency of hospitalisation.

Table 4.19: Prevalence of HIV by hospitalisation history

	n	HIV-positive (%)	95% CI
Hospitalised in the 12 months preceding the study			
Yes	60	3.3	0.4–11.5
No	538	3.0	1.7–4.8
p=0.700			
Frequency of hospitalisation over the 12 months preceding study			
Once	43	4.7	0.6–15.8
More than once	16	0.0	
p=1.000			

4.4.8.2. Discussion: HIV and STIs

It has been clearly demonstrated that STIs facilitate HIV transmission. Our data is in agreement with other studies (Grosskurth et al., 2000) although the numbers were too small to allow definitive conclusions to be made.

4.4.8.3. Discussion: HIV Prevalence and Morbidity

Contrary to the observation among the 2–11 year olds, prevalence of reported hospitalisation was not significantly associated with HIV infection among the 12–14 year olds. However, as expected, some HIV-related illnesses (lymphadenopathy and herpes zoster) showed some association with HIV prevalence, albeit not statistically significant. The lack of association between hospitalisation and HIV infection may suggest that the infections were fairly recent and hence in the asymptomatic stage. In the same vein, this could point to recent sexual encounter as the major transmission route in this age group. Further analysis is required in this regard.

4.4.9. Self-reported behaviour change

Overall, 14.0% of the children reported having changed sexual behaviour in the last few years. The most commonly reported behaviour was abstinence from sex while six respondents (7.1%) reported that they now used condoms consistently (Table 4.20).

Table 4.20: Self-reported behaviour change due to HIV/AIDS

Behaviour change	n	Yes (%)
Have changed sexual behaviour in the last few years (N=601)	84	14.0
Self-reported behaviour change (N=84)		
Abstain from sex	62	73.8
Have only one partner/being faithful	7	8.3
Always use condoms	6	7.1
Partner and respondent had HIV test before they had sex	1	1.2
Healthier dietary habits	1	1.2
Choose only healthy looking partners	1	1.2
Don't share needles/razor blades	21	25.0
Going to church	7	8.3
Other	6	7.1

4.4.9.1. Attitudes of children towards certain sexual behaviour

The respondents were asked questions to determine their attitudes towards certain sexual behaviours. Some of the statements were: 'I think it is possible for a boy/girl to have many girlfriends. If a boy wants sex, he has the right to get it. Boys should make decisions about whether to use a condom or not'. The children were to *strongly agree*, *agree*, *disagree*, *strongly disagree* with the statements or remain *neutral* if they were not sure of the given statements. Scores were developed where a score of 0 represented a negative attitude which was either defined by responding with *agree* + *strongly agree* or by *disagree* + *strongly disagree* (all depending on the statement) and a score of 1 represented positive attitudes. Those who were not sure were classified with the negative attitudes. Total scores for each respondent were developed and the mean scores were then calculated and summarised in Table 4.21. The maximum possible score was 7.

Table 4.21: Attitudes scores of children towards certain sexual behaviours by respondent characteristics

Variable	n	*Score	SD
Overall	601	3.6	2.0
Sex of respondent			
Male	306	3.4	2.0
Female	295	3.9	1.9
		p=0.003	



Sector			
Communal	311	3.6	1.9
Resettlement	149	3.5	2.0
Large-scale commercial	49	3.7	2.1
Small-scale commercial	33	4.4	1.8
Urban	59	4.1	1.8
p=0.077			
Level of education reached			
No schooling	4	2.3	3.3
Primary school	526	4.2	2.3
Secondary school	70	4.1	2.3
p=0.212			

* Maximum score was 7

The scores show that attitude levels were just above the 50th percentile with female respondents having a significantly higher score than male respondents. There were no sectoral or educational differences in attitudes, although scores tended to be higher in the small scale/urban sectors and among those with primary education or higher, respectively.

4.4.9.2. Discussion: Self-reported behaviour change

Though the proportion of the children who had changed their behaviour due to HIV/AIDS was relatively small, it is encouraging that almost three quarters of them reportedly had decided to abstain. The reported condom use, while laudable, is cause for concern as it suggests a high frequency of sexual activity among the users.

Attitude towards certain sexual behaviours:

The study showed that females had more positive attitudes than males towards certain sexual behaviours. The role of education and importance of access to information is highlighted by the higher scores among those with some education compared to those without, and higher scores in urban and small scale sectors where health and other services are better.

4.4.10. Knowledge about HIV and AIDS

In order to assess the children's levels of knowledge pertaining to HIV/AIDS, a series of questions were asked that addressed their level of knowledge on prevention, transmission and facts/myths about HIV/AIDS.

4.4.10.1. HIV/AIDS-related knowledge

To analyse the relationships between HIV/AIDS knowledge and selected demographic characteristics, a scale depicting knowledge levels was developed. A score of 1 was assigned to respondents who agreed or strongly agreed to each of the statements: 'HIV causes AIDS' and 'A baby can become HIV-positive through breastfeeding'. A score of 0 was assigned to those who were unsure, disagreed or strongly disagreed to these statements. In a similar way, a score of 1 was assigned to respondents who disagreed

or strongly disagreed to the statements that, 'There is a cure for HIV/AIDS'; 'AIDS can be caused by witchcraft'; and 'AIDS can be cured by having sex with a virgin' and 0 to those who respond with agree or strongly agree or neutral. The higher the knowledge score, the better the knowledge. The findings are summarised in Table 4.22.

Table 4.22: General knowledge (scores) on HIV/AIDS by respondent characteristics

Variable	n	*Score	SD
Overall	601	5.5	2.2
Sex of respondent			
Male	306	5.7	2.2
Female	295	5.3	2.2
p=0.570			
Sector			
Communal	311	5.8	2.2
Resettlement	149	5.2	2.4
Large-scale commercial	49	5.4	2.3
Small-scale commercial	33	4.2	2.1
Urban	59	5.9	1.3
p < 0.001			
Level of education reached			
No schooling	4	3.3	3.6
Primary school	526	5.5	2.2
Secondary school	70	5.9	2.0
p=0.087			

* Maximum score was 8

Overall, mean knowledge score (SD) was 5.5 (2.2). Significant differences in knowledge were observed between sectors, with urban and communal having the highest scores (Table 4.22). The mean knowledge scores increased with increasing levels of education.

4.4.10.2. Knowledge on HIV transmission

Regarding HIV transmission methods, scores were developed on a number of statements. Neutral responses reflected uncertainty. Incorrect responses were scored 0 for those who had agreed + strongly agreed or disagreed + strongly disagreed depending on the statement whereas correct responses were scored 1. There was a total of 14 statements giving a maximum possible score of 14. Table 4.23 summarises the knowledge scores on transmission.

Table 4.23: Knowledge scores on HIV/AIDS transmission by respondent characteristics

Variable	n	Score	SD
Overall	601	9.7	2.9
Sex of respondent			
Male	235	10.0	0.2
Female	200	9.3	0.2
p=0.022			
Sector			
Communal	232	9.9	2.8
Resettlement	96	9.2	3.4
Large-scale commercial	35	9.6	2.8
Small-scale commercial	23	7.8	2.4
Urban	49	10.6	2.0
p < 0.001			
Level of education reached			
No schooling	3	9.3	3.8
Primary school	376	9.6	2.9
Secondary school	56	10.2	2.7
p=0.320			

* Maximum possible score is 14

Overall, mean knowledge score on transmission was 9.7 (2.9). Males knew more about transmission than females, while knowledge was highest in the urban and lowest in the small scale sectors (Table 4.23).

4.4.10.3. Knowledge on HIV prevention

Knowledge on HIV prevention was assessed in a similar way as knowledge on HIV transmission above. The children were asked a question: *'What would you do to protect yourself from getting HIV?'* Some of the responses were use a condom, not to have penetrative sex, have sex with a virgin, not to share needles/razor blades and be faithful to one partner. Each response was classified as either correct (coded 1) or incorrect (coded 0).

The maximum possible score was 10. Overall, mean knowledge score was 5.4, just above the 50th percentile of the range of scores and there were no sex, sectoral and educational differences in knowledge. However, traditionalists had higher knowledge levels compared to other religious groups (Table 4.24)

Table 4.24: Knowledge scores on HIV/AIDS prevention by respondent characteristics

Variable	n	Score	SD
Overall	601	5.4	1.2
Male	306	5.4	1.2
Female	295	5.4	1.2
$p=0.378$			
Sector			
Communal	311	5.3	1.1
Resettlement	149	5.4	1.3
Large-scale commercial	49	5.4	1.1
Small-scale commercial	33	5.6	1.5
Urban	59	5.5	1.2
$p=0.944$			
Level of education reached			
No schooling	4	5.5	2.6
Primary school	526	5.4	1.2
Secondary school	70	5.7	1.2
$p=0.944$			
Religious grouping			
Catholic	39	5.8	1.3
Protestant	138	5.5	1.3
Pentecostal	131	5.5	1.2
Apostolic sects	224	5.2	1.1
Traditional/African	10	6.2	1.2
Moslem	1	5.0	-
$p=0.002$			

4.4.10.4. HIV prevalence and HIV/AIDS knowledge

Of the 601 children interviewed, 76.7% had heard about HIV/AIDS prior to this study and 73.4% knew how HIV was transmitted. Their common source of information was teachers followed by parents. Table 4.25 shows that HIV prevalence was higher among those who had ever heard about HIV/AIDS and those who knew how HIV was transmitted, compared to those who did not know. Of note is the HIV prevalence by sources of information where the risk of HIV was high among those whose main source of information was teachers and friends. However, none of these differences were statistically significant.

Table 4.25: HIV prevalence by general knowledge in HIV and AIDS

	n	HIV-positive (%)	95% CI
Heard about HIV/AIDS			
Yes	461	3.9	2.3–6.1
No	139	0.0	
p=0.018			
Knew how HIV is transmitted			
Yes	435	3.7	2.1–5.9
No	163	1.2	0.1–4.3
p=0.114			
Sources of information on HIV/AIDS			
Parents	107	2.8	0.6–8.0
Siblings	28	3.6	0.1–18.3
Teacher	420	4.0	2.4–6.4
Friends	75	4.0	0.8–11.2
Health care worker	84	1.2	0.0–6.5
p=0.762			

4.4.10.5. HIV prevalence and rites of passage

Of the 295 boys interviewed, one per cent had been circumcised and of the 306 girls, 14.7% had undergone virginity testing. As regards association between rites of passage and HIV prevalence, the numbers of boys circumcised were too few to make any meaningful comparisons, but with girls, none of those that were tested for virginity, were HIV-positive.

4.4.10.6. Discussion: HIV prevalence and knowledge, perceptions and attitudes

HIV prevalence and knowledge:

The majority of IEC programmes that have been implemented worldwide aimed at increasing knowledge of HIV transmission and prevention. It is assumed that knowledge is power, i.e. knowledge that is gained about HIV and AIDS is translated into behaviour change.

The general knowledge of HIV among this group of children was reasonably high. If this knowledge is translated into behaviour change then this group of people will be prevented from any future infections. Of note is the importance of access to education and information in enhancing knowledge.

Knowledge on transmission follows the same pattern as that on general knowledge. Of concern, however, are the low knowledge levels on the small-scale commercial farms. This is possibly because of limited educational facilities and access to information, emphasising the need to specifically target such communities with appropriately tailored IEC interventions.

The findings of this study suggest that awareness about HIV and AIDS is not necessarily related to risk perception and self-protection behaviour. Alternatively, the knowledge of HIV and AIDS is preceded by risky sexual activity. Teachers have been mandated to teach health education in schools, on the assumption that they have adequate and correct information in this area. The tendency for higher prevalence among those whose sources of information are teachers and friends needs further analysis. It is possible that sexually active pupils may more freely associate with teachers than those pupils who are sexually naïve. On the other hand, the existence of sexual networks between teachers and students has been highlighted as one of the major factors fuelling the epidemic among young girls in Zimbabwe (ZHDR 2003).

4.4.11. Awareness of HIV/AIDS services

4.4.11.1. Prevention

Children were asked if they knew of any HIV/AIDS care services in their community. Table 4.26 shows that 23.2% of the children knew about HIV/AIDS care services in their community, and there were no significant knowledge differences by sex and education. However, knowledge of services was significantly higher in urban and small-scale than other sectors.

Table 4.26: Knowledge of availability of HIV/AIDS care services

Variable	n	Yes %
Overall	601	23.2
Sex of respondent		
Male	306	23.5
Female	295	22.7
		p=0.795
Sector		
Communal	310	19.4
Resettlement	149	19.5
Large-scale commercial	49	26.5
Small-scale commercial	33	48.5
Urban	59	35.6
		p < 0.001
Level of education		
No schooling	4	25.0
Primary school	526	23.6
Secondary school	70	20.0
		p=0.794

4.4.11.2. Home-based care programmes

About 10% of the children reported that their household had a member who had been too ill to work for three consecutive months in the 12 months preceding the study. The most common sources of help for the sick were family, clinics and neighbours and/or FBOs in a descending order of importance (Table 4.27).

Table 4.27: Distribution of sources of assistance on HBCP

Source of assistance (N=50)	n	Yes (%)
Neighbours	27	54.0
Family	41	82.0
Community-based organisations	10	20.0
Faith-based organisations	27	54.0
Traditional healer	9	18.0
Health clinic	38	76.0
Village health worker	16	32.0

Table 4.28 shows the proportions of children who assisted in taking care of a sick household member, as well as the forms of support received from external sources such as community-based organisations, family and neighbours.

Table 4.28: Distribution of responses on home-based care programmes

Sub-category of respondents	%	category
Of the children who had a household member who was too ill to work for at least three consecutive months (N=50)	47.5	... said the ill household member was either their mother or father.
Of those who reported to be caring for a sick person on a daily basis (N=50)	48.0	... said they bathed the person as part of caring for them.
Of those who reported to be caring for a sick person on a daily basis (N=50)	72.0	... said they fed the person as part of caring for them.
Of those who reported to be caring for a sick person on a daily basis (N=50)	52.0	... said they comforted them when upset.
Of those who reported to be caring for a sick person on a daily basis and received help from FBOs (N=27)	81.5 said they received support in the form of medicine.
Of those who reported to be caring for a sick person on a daily basis and received help from FBOs (N=27)	66.7 said they received support in the form of home visits.
Of those who reported to be caring for a sick person on a daily basis and received help from FBOs (N=27)	70.4 said they received support in the form of food.

4.4.11.3. Discussion: Awareness of HIV and AIDS services

That only a fifth of the children who needed help were supported by CBOs is a cause for concern. Having a small proportion receiving support from the community means that the community has not managed to adopt HBCP as its programme and there is need for community sensitisation on HBCP. Though the CBOs have not contributed much to the HBCP, other members of the community such as families, neighbours, village health workers and health clinics have played a vital role in the HBCP.

4.5. Conclusions

The study sought to determine the magnitude of HIV infection among children aged 12–14 years and relate the prevalence to various demographic, socio-cultural, economic and behavioural variables in order to understand the dynamics of the epidemic. The BSS further aimed at informing implementers in developing and/or strengthening strategies and interventions to prevent transmission, care for the sick and orphans and to mitigate the impact of the epidemic at community and individual levels.

The households considered for the study were randomly selected in the whole district, thus providing a sample representative of the whole community in Chimanimani district. Several conclusions can be drawn from the findings of this part of the overall study.

Socio-demographic profile of children

- The demographic profile of the children closely resembles that determined by the BRTI/NIHR OVC Census (2003) as well as the national profile (CSO, 2002).
- The majority of respondents were of the Apostolic sect. Thus, HIV/AIDS programmes need to be cognisant of the religions' beliefs and myths in shaping perceptions, attitudes and practices with regards to education on HIV and AIDS.
- A significant proportion of children were not attending school for reasons not elucidated. Possible reasons include poverty, access and religious affiliation.
- More orphans had missed school compared to non-orphans. This suggests that orphanhood has an impact on school attendance.
- There is a significant orphan problem in the district. The higher proportion of paternal orphanhood implies that more men than women are dying.
- Most households reported that they did not have enough money for basic needs, thus poverty is a major problem in the community. The impact of poverty, in particular the gendered aspects, on access and acceptance of interventions should be considered.

Knowledge about HIV and AIDS

- Sectors and religious groupings were major determinants of knowledge.

Risk factors for children

- Despite the less than desirable economic status of most households, and the fact that some family members reportedly consumed alcohol, guardians/parents appear to be providing adequate protection to their children.
- Furthermore, a significant proportion, albeit low, of the guardians reportedly discussed issues of sexuality with their children. Important to note is that these discussions were reinforced by external sources.

HIV prevalence among children

- Though most children infected perinatally die before they celebrate their fifth birthday, infections in this age group can still be attributed to mother-to-child-transmission. The other possible routes of transmission are through needle sticks/injections in hospital, transfusion and sexual abuse. While there was no evidence of sexual abuse in the present study, of note is that though not significant, HIV prevalence was higher among female children. Whether selective MTCT occurs is not known.
- HIV prevalence was higher among children from the urban sector, reflecting the higher prevalence recorded among pregnant women (MOHCW, 2002) as well as among the 15+ year olds from urban Chimanimani (see Chapter 5).
- Similarly, the higher prevalence among non-orphans simply suggests that from birth children can live for a long time with the virus and a large number of parents are living with HIV/AIDS in the district.
- HIV and AIDS are major causes of morbidity among children.

4.6. Recommendations

- Medical management of HIV and AIDS in children should be considered urgently, in view of the fact that ARVs are not currently available, in particular child formulations.
- Psychosocial support systems for OVC in general, and HIV infected children in particular, should be established and/or strengthened.
- Prevention of MTCT should be strengthened through various strategies, including meaningful involvement of men and ensuring that ARVs are available and used.
- Interventions to enhance awareness and knowledge about HIV/AIDS among the adult population should be strengthened, particularly in the urban and rural areas of the district.
- HIV/AIDS messages should include child caring practices, as these can be predisposing factors to HIV/AIDS.



5. Results for age group 15–24 years

5.1. Introduction

This chapter focuses on the age group 15–24, describing general characteristics and associations with HIV prevalence in an attempt to forge a better understanding of the transmission dynamics of the epidemic in Chimanimani district. This age group represents youth and thus a pool of sexually maturing yet inexperienced young men and women. Vulnerability of this group, especially among females, is evident from previous observations in Zimbabwe that HIV prevalence among women aged 15–24 years ranged from 24.6 to 39.6%, compared to 9.9 to 14.9% for men in the same age cohort (UNICEF, 2003). The trend of more women than men being infected was recorded as early as the mid 1990s, reflecting a shift in the epidemiological profile some 10 years into the epidemic. A 2001 Zimbabwe Young Adult Survey found a prevalence of 22% and 10% among young female and male adults, aged 15–29 years respectively.

Several factors are attributed to transmission dynamics amongst youth. The higher prevalence among female youth has been explained by intergenerational sex, where young girls date older men for various reasons, chief among them being economic. However, reports of older women dating young boys for similar reasons have also been reported (ZHDR 2003). It is important that these be considered in the context of the socioeconomic and cultural environment in which people live. The ZHDR (2003) has attempted to dissect some of the fundamental determinants in Zimbabwe by describing how sexual networks evolve and become complex webs, exposing different people of different social classes and ages to transactional sexual liaisons.

5.2. Objectives

The objective of the report is to present the findings of a BSS conducted among youth 15–24 years of age in Chimanimani district, Zimbabwe. The findings are predominantly a characterisation of the age group with regards demographic, social, economic and behavioural factors. Bivariate associations of these factors with HIV prevalence are presented where applicable.

5.3. Methodology

The methodology applied is discussed in Chapter 3. In brief, the generic questionnaire was adapted for the 15–24 age group. The questionnaire was administered after informed consent from the respondent. Blood was collected as spots of filter paper (DBS). Details of HIV testing are described in Chapter 2.

5.3.1. Data analysis

Simple descriptive statistics were employed to characterise the study population. The Chi-square test was used to assess the relationship between HIV prevalence and various factors. The main variables assessed were: demographic characteristics; household economic situation; knowledge and perceptions of HIV/AIDS; practice of circumcision among males and chastity/virginity testing among females; the initiation of intimate relationships; the sexual experiences and practices of the youth; the sexual partners of the

youth; the perceptions of risk and vulnerability of youth to HIV infection; drug use and alcohol consumption; and awareness of services, among others.

5.3 Study sample

Table 5.1 shows that a total of 966 potential respondents were approached and of these, 730 (75.6%) completed the questionnaire and provided a blood sample for HIV testing. The refusal rate was 2.8%. For this age group, the response rate was based on the proportion of sampled respondents who provided both the questionnaire and a blood sample.

Table 5.1: Distribution of response rate

	Response rate	
	n	%
Completed questionnaire with sample	730	75.6
Target respondent not at home	209	21.6
Refusals (sample + questionnaire)	27	2.8
Total questionnaires	966	

Calculation of response rate

$$\begin{aligned} \text{Response rate} &= \frac{\text{Complete questionnaires with a sample}}{\text{Total questionnaires + refusals + respondents not at home}} \\ &= \frac{730}{966} \times 100 = 75.6\% \end{aligned}$$

Of the 730 respondents who provided completed questionnaires and blood samples, 17 (2.3%) had insufficient samples for HIV testing. The results that follow were based on the 713 respondents with complete questionnaires and sufficient samples.

5.4. Results

5.4.1. Socio-demographic characteristics

The demographic characteristics of respondents are summarised in Table 5.2. The table shows that all the respondents were Africans and just over half of them (54.8%) were females. Mean age was 19.5 (SD = 3.0) years and 57.8% of the respondents were in the 19–24 age group. Almost two thirds of respondents were single/never married. The most common religion was the Apostolic Sect.

Table 5.2: Demographic and basic characteristics of the sample

Demographic variable	n	%
Sex	N=713	
Male	322	45.2
Female	391	54.8
Nationality		
Zimbabwean	706	99.0
Non-Zimbabwean	7	1.0
Age (years)		
15–18	301	42.2
19–24	412	57.8
Marital Status	N=706	
Married	207	29.3
Single/never married	466	66.0
Living together/cohabiting	9	1.3
Divorced/separated	20	2.8
Widowed	4	0.6
Religion/denomination	N=635	
Catholic	34	5.4
Protestant	142	22.4
Pentecostal	182	28.7
Apostolic sects	254	40.0
Moslem	4	0.6
Traditional/African	18	2.8
Other	1	0.2
Highest educational qualifications		
No schooling	8	1.1
Primary school	200	28.0
Secondary school	496	69.6
Tertiary non-degreed	9	1.3



Sector		
Communal	327	45.9
Resettlement	168	23.6
Large-scale commercial	121	17.0
Small-scale	37	5.2
Urban	60	8.4

5.4.2. HIV prevalence

5.4.2.1. HIV prevalence by sex, age and sector

HIV sero-status was assessed in all the 713 respondents. The HIV prevalence was 9.3% (95% CI 7.2–11.6%). This prevalence was then stratified by various demographic characteristics.

Figure 5.1 shows that generally HIV prevalence increased with age among both males and females. Of note however is the transient reduction in prevalence at age 19 years among both sexes. Also of significance is the observation that on average, the prevalence was twice as high among females than males (Table 5.3).

Figure 5.1: HIV prevalence by age and sex

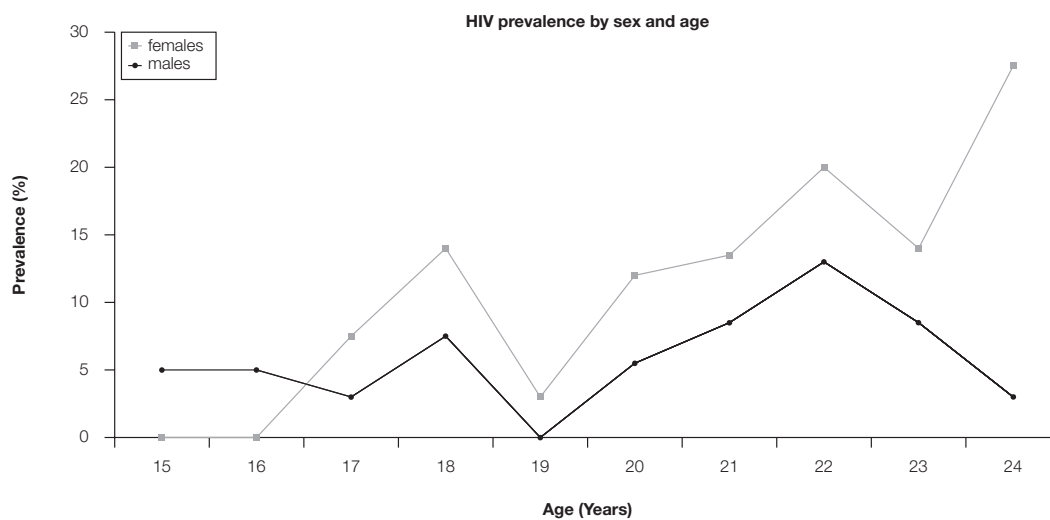


Table 5.3 further shows that HIV prevalence was significantly higher among the 19–24 year age group compared to the 15–18 year age. HIV prevalence was also higher in the small-scale commercial and urban areas than other sectors.

Table 5.3: HIV prevalence by sex, age group and sector

	N	HIV-positive		95% CI
		n	(%)	
Total	713	66	9.3	7.2–11.6
Sex				
Male	322	18	5.6	3.3–8.7
Female	391	48	12.3	9.2–15.9
Age Group				
15–18	301	16	5.3	3.1–8.5
19–24	412	50	12.1	9.1–15.7
Sector				
Communal	327	27	8.3	5.5–11.8
Resettlement	168	14	8.3	4.6–13.6
Large-scale commercial	121	10	8.3	4.0–14.7
Small-scale commercial	37	6	16.2	6.2–32.0
Urban	60	9	15.0	7.1–26.6

HIV prevalence did not differ among males and females in the 15–18 age group but was more than twice as high among females (16.1%; 95% CI: 11.8–21.3) compared to males (5.6%; 95% CI: 2.4–10.7) in the 19–24 age group. HIV prevalence was highest in the small-scale commercial farming and urban areas in the 19–24 years age group.

5.4.2.2. HIV prevalence by marital status

Although sub-sample sizes were too small for some categories of marital status to allow statistical comparison, HIV prevalence was higher among females who were widowed and those cohabiting. Prevalence was lowest among those who were single/never married. A similar trend was observed among males (Table 5.4).

Table 5.4: HIV prevalence by marital status

Marital Status	MALES		FEMALES	
	N	n (%)	N	n (%)
Married	35	4 (11.4)	172	32 (18.6)
Single/never married	279	13 (4.7)	187	7 (3.7)
Living together, cohabiting	–	–	9	3 (33.3)
Divorced/separated	3	1 (33.3)	17	3 (17.7)
Widowed	–	–	4	3 (75.0)

5.4.2.3. HIV prevalence by religion/denomination

Out of the 713 respondents 274 (39.4%) males and 361(50.6%) females reported that they belonged to a religious denomination. There were no significant differences in HIV prevalence among males and females of different religious denominations (data not shown).

Table 5.5: HIV prevalence by religious denomination

Religious denomination	Males			Females			Total	
	N	n (%)	95% CI	N	n (%)	95% CI	N	n (%)
Catholic	16	1 (6.3)	0.2–30.2	18	2 (11.1)	1.4–34.7	34	3 (8.8)
Protestant	69	5 (7.3)	2.4–16.1	73	6 (8.2)	3.1–17.0	142	11 (7.8)
Pentecostal	78	2 (2.6)	0.3–9.0	104	13 (12.5)	6.8–20.4	182	15 (8.2)
Apostolic sects	96	3 (3.1)	0.6–8.9	158	21 (13.3)	8.4–19.6	254	24 (9.5)
Moslem	3	0 (0.0)	–	1	0 (0.0)	–	4	0 (0.0)
Traditional/African	12	1 (8.3)	0.2–38.5	6	1 (16.7)	0.4–64.1	18	2 (11.1)
Other	–	–	–	1	0 (0.0)	–	1	0 (0.0)
p-value	0.693			0.947				
Total	274	12 (4.4)	2.3–7.5	361	43 (11.9)	8.8–15.7	635	55 (8.6)

5.4.2.4. HIV prevalence by level of education

Overall, no associations were found between HIV prevalence and level of education. However, HIV prevalence was as twice high among women reporting primary compared to secondary education (Table 5.6).

Table 5.6: HIV prevalence by sex and educational level

Level of education	Males			Females			Total	
	N	n (%)	95% CI	N	n (%)	95% CI	N	n (%)
No schooling	1	0 (0.0)	–	7	0 (0.0)	–	8	0 (0.0)
Primary school	72	4 (5.6)	1.5–13.6	128	23 (18.0)	11.7–25.7	200	27 (13.5)
Secondary school	243	14 (5.8)	3.2–9.5	253	25 (9.9)	6.5–14.2	496	39 (7.9)
Tertiary non-degreed	6	0 (0.0)	–	3	0 (0.0)	–	9	0 (0.0)
Total	322	18 (5.6)	3.3–8.7	391	48 (12.3)	9.2–15.9	713	66 (9.3)

5.4.2.5. HIV prevalence by employment status

HIV prevalence was as twice high among males who were not employed compared to those employed (3.1% versus 6.2%, respectively) but this was not statistically significant, while prevalence was similar between employed and unemployed females (13.2% versus 12.2%, respectively).

5.4.2.6. HIV prevalence by standard of living

The majority (60.9%) of respondents reported that they did not have enough money for basics such as food and clothes and only 37.3% could afford a few luxuries. There was no association between household economic situation and HIV prevalence among males and females. However, there was a trend, albeit insignificant, towards decreasing prevalence with improvement in household economic situation among males (Table 5.7)

Table 5.7: HIV prevalence by standard of living

Standard of living	Males			Females		
	N	n (%)	p	N	n (%)	p
Not enough money for basics	206	13 (6.3)		228	28 (12.3)	
Have basics, short of other things	60	3 (5.0)		94	13 (13.8)	0.811
Money for holidays and luxury goods	54	2 (3.7)	0.867	62	7 (11.3)	
None of the above	2	0 (0.0)		5	0 (0.0)	

5.4.2.7. Orphanhood and HIV prevalence

Orphanhood status was defined and assessed in the 15–18 age group. The prevalence of orphanhood was 36.9%. The distribution of these adolescents by orphanhood status is shown in Figure 5.2. As observed among the 2–11 and 12–14 age groups, most orphans had lost a father.

Figure 5.2: Orphanhood status in the 15–18 age group

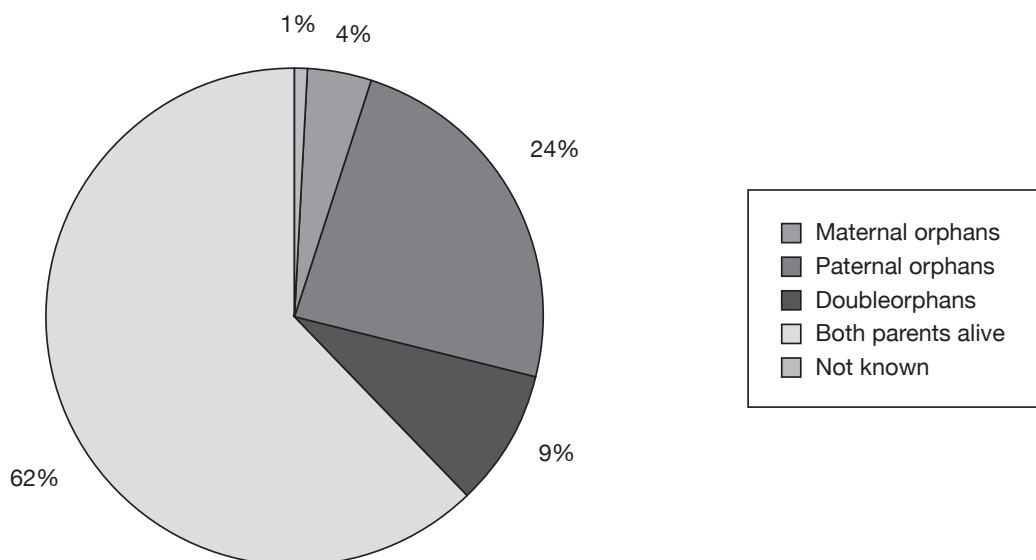


Table 5.8 shows HIV prevalence by orphanhood status. Overall prevalence was slightly higher among orphans than non-orphans.

Table 5.8: HIV prevalence by orphanhood status and sex

Parental status	Males		Females		Total	
	N	n (%)	N	n (%)	N	n (%)
Mother alive	271	13 (4.8)	334		605	52 (8.6)
Mother not alive	48	4 (8.3)	56	8 (14.3)	104	12 (11.5)
	p=0.315		p=0.579		p=0.333	
Father alive	207	10 (4.8)	264		471	40 (8.5)
Father not alive	110	7 (6.4)	125	18 (14.4)	235	25 (10.6)
	p=0.564		p=0.395		p=0.353	
Mother dead	11	1 (9.1)	28	4 (14.3)	39	5 (12.8)
Father dead	73	4 (5.5)	97	14 (14.4)	170	18 (10.6)
Both parents dead	37	3 (8.1)	28	4 (14.3)	65	7 (10.8)
Both parents alive	197	9 (4.6)	238	26 (10.9)	435	35 (8.0)
Not known	4	1 (25.0)	–	–	4	1 (25.0)
	p=0.238		p=0.691		p=0.547	

5.4.2.8. HIV prevalence by dependency burden

Almost a third (31.7%) of the respondents had dependants under the age of 18 years in their households. The mean number of children dependent on youth was 2.3. No associations were found between having dependants and HIV prevalence (data not shown).

5.4.2.9. Discussion

HIV prevalence by age and sex:

Males and females of the same age are exposed to different levels of risk of HIV infection. This study has shown that risk of HIV infection was higher among females (12.3%) than males (5.6%), confirming findings from other studies done in Zimbabwe. UNAIDS estimates for 2001 show that HIV prevalence among women aged 15–24 years ranged from 24.6 to 39.6%, compared to 9.9 to 14.9% for men in the same age cohort (UNICEF, 2003).

HIV prevalence by sector:

In this study, HIV prevalence was found to be high in the small-scale commercial and urban areas. Urban areas and small-scale commercial farms are usually characterised by the clustering of households, but also experience high mobility. A study in Manicaland showed that prevalence was highest in small towns (Gregson et al., 2002). These results are consistent with the current results where the prevalence among those in the 15–18 year age group was highest in urban areas followed by large-scale commercial and small-scale commercial areas. However, there is no obvious explanation for the low HIV prevalence in resettlement, large scale and communal areas.

HIV prevalence by marital status:

The high prevalence found among the divorced and separated, widows and others who were cohabiting is consistent with results from other studies. A possible explanation is that the husbands of the widows died of AIDS leaving them already infected. Alternatively, the widows engaged in risky sexual behaviours after the death of their husbands considering that this age group is highly sexually active.

HIV prevalence by level of education:

HIV prevalence for females in this study decreased with increasing levels of education, whereas for males the opposite was true. HIV prevalence in this study was higher among those with primary education compared to those with secondary education among the young adults. Generally, a higher level of education improves access to services. The patterns should be interpreted with caution because of small sample sizes in some categories of education.

HIV prevalence by orphanhood status among 15–18 year old:

There is an increase in the number of orphans in Zimbabwe and the major cause of the deaths of parents is HIV/AIDS. This study has shown that HIV prevalence was higher among orphans than non-orphans while female orphans had significantly higher HIV prevalence compared to their male counterparts. However, these patterns should be interpreted with caution because of small sample sizes in some categories of education.

The possibility that they were involved in ‘transactional sex’ or subjected to sexual abuse cannot be ruled out. Of note is the fact that losing fathers early may push families into poverty, which predisposes widows and daughters to other sexual activities such as prostitution as they try to fend for themselves.

5.4.2.10. Self-reported HIV-related illness

The overall distribution of HIV-related illnesses shows that the most common illnesses were pneumonia (5.1%) and diarrhoea (4.2%). There were no differences in the distribution of the illnesses between males and females (Table 5.9).

Table 5.9: Distribution of types of reported HIV-related illnesses by sex

Reported HIV-related illnesses	Males N=322		Females N=391		Total N=713	
	n	%	n	%	n	%
White sores in the mouth over the last three months						
Yes	7	2.2	11	2.8	18	2.5
No	309	96.0	378	96.7	687	96.4
Not stated	6	1.9	2	0.5	8	1.1
Swollen lymph nodes in neck, under arms or in groin						
Yes	11	3.4	7	1.8	18	2.5
No	305	94.7	382	97.7	687	96.4
Not stated	6	1.9	2	0.5	8	1.1

Treated for pneumonia more than once in the last year						
Yes	14	4.4	22	5.6	36	5.1
No	302	93.8	367	93.9	669	93.8
Not stated	6	1.9	2	0.5	8	1.1
Had shingles/herpes zoster over the last 12 months						
Yes	2	0.6	3	0.8	5	0.7
No	314	97.5	386	98.7	700	98.2
Not stated	6	1.9	2	0.5	8	1.1
Had diarrhoea that lasted for more than three days in the last three months						
Yes	16	5.0	14	3.6	30	4.2
No	300	93.2	375	95.9	675	94.7
Not stated	6	1.9	2	0.5	8	1.1

As shown in Table 5.10, the prevalence of HIV was more than three times higher among respondents reporting history of herpes zoster compared to those who did not ($p=0.056$). Similarly, HIV prevalence was nearly twice as high among those reporting history of oral sores compared to those not reporting, but the difference was not statistically significant.

Table 5.10: HIV prevalence by types of reported HIV-related illnesses

Reported HIV-related illnesses	HIV prevalence		
	N	n (%)	95% CI
White sores in the mouth over the last three months			
Yes	18	3 (16.7)	3.6–41.4
No	687	62 (9.0)	7.0–11.4
Not stated	8	1 (12.5)	0.3–52.7
Swollen lymph nodes in neck, under arms or in groin			
Yes	18	0 (0.0)	–
No	687	65 (9.5)	7.4–11.9
Not stated	8	1 (12.5)	0.3–52.7
Treated for pneumonia more than once in the last year			
Yes	36	4 (11.1)	3.1–26.1
No	669	61 (9.1)	7.0–11.6
Not stated	8	1 (12.5)	0.3–52.7
Had shingles/herpes zoster over the last 12 months			
Yes	5	2 (40.0)	5.3–85.3
No	700	63 (9.0)	7.0–11.4
Not stated	8	1 (12.5)	0.3–52.7
Had diarrhoea that lasted for more than three days in the last three months			
Yes	30	2 (6.7)	0.8–22.1
No	675	63 (9.3)	7.2–11.8
Not stated	8	1 (12.5)	0.3–52.7

5.4.2.11. HIV prevalence by self-reported history of TB symptoms

The respondents were asked about history of tuberculosis (TB) symptoms, and the relationship with HIV prevalence was assessed. More females (2.3%) than males (1.6%) reported having *bad persistent cough for one month or more* while 0.8% females and 0.3% males reported having *bad treatment for TB* but the differences were not statistically significant.

5.4.2.12. Discussion: HIV-related morbidity

That prevalence of HIV was higher among respondents reporting oral sores and herpes zoster emphasises that these are important clinical indicators of HIV infection in this community. Although no association could be established between HIV and TB, ample evidence exists that the majority of TB patients are HIV infected. In the present study the prevalence of reported TB symptoms was low.

5.4.3. Knowledge about HIV/AIDS

Respondents' knowledge of HIV transmission, prevention and general knowledge on the HIV and AIDS epidemic were assessed (Table 5.11). The majority of respondents reported that HIV could be contracted through multiple sexual partners. Less than a fifth cited lack of condom use as one of the ways people get infected with the virus. More than three-quarters of males and females reported that they could tell merely by looking that someone had AIDS, whereas slightly more than a third (33.9%) of the males and more than a quarter (27.6%) of females reported that they could tell that someone was HIV-positive by merely looking at them.

Table 5.11: Distribution of knowledge of HIV and AIDS

Knowledge statements:	Males N=322		Females N=391	
	n	% Yes	n	% Yes
People get HIV in this country through:				
Lack of condom use	57	17.7	62	15.9
Injecting drugs	25	7.8	33	8.4
Multiple sexual partners	287	89.1	339	86.7
Can tell merely by looking that someone :				
is HIV positive	109	33.9	108	27.6
has AIDS	260	80.8	295	75.5

Of note was the finding that almost a fifth (19.4%) of respondents thought that mosquitoes transmit HIV, 18.5% reported that HIV could be transmitted through kissing, 11.1% that HIV could be transmitted through touching an infected person and 17.4% reported that HIV could not be transmitted through breast feeding.

To quantify knowledge levels, a composite scale of knowledge scores was developed and applied as described in Chapter 4. Generally, knowledge about HIV and AIDS was high (mean knowledge score of 6.6 (SD = 1.2)). Knowledge levels differed with age, sector, employment status and level of education (Table 5.12). Knowledge was higher in the younger respondents, highest in communal and lowest in small-scale commercial sectors, and increased with increases in levels of education.

Table 5.12: General knowledge of HIV and AIDS by socio-demographic characteristics

Characteristic	n	Score*	SD	p-value	
Overall	713	6.6	1.2		
Sex	Male	322	6.7	1.2	0.271
	Female	391	6.6	1.3	
Age group	15–18	301	6.8	1.3	0.002
	19–24	412	6.5	1.2	
Sector	Communal	327	6.9	1.1	<0.001
	Resettlement	168	6.6	1.3	
	Large-scale commercial	121	6.5	1.2	
	Small-scale commercial	37	5.6	1.3	
	Urban	60	6.2	1.3	
Level of education	No schooling	8	6.1	1.4	<0.001
	Primary school	200	6.3	1.3	
	Secondary school	496	6.8	1.2	
	Tertiary non-degreed	9	6.8	0.4	
Employment	Yes	102	6.4	1.0	0.050
	No	611	6.7	1.3	

* Maximum possible score was 8.0

5.4.3.1. Knowledge of routes of transmission

The majority of respondents were aware of the correct modes of transmission of HIV. Of note, 12.3% of respondents reported that HIV could not be transmitted through oral sex, while only 31.4% reported that donating blood could get one infected. Almost 17% reported that HIV could be transmitted through sharing a cigarette or drinking from the same cup with an infected individual.

To quantify the knowledge of HIV transmission, a composite scale of knowledge scores was developed and applied as described in Chapter 4. Generally the respondents were knowledgeable (mean knowledge score of 9.5 (SD = 2.2)) on HIV/AIDS transmission (Table 5.13). Knowledge levels were higher among males, lowest in the small-scale commercial sector and increased with level of education.

Table 5.13: Knowledge of HIV transmission by socio-demographic characteristics

Characteristic	n	Score*	SD	p-value	
Overall	713	9.5	2.2		
Sex of respondent	Male	322	9.7	2.0	0.025
	Female	391	9.4	2.3	
Age group	15–18	301	9.7	2.2	0.130
	19–24	412	9.4	2.2	
Sector	Communal	327	9.9	2.0	<0.001
	Resettlement	168	9.2	2.4	
	Large-scale commercial	121	9.4	2.2	
	Small-scale commercial	37	8.1	2.5	
	Urban	60	9.8	2.1	
Level of education	No schooling	8	9.1	1.6	<0.001
	Primary school	200	8.7	2.4	
	Secondary school	496	9.9	2.0	
	Tertiary non-degreed	9	10.2	0.8	
Employment	Yes	102	9.3	2.2	0.321
	No	611	9.6	2.2	
Household situation	Not enough money for basics like food and clothes	434	9.4	2.4	0.211
	Have money for food and clothes, but short on many other things	154	9.6	2.0	
	Have most of the important things, but few luxuries	112	10.0	1.7	
	Have some money for extra things such as holidays and luxury goods	4	10.8	1.3	
	None of the above	7	9.4	2.5	

* Maximum possible score was 13.0

5.4.3.2. Knowledge of protective measures

Table 5.14 shows the ways in which respondents thought they could protect themselves from getting infected with HIV. Most of the respondents mentioned consistent and correct use of condoms, avoiding penetrative sex and faithfulness to one partner as the preventive measures. There were no differences in knowledge between males and females.

Table 5.14: Responses to questions on knowledge of HIV prevention

People can protect themselves from HIV if they:	Males N=322		Females N=391	
	n	Yes (%)	n	Yes (%)
Use a condom consistently and correctly every time they have sex	268	83.2	319	81.6
Do not have penetrative sex	232	72.1	264	67.5
Only have sex with someone you really love *	77	23.9	84	21.5
Have sex with only one partner	137	42.6	175	44.8
Are faithful to one partner	230	71.4	268	68.5
Take certain medicines*	43	13.4	48	12.3
Have sex with a virgin*	67	20.8	65	16.6
Wash well after having sex*	38	11.8	38	9.7
Do not touch other people's blood	221	68.6	256	65.5
Do not share needles/razor blades	270	83.9	313	80.1

* incorrect responses

Knowledge levels on HIV prevention were quantified as described in Chapter 4. Generally, knowledge on HIV/AIDS was high with a mean knowledge score of 7.5 out of a possible 10. There were no sex, age, educational, sectoral nor household economic differences in knowledge.

5.4.4. Awareness of HIV/AIDS prevention and care services

Overall, 31.6% of youth were aware of prevention and care services available in their communities. Slightly more males (33.6%) than females (29.6%) knew about such services but the difference was not statistically significant. The range of HIV/AIDS prevention and care services that the respondents knew included home-based care (HBC) programmes, HIV/AIDS support groups, nutrition programmes, VCT and PPTCT services.

More than half of respondents (51.3%) knew where VCT services could be obtained, with more than half of these being female (Table 5.15). A higher proportion of older youth (19–24 years) knew of VCT services than younger youth, while knowledge increased with increases in levels of education.

Table 5.15: Knowledge about availability of VCT services by selected demographic characteristics

Variable	N	Yes n (%)	p-value
Total	713	366 (51.3)	
Sex of respondent			
Male	322	160 (49.7)	0.426
Female	391	206 (52.7)	
Age groups			
15–18	301	127 (42.2)	<0.001
19–24	412	239 (58.0)	
Sector			
Communal	327	162 (49.5)	0.485
Resettlement	168	84 (50.0)	
Large-scale commercial	121	62 (51.2)	
Small-scale commercial	37	23 (62.2)	
Urban	60	35 (58.3)	
Level of education			
No schooling	8	2 (25.0)	0.043
Primary school	200	89 (44.5)	
Secondary school	496	270 (54.4)	
Tertiary non-degreed	9	5 (55.6)	

5.4.5. Sexual behaviour

To assess sexual behaviour and practices respondents were asked about sexual intercourse, condom use, type and number of partners, among others. Half of the 713 respondents (50.9%) reported ever having had sex. Overall, the mean (SD) age at first sexual encounter was 17.9 (2.4) years. The mean age of first sexual encounter was 18.0 (2.0) years among females and 17.6 (3.0) years among males ($p < 0.001$).

Table 5.16 shows that a higher proportion of females compared to males reported ever having had sex ($p < 0.001$). The table also shows that reports of ever having had sex were higher among both males and females in the 19–24 years compared to 15–18 years age group. Furthermore, the history of sexual encounter was similar among males and females aged 15–18 years. In contrast, among those aged 19–24 years, a significantly higher proportion of females compared to males reported ever having sex ($p < 0.001$).

Table 5.16: Ever had sex by age and sex

Characteristic	Age group				Total	
	15–18		19–24		Combined (15–24)	
	N	n (%)	N	n (%)	N	n (%)
Sex of respondent						
Male	158	38 (24.1)	164	102 (62.2)	322	140 (43.5)
Female	143	30 (21.0)	248	193 (77.8)	391	223 (57.0)

Table 5.17 shows that the highest proportions of respondents reporting ever having had sex were from large- and small-scale commercial sectors and the lowest from the communal sector. Stratifying by age group revealed a similar trend among the 19–24 year old respondents, whereas among the 15–18 year olds the lowest proportion was in the urban sector.

Table 5.17: Ever had sex by age and sector

Sector	Age group				Total	
	15–18		19–24		15–24	
	N	n (%)	N	n (%)	N	n (%)
Communal	174	33 (19.0)	153	101 (66.0)	327	134 (41.0)
Resettlement	61	14 (23.0)	107	76 (71.0)	168	90 (53.6)
Large-scale commercial	37	15 (40.5)	84	68 (81.0)	121	83 (68.6)
Small-scale commercial	15	5 (33.3)	22	20 (90.9)	37	25 (67.6)
Urban	14	1 (7.1)	46	30 (65.2)	60	31 (51.7)

5.4.5.1. Self-reported secondary abstinence

Secondary abstinence refers to the discontinuation of sexual activity for periods of time after initial sexual experience. Respondents reporting ever having sex were asked whether they had had a sexual partner in the last 12 months to assess *secondary abstinence* over the one year period among the single/never married, divorced/separated or widowed. Of the 363 respondents who reported ever having had sex, 147 were single/never married, divorced/separated or widowed. The overall prevalence of secondary abstinence was 62.6%. Secondary abstinence was higher among females (74.4%) than males (57.7%).

5.4.5.2. HIV prevalence of respondents who reported never having sex before

Overall, 346 (48.5%) of respondents reported never having had sexual intercourse. Of these 52.0% were males. As shown in Table 5.18 the overall HIV prevalence among these respondents was 4.0% (95% CI: 2.2–6.7) and there was no difference between males and females.

Table 5.18: HIV prevalence among respondents who reported never having had sex before

Sex	N	HIV-positive n (%)	95% CI
Males	180	9 (5.0)	(2.3–9.3)
Females	166	5 (3.0)	(1.0–6.9)
Total	346	14 (4.0)	(2.2–6.7)

5.4.5.3. HIV prevalence by number of sexual partners

Of the 366 respondents reporting ever having sex, 78.4% reported that they had no current partner, 19.1% had one partner, while 2.5% had more than one partner. No associations were found between number of sexual partners and HIV prevalence, most likely due to small sample sizes.

5.4.5.4. Condom use

Use of condoms was assessed among the respondents. Overall, 31.1% of respondent reported ever using a condom. Reported condom use increased with age among both males and females. Similarly, sectoral but not educational differences in reported condom use were observed (Table 5.19).

Table 5.19: Reported condom use by selected characteristics

Variable	Male			Female		
	N*	n (%)	P	N*	n (%)	p
Age (years)						
15–18	154	25 (16.2)	<0.001	138	13 (9.4)	<0.001
19–24	163	84 (51.5)		248	101 (40.7)	
Sector						
Communal	152	42 (27.6)	0.004	168	41 (24.4)	0.006
Resettlement	73	32 (43.8)		93	25 (26.9)	
Large-scale commercial	54	27 (50.0)		66	27 (40.9)	
Small-scale commercial	18	5 (27.8)		19	11 (57.9)	
Urban	20	3 (15.0)		40	10 (25.0)	
Education Level						
No schooling	1	1 (100.0)	0.317	7	2 (28.6)	0.904
Primary school	71	21 (29.6)		126	38 (30.2)	
Secondary school	239	86 (36.0)		250	74 (29.6)	
Tertiary non-degreed	6	1 (16.7)		3	0 (0.0)	

* 5 females and 5 males did not respond to the question and are not included in this analysis

5.4.5.5. HIV prevalence by condom use

Overall 222 (31.1%) of respondents reported ever using a condom. HIV prevalence was similar between respondents reporting ever using a condom (9.9%) and those who had never used a condom (9.1%). None of the ten who did not respond were infected. Table 5.20 shows prevalence of HIV by condom use among males and females. There was no difference in HIV prevalence among males and females who reported ever using or not ever using a condom.

Table 5.20: HIV prevalence by condom use and sex

Used condoms	Male			Female			Total	
	N	n (%)	95% CI	N	n (%)	95% CI	N	n (%)
Yes	108	6 (5.6)	2.1–11.7	114	16 (14.0)	8.2–21.8	222	22 (9.9)
No	209	12 (5.7)	3.0–9.8	272	32 (11.8)	8.2–16.2	481	44 (9.1)
Not stated	5	–	–	5	–	–	10	–

Table 5.21 shows that the proportion of respondents who reported ever using a condom by sector in relation to HIV prevalence. Sectors recording higher rates of condom use were associated with higher HIV prevalence rates, but the differences were not significant.

Table 5.21: HIV prevalence and condom use by sector

Sector	N	Ever used a condom		N	HIV prevalence*	
		n (%)	p		n (%)	p
Communal	320	82 (25.6)		82	6 (7.3)	
Resettlement	166	57 (34.3)		57	7 (12.3)	
Large-scale commercial	120	54 (45.0)	<0.001	54	6 (11.1)	0.830
Small-scale commercial	37	16 (43.2)		16	2 (12.5)	
Urban	60	13 (21.7)		13	1 (7.7)	

* HIV prevalence was only among those who used condoms

5.4.5.6. Selective use of condoms

Of the 222 respondents who reported ever using a condom, 13.1% selectively used condoms with some sexual partners and not with others. Most of the respondents who selectively used condoms were living in the communal areas. There was no association between reported selective use of condoms and level of education.

5.4.5.7. Condom use during the last sexual encounter

Of the 222 who had ever used condoms 53.2% reported that they had used condoms the last time they had sex. Table 5.22 shows that the majority of males and around one third of the females in both age groups had used condoms during their last sexual encounter. Condom use did not vary by sector and educational level for both males and females. When condom use was assessed among the respondents reporting ever having discussed

HIV prevention with their partners, the results show that a higher proportion of females who had discussed HIV prevention used condoms the last time they had sexual intercourse compared to those who had not.

Table 5.22: Condom use during the last sexual intercourse by characteristics of respondents

Variable	Male			Female			Total	
	Used condom		p	Used condom		p	N*	n (%)
	N*	n (%)		N*	n (%)			
Age (years)								
15–18	25	22 (88.0)	0.056	13	4 (30.8)	0.781	38	26 (68.4)
19–24	83	57 (68.6)		101	35 (34.7)		184	92 (50.0)
Sector								
Communal	41	34 (82.9)	0.188	41	14 (34.2)	0.265	82	48 (58.5)
Resettlement	31	19 (61.3)		24	10 (41.7)		55	29 (52.7)
Large-scale commercial	27	18 (66.7)	0.188	27	6 (22.2)	0.265	54	24 (44.4)
Small-scale commercial	5	5 (100.0)		10	6 (60.0)		15	11 (73.3)
Urban	3	3 (100.0)		10	3 (30.0)		13	6 (46.2)
Education Level								
No schooling	1	1 (100.0)	0.141	2	0 (0.0)	0.423	3	1 (33.3)
Primary school	21	14 (66.7)		38	11 (28.2)		59	25 (42.4)
Secondary school	84	64 (76.2)	0.141	72	28 (37.8)	0.423	156	92 (59.0)
Tertiary non-degreed	1	0 (0.0)		0	0 (0.0)		1	0 (0.0)
Discussed HIV prevention with partner								
Yes	65	48 (73.9)	0.674	71	30 (42.3)	0.076	136	78 (57.4)
No	40	31 (77.5)		33	8 (24.2)		73	39 (53.4)

* N indicates only those who reported having sexual intercourse in past 12 months.

5.4.5.8. Reasons for reported condom use

Respondents who reported that they had used condoms the last time they had sex were asked to state the main reasons why they used the condoms. The majority (69.5%) of respondents indicated prevention of pregnancy as the main reason. However, 44.9% and 37.3% of the respondents reported that they used condoms because they wanted to prevent STIs and that they did not know the HIV status of their partners, respectively (Table 5.23).

Table 5.23: Reasons for condom use

Main reasons for condom use	Male N=79		Female N=39		Total N=118	
	n	%	n	%	n	%
Didn't know HIV status of partner	32	40.5	12	30.8	44	37.3
Didn't know sexual history of partner	7	8.9	2	5.1	9	7.6
Saw/heard messages urging people to use condoms	7	8.9	2	5.1	9	7.6
Wanted to prevent STIs	39	49.4	14	35.9	53	44.9
Wanted to prevent pregnancy	55	69.6	27	69.2	82	69.5
Other reasons	3	3.8	0	0.0	3	2.5

* Multiple responses were possible

Table 5.24 shows the distribution of various sources of condoms by age group and sector. The table shows that public clinics and hospitals were the most common source of condoms for both 15–18 (55.3%) and 19–24 years old youths (66.9%). Only respondents who were living in the large-scale commercial areas cited the workplace as source of condoms. More females than males mention public health centres as the most common source of condoms (Table 5.24).

Table 5.24: Sources of condoms by age and by locality type

Sources of condoms	Communal N=82	Resettlement N=57	Large-scale commercial N=54	Small-scale commercial N=16	Urban N=13	Total N=222
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Public clinic/hospital	48 (58.5)	39 (68.4)	39 (72.2)	8 (50.0)	10 (76.9)	144 (64.9)
Private clinic/hospital	13 (15.9)	5 (8.8)	8 (14.8)	7 (43.8)	0 (0.0)	33 (14.9)
Pharmacy	5 (6.1)	3 (5.3)	0 (0.0)	1 (6.3)	1 (7.7)	10 (4.5)
Shops	27 (32.9)	18 (31.6)	16 (29.6)	5 (31.3)	8 (61.5)	74 (33.3)
Tuck shops	5 (6.1)	6 (10.5)	2 (3.7)	0 (0.0)	2 (15.4)	15 (6.8)

Shebeens	2 (2.4)	0 (0.0)	0 (0.0)	0 (0.0)	1 (7.7)	3 (1.4)
Work place	0 (0.0)	0 (0.0)	8 (14.8)	0 (0.0)	0 (0.0)	8 (3.6)
Condom campaigns	0 (0.0)	1 (1.8)	1 (1.9)	0 (0.0)	0 (0.0)	2 (0.9)
Community-based health workers	9 (11.0)	7 (12.3)	14 (25.9)	2 (12.5)	2 (15.4)	34 (15.3)
Other	4 (4.9)	2 (3.5)	2 (3.7)	1 (6.3)	0 (0.0)	9 (4.1)

Table 5.25: Sources of condoms by age and by sex

Sources of condoms	Males N=108		Females N=114	
	n	(%)	n	(%)
Public clinic/hospital	64	59.3	80	70.2
Private clinic/hospital	16	14.8	17	14.9
Pharmacy	7	6.5	3	2.6
Shops	44	40.7	30	26.3
Tuck shops	13	12.0	2	1.8
Shebeens	2	1.9	1	0.9
Work place	7	6.5	1	0.8
Condom campaigns	2	1.9	0	0.0
Community-based health workers	19	17.6	15	13.2
Other	3	2.8	6	5.3

Table 5.26 shows that overall, 45.4% of the respondents reported having access to condoms when they needed them. A higher proportion of males (50.0%) had access to condoms compared to females (41.7%) though the difference was not statistically significant. Respondents in the 19–24 year age group reported better access to condoms when compared with those in the 15–18 age group (56.1 vs 30.9%; $p>0.05$). Respondents in the large-scale commercial (59.5%) and urban (58.3%) sectors had better access to condoms compared to the other sectors but the differences were not significant.

Table 5.26: Responses to the question: 'Should you need a condom, is it possible to get one?'

Demographic variable	N	Yes to access to condoms	95% CI
Sector			
Communal	327	123 (37.6)	32.3–43.1
Resettlement	168	76 (45.2)	37.6–53.1
Large-scale commercial	121	72 (59.5)	50.2–68.3
Small-scale commercial	37	18 (48.7)	32.0–65.6
Urban	60	35 (58.3)	44.9–70.9

5.4.5.9. HIV prevalence by self-reported history STIs and other HIV-related illnesses

A very small minority (4.1%) of respondents reported that they had at least one STI in the past three months. The prevalence of reported STIs was similar between males (4.0%) and females (4.1%). The most commonly reported STI among both males and females was abnormal genital discharge accounting for more than half the reported STIs.

The overall HIV prevalence among those reporting a history of STI was 13.8% compared to 9.1% among those not reporting but the difference was not statistically significant. None of the males reporting a history of STI were HIV-positive while 5.8% of those not reporting a STI were infected. In contrast, HIV prevalence was twice as high (25.0%) among females who reported a history of STI compared to those who did not (11.7%).

5.4.5.10. HIV prevalence by risk perception

The respondents were asked to rate their chances of becoming HIV-infected, i.e. perceived level of risk. More than a third (39.0%) thought that they were definitely *going to be infected with HIV* and 30.3% indicated that they were *probably going to be infected*. Close to half (49.6%) of the respondents believed that they were at low risk of infection because they never had sex before and 13.8% indicated they were now abstaining from sex. HIV prevalence was significantly higher ($p=0.034$) among respondents who acceded to a possibility of being infected (13.0%) compared to those who believed they would not get infected (7.9%).

5.4.5.11. Self-reported HIV testing

Overall, 61 of the respondents reported that they had had an HIV test before and of these 22 were males. Of those reporting having been tested, 47 were informed of their HIV status. A higher proportion of males (19/22) than females (28/39) reported having been informed about their HIV status.

The most commonly cited reasons for going for an HIV test were *just wanted to know their status* (31.2%) *and that respondent became pregnant* (19.7%). Other reasons cited are shown in Table 5.27.

Table 5.27: Reasons for undergoing a HIV test

Reasons given for going for an HIV test (N=61)	Frequency	%
Felt like it; he/she wanted to know their status	19	31.2
Respondent became pregnant	12	19.7
Was planning to have a baby	6	9.8
Was planning to get married	5	8.2
Wanted to start a new sexual relationship	4	6.6
Was instructed by the employer	3	4.9
Respondent was sick	2	3.3
Had other reasons	15	24.6

* Multiple responses were possible

5.4.5.12. HIV prevalence by self-reported HIV testing

HIV prevalence was higher among males who had been tested for HIV before compared to those who had not been tested, while the reverse was true among females (Table 5.28). However, the differences were not statistically significant.

Table 5.28: HIV prevalence by HIV testing

Characteristic	Male			Female		
	N	n (%)	p	N	n (%)	p
Ever been tested for HIV						
Yes	22	2 (9.1)	0.356	39	2 (5.1)	0.201
No	298	16 (5.4)		351	46 (13.1)	

5.4.5.13. HIV prevalence by circumcision/rites of passage

Out of 322 males, 18 (5.6%) reported having been circumcised. The mean (SD) age at circumcision was 7.1 (6.0) years. Half of them were circumcised at home, 38.9% in hospital and the rest elsewhere. Of the 391 females, 85 (21.7%) had undergone an initiation/coming of age ritual and 14.1% of these had been circumcised at a mean (SD) age of 15.4 years.

HIV prevalence was similar between males reporting or not reporting circumcision (5.6% vs 5.6%) respectively, and between females reporting or not reporting virginity testing (14.8% vs 12.9%).

5.4.5.14. Self-reported behaviour change

Respondents were asked about the impact of the HIV/AIDS epidemic on their behaviour and how they had changed in the last few years. Table 5.29 shows that more males than females reported that they had changed their behaviour. More than two-fifths of males (41.6%) and females (41.5%) indicated that they had only one partner or were being faithful to their partners and almost similar proportions were abstaining from sex. More females than males reported abstinence but there were no statistically significant differences. Significantly, more males than females mentioned that they always used condoms as a prevention method every time they had sex.

Table 5.29: Self-reported behaviour change due to HIV/AIDS by sex

Behaviour change	Males N=322		Females n=391		p-value
	n	Yes %	n	Yes %	
Have changed sexual behaviour in the last few years	149	46.3	135	34.5	0.001
Self-reported behaviour change	N=149		N=135		
Abstain from sex	60	40.3	59	43.7	0.558
Have only one partner/being faithful	62	41.6	56	41.5	0.982
Always use condoms	46	30.9	27	20.0	0.036
Partner and respondent had HIV test before they had sex	1	0.7	3	2.2	0.268
Healthier dietary habits	2	1.3	3	2.2	0.573
Rely on their ancestors to protect them	1	0.7	0	0.0	0.340
Have reduced the number of their sexual partners	10	6.7	3	2.2	0.071
Choose only healthy looking partners	2	1.3	0	0.0	0.177
Don't share needles/razor blades	13	8.7	21	15.6	0.077
Other	6	4.0	8	5.9	0.460

5.4.5.15. Prevalence of HIV by self-reported change of behaviour

The respondents were asked if they had changed their behaviour in the face of HIV and AIDS. Almost two-fifths (39.8%) of the respondents indicated that they had changed their behaviour. Self-reported behaviour change was not associated with HIV prevalence (Table 5.30).

Table 5.30: Prevalence of HIV by self-reported change of behaviour in the last few years

Change of behaviour	Males			Females		
	N	n (%)	p	N	n (%)	p
Yes	149	7 (4.7)	0.606	135	18 (13.3)	0.902
No	93	7 (7.5)		146	17 (11.6)	
Not stated	80	4 (5.0)		109	13 (11.9)	

5.4.6. Stigma and discrimination

An assessment of the level of stigma and discrimination against people living with HIV and AIDS (PLWHA) was done using a number of questions. Table 5.31 shows that more than half the respondents agreed that a woman would be foolish to marry a man with HIV/AIDS, and women with HIV/AIDS cannot be trusted as babysitters. More than 70% of

both males and females agreed that *one of the main reasons people become HIV infected is being weak and foolish*. Also, more than a tenth of both males and females were neutral on the statement that they *would have problems having protected sex with partner who has HIV/AIDS*.

Table 5.31: Responses that show the stigmatisation and discrimination of PLWHA

Stigmatising statements	Male N=322						Female N=391					
	Agree		Neu- tral		Dis- agree		Agree		Neu- tral		Dis- agree	
	N	%	N	%	N	%	N	%	N	%	N	%
Would not buy from shopkeeper who is HIV-positive	76	23.6	11	3.4	235	73.0	91	23.3	13	3.3	287	73.4
Woman would be foolish to marry a man with HIV/AIDS	167	51.9	25	7.8	130	40.4	199	50.9	26	6.7	166	42.5
Women with HIV/AIDS cannot be trusted as babysitters	167	51.9	20	6.2	135	41.9	217	55.5	33	8.4	140	35.8
One of the main reasons people become HIV is being weak and foolish	237	73.6	20	6.2	64	19.9	274	70.1	34	8.7	83	21.2
Government should not introduce extra levy or tax for HIV/AIDS	85	26.4	29	9.0	208	64.6	104	26.6	42	10.7	244	62.4
Would have problems having protected sex with partner who has HIV/AIDS	124	38.5	44	13.7	154	47.8	145	37.1	71	18.2	174	44.5
Waste of money to train/promote someone with HIV/AIDS	89	27.6	14	4.4	218	67.7	113	28.9	15	3.8	263	67.3
People who have HIV cannot be trusted	149	46.3	28	8.7	143	44.4	202	51.7	36	9.2	150	38.4
People with HIV/AIDS should use separate eating utensils to prevent infections	105	32.6	7	2.2	208	64.6	100	25.6	20	5.1	271	69.3



HIV-positive children should be kept separate from other children	95	29.5	10	3.1	217	67.4	93	23.8	32	8.2	266	68.0
People who have AIDS should expect some restrictions on their freedoms	61	18.9	11	3.4	250	77.6	79	20.2	31	7.9	281	71.9

The respondents were asked how stigma and discrimination could be reduced. Table 5.32 shows that more than half, of both males and females, stated that *teaching people to understand how HIV is transmitted* could reduce stigma. The least mentioned way of reducing stigma was *by a popular person disclosing his/her HIV status* and this was true for both males (2.7%) and females (0.8%). Almost a quarter of the females (24.8%) believed that *treating HIV and AIDS like any other disease* is a sure way of reducing stigma.

Table 5.32: Possible ways of reducing stigma of HIV/AIDS stratified by sex

Ways to reduce stigma	Males N=322		Females N=391	
	n	%	n	%
Teaching people to understand how HIV is transmitted	189	58.7	219	56.0
Having an accurate knowledge of HIV	99	30.8	95	24.3
By a popular person disclosing his/her HIV status	12	2.7	3	0.8
Treating HIV and AIDS like any other disease	65	20.2	97	24.8
When there is treatment for people with HIV or AIDS	24	7.5	22	5.6
When leaders in the community associate with PLWHA	20	6.2	24	6.1
When all the people with HIV/AIDS disclose their status	13	4.0	8	2.1
Making VCT sites available and persuading people to get tested	17	5.3	26	6.7

5.4.6.1. Discussion: Stigma and discrimination

This study has shown that the majority of respondents did not express stigmatising or discriminatory remarks to PLWHA. However, stigma remains a concern especially considering the relatively large number in the neutral category. Intensification of education efforts is paramount to tip the balance towards non-stigmatising attitudes. Therefore, advocacy organisations need to redouble efforts to further reduce stigma and discrimination, cognisant that this will contribute towards not only reducing impact but also transmission of HIV.

5.4.7. Awareness of HIV and AIDS services

5.4.7.1. Home-based care

Awareness about home-based care (HBC) services directed at PLWHA and OVC in their communities was assessed.

5.4.7.2. HBC directed at PLWHA

Overall, 26.5% of respondents were aware of HBC services in their communities. Table 5.33 shows that more males than females knew about HBC services. There were no sectoral differences in awareness among both males and females, though males from urban and communal sectors and females from SSC tended to have better awareness. Awareness tended to increase with increases in levels of education in both sexes.

Table 5.33: Proportion of people who are aware of HBCP directed towards PLWHA in community

Variable	Male			Female			Total	
	n	Yes (%)	p	n	Yes (%)	p	n	Yes (%)
Total	321	92 (28.7)		390	97 (24.9)		713	189 (26.5)
Age								
15–18	158	52 (32.9)	0.097	143	28 (19.6)	0.066	301	80 (26.6)
19–24	163	40 (24.5)		247	69 (27.9)		412	109 (26.5)
Sector								
Communal	154	49 (31.8)	0.650	171	46 (26.9)	0.083	327	95 (29.1)
Resettlement	75	19 (25.3)		93	18 (19.4)		168	37 (22.0)
Large-scale commercial	54	13 (24.1)		67	13 (19.4)		121	26 (21.5)
Small-scale commercial	18	4 (22.2)		19	9 (47.4)		37	13 (35.1)
Urban	20	7 (35.0)		40	11 (27.5)		60	18 (30.0)
Education level								
No schooling	1	0 (0.0)	0.092	7	2 (28.6)	0.166	8	2 (25.0)
Primary school	72	14 (19.4)		127	26 (20.5)		200	40 (20.0)
Secondary school	242	75 (31.0)		253	67 (26.5)		496	142 (28.6)
Tertiary non-degreed	6	3 (50.0)		3	2 (66.7)		9	5 (55.6)



Religion								
Catholic	16	5 (31.3)		18	6 (33.3)		34	11 (32.4)
Protestant	68	22 (32.4)		73	24 (32.9)		142	46 (32.4)
Pentecostal	78	18 (23.1)		104	20 (19.2)		182	38 (20.9)
Apostolic sects	96	25 (26.0)	0.354	157	39 (24.8)	0.166	254	64 (25.2)
Moslem	3	2 (66.7)		1	0 (0.0)		4	2 (50.0)
Traditional/ African	12	5 (41.7)		6	3 (50.0)		18	8 (44.4)

Table 5.34 shows the reported HBC service providers in Chimanimani district. Almost half (48.2%) cited CBOs as providers, over a third mentioned FBOs and over a quarter of respondents mentioned NGOs as HBC service providers.

Table 5.34: Reported providers of HBCP services directed towards PLWHA in community

Provider (N=189)	n	%
Faith-based organisations	68	36.0
Community-based organisations	91	48.2
NGOs	53	28.0
Women's groups	32	16.9
Youth groups	7	3.7
Other	30	15.9

Table 5.35 shows the support provided to PLWHA. Food, home visits and health supplies were the most commonly cited support.

Table 5.35: Cited types of support provided for PLWHA

Kind of support	Support provided N=189	
	N	%
Money	39	20.6
Medicine	56	29.6
Other health care supplies	67	35.5
Training of family members	40	21.2
Assistance with care tasks	34	18.0
Material things	43	22.8
Home visits	77	40.7
Emotional support for the sick family member	29	15.3



Emotional support for the caregiver	25	13.2
Food	137	72.5
Other	6	3.2

Respondents were asked what kind of support they would most have liked to receive for the sick person in their household. The types of assistance mentioned were money (30.5%), food (27.1%) and medicine (15.3%). The rest cited other forms of support.

5.4.7.3. HBCP directed at OVC

Overall 56.5% of respondents were aware of HBC services for OVC. More males than females knew about HBC programmes directed towards OVC in the community. Awareness was higher among males in the age group 15–18 compared to those 19–24 years. There were no age differences in awareness among women. However, sectoral differences were observed among females, with the highest awareness levels being recorded in SSC followed by communal and resettlement sectors. Generally, awareness increased with increases in levels of education up to secondary education (Table 5.36).

Table 5.36: Proportion of people who are aware of HBCP directed towards OVC in community

Variable	Male			Female			Total	
	N	n (%)	p	N	n (%)	p	N	n (%)
Total	321	181 (56.4)		390	218 (55.9)		713	399 (56.0)
Age								
15–18	158	99 (62.7)	0.026	143	79 (55.2)	0.843	301	178 (59.1)
19–24	163	82 (50.3)		247	139 (56.3)		412	221 (53.6)
Sector								
Communal	154	89 (57.8)		171	105 (61.4)		327	194 (59.3)
Resettlement	75	45 (60.0)		93	53 (57.0)		168	98 (58.3)
Large-scale commercial	54	24 (44.4)	0.417	67	27 (40.3)	0.005	121	51 (42.2)
Small-scale commercial	18	11 (61.1)		19	15 (79.0)		37	26 (70.3)
Urban	20	12 (60.0)		40	18 (45.0)		60	30 (50.0)
Education level								
No schooling	1	0 (0.0)		7	3 (42.9)		8	3 (37.5)
Primary school	72	37 (51.4)		127	60 (47.2)		200	97 (48.5)
Secondary school	242	143 (59.1)	0.058	253	154 (60.9)	0.037	496	297 (59.9)
Tertiary non-degree	6	1 (16.7)		3	1 (33.3)		9	2 (22.2)



Religion								
Catholic	16	8 (50.0)	0.204	18	11 (61.1)	0.227	34	19 (55.9)
Protestant	68	46 (67.7)		73	49 (67.1)		142	95 (66.9)
Pentecostal	78	42 (53.9)		104	55 (52.9)		182	97 (53.3)
Apostolic sects	96	50 (52.1)		157	82 (52.2)		254	132 (52.0)
Moslem	3	3 (100.0)		1	0 (0.0)		4	3 (75.0)
Traditional/African	12	8 (66.7)		6	3 (50.0)		18	11 (61.1)

The integrated HBC service providers cited were NGOs (41.3%), FBOs (41.1%), CBOs (24.7%), women's groups (6.3%) and others. The major forms of support for OVC were reported as food and material things (Table 5.37)

Table 5.37: Cited types of support provided for OVC in community

Kind of support	Support provided N=396	
	n	%
Food	350	88.4
Material things	199	50.3
Money	161	40.7
Home visits	60	15.2
Medicine	24	6.1
Other health care supplies	23	5.8
Training of family members	22	5.6
Emotional support for the caregiver	17	4.3
Assistance with care tasks	13	3.3
Emotional support for the sick family member	10	2.5
Other	46	11.6

5.4.7.4. Discussion: Awareness of HIV and AIDS services

The study has shown that there were no differences in awareness of the availability of HBC services for PLWHA and OVC in the community by age, sector, education level and religion. This implies that HBC as a concept was being accepted as an alternative to formal health care. The fact that almost half the respondents indicated that HBCP service providers in their communities were community-based organisations (48.2% for PLWHA) and faith-based organisations (41.1% for OVC) further supports this observation.

5.4.8. Perceptions about HIV and AIDS-related policies

Table 5.38 summarises youths' perceptions on HIV/AIDS policies. Overall, the majority of youth agreed that political leaders were committed to controlling HIV/AIDS and that they publicly acknowledged the problem. However, a larger proportion of males and females disagreed with the statement that government allocates sufficient funds to control the spread of HIV. Over 50% of males and females agreed that the government was doing more for the treatment of PLWHA now than during the past five years.

Table 5.38: Respondents perceptions regarding HIV/AIDS related policies

Perception item	Males N=322						Females N=391					
	Agree		Neu- tral		Dis- agree		Agree		Neu- tral		Dis- agree	
	n	%	n	%	n	%	n	%	n	%	n	%
Political leaders are committed to controlling HIV/AIDS in this country	205	63.7	39	12.1	77	23.9	212	54.2	59	15.1	117	29.9
Political leaders publicly recognise the importance of HIV/AIDS	258	80.1	19	5.9	44	13.7	287	74.4	39	10.0	62	15.9
The government allocates sufficient funds to control the spread of HIV infections	122	37.9	48	14.9	151	46.9	134	34.3	84	21.5	170	43.5
Government is doing more this year treating PLWHA than during the last five years	178	55.3	60	18.6	83	25.8	208	53.2	88	22.5	92	23.5

Table 5.39 shows the perceptions about HIV/AIDS related policies by sector. Generally, respondents from the urban sector had negative opinions about commitment of political leadership, government's financial support and government's efforts on improving treatment for PLWHA. In most instances (over 50%) of respondents from other sectors responded positively.

Table 5.39: Respondents' perceptions regarding political commitment to HIV/AIDS by sector

Commitment	Sector					Total
	Communal (N=327)	Resettlement (N=168)	Small-scale commercial (N=121)	Large-scale commercial (N=37)	Urban (N=60)	N=713
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Political leaders are committed to controlling HIV/AIDS	182 (55.7)	98 (58.3)	79 (65.3)	30 (81.1)	28 (46.7)	417 (58.5)
Political leaders publicly recognise the importance of HIV/AIDS	252 (77.1)	127 (75.6)	95 (78.5)	29 (78.4)	42 (70.0)	545 (76.4)
The government allocates sufficient funds to control the spread of HIV infections	101 (30.9)	69 (41.1)	52 (43.0)	17 (46.0)	17 (28.3)	256 (35.9)
The government is doing more this year treating PLWHA than during the last five years	166 (50.8)	102 (60.7)	73 (60.3)	28 (75.7)	17 (28.3)	386 (54.1)

5.4.8.1. Discussion: Perception about HIV and AIDS policies

The role of leadership in efforts to curb the spread of HIV and AIDS is emphasised strongly in contemporary public health discourse. Opinions regarding the extent to which leaders in Zimbabwe were considered to be politically committed to combat the epidemic, recognised the problem and allocated resources were assessed. The results show that political leaders were committed to controlling HIV/AIDS and that they publicly recognised the problem of HIV and AIDS. However, the allocation of funds to the health sector has been noted to fall far too short of the requirements. These opinions can be taken as proxies for measures that reflect the practical reality but caution should be taken as spurious variables, such as political affiliation, might have influenced the responses. Leaders (in political circles and civil society) have a role to create and/or encourage supportive attitudes and responses to the pandemic. In particular, leaders can publicly acknowledge that they are personally affected by the epidemic or disclose their status. According to SAFAIDS (2002), experiences the world over show that leaders make a difference by discussing HIV and AIDS openly and sensitively and then taking action.

5.5. Conclusions

The aim of this part of the study was to relate HIV prevalence to KABP among youth aged 15–24 years. KABP and HIV prevalence were also related to various socio-demographic variables, in a bid to find explanations and build knowledge in the contextual understanding of the epidemic in Zimbabwe. In addition, the results of the BSS would serve as a basis for policy decision-making and implementation of interventions that are intended to mitigate problems associated with HIV and AIDS.

The results in this study are based on random sampling of wards and households in the whole district. The employment of this method makes the sample representative of the whole district and therefore can be generalised across the population in Chimanimani. Thus, generalised conclusions can be made from the results of this study:

- Most households reported that they did not have enough money for basic needs, signifying that poverty is a major problem in the community. Coupled with poverty is the fact that most of the respondents mentioned 'food' as the main need for OVC.
- The level of literacy is relatively high with 70% of respondents having reached secondary school and above. This is an important factor to consider in developing communication strategies for HIV/AIDS programmes.
- There is a problem of orphans in the district. The higher proportion of paternal orphanhood implies that more men than women are dying.
- Most of the respondents in the 15–24 age group were single and never married and this is indicative of the decrease in early marriages, especially among females.
- The dominant religion was the Apostolic sect. Thus, HIV/AIDS programmes need to be cognisant of the role of religion in the socialisation process (in shaping the perceptions, attitudes, beliefs, sexual practices, responses to external support and their general life-worlds around HIV and AIDS).
- Traditional rites of passage were practised more among teenage girls than boys and this signifies the resilience of cultural concerns about maintaining chastity in unmarried girls in the community.
- The dependency burden (under the age of 18 years) reported by the respondents is quite significant (31.7% with mean number of dependants of 2.3). Most of the respondents who carry this burden were females, thus confirming findings from other studies that women are the primary caregivers of OVC.
- Alcohol abuse was not reported as a problem in the district.
- HIV prevalence differed amongst males and females and sectors, and was also significantly high among those who were married compared to those who were single/never married.
- The findings provide important insights into understanding behaviour and practices that predispose people to the risk of HIV infection and so will assist in informing intervention and policy formulation in relation to prevention, care, and support.
- The findings also provide a basis for forecasting of estimates of HIV prevalence and the possible impacts. Thus, the findings can be used in the planning of mitigatory initiatives and other strategies for prevention of new infections, behavioural change, care and treatment for people living with HIV/AIDS and for reducing the impact of HIV and AIDS.
- This study demonstrated the gender differences in the impact of the epidemic, with higher HIV prevalence among females compared to males. The differences may also be attributable to the economic situation of women who are by and large dependent on men, and due to engendered power differences cannot decide on prevention methods.
- A much lower proportion of females reported ever using a condom compared to males. Some social explanations of the differences centre on gender inequality, especially around condom use within and outside marriage.

- The levels of knowledge and awareness of the important aspects of HIV/AIDS were quite high in the surveyed population.
- General knowledge about HIV and AIDS was relatively high but specific knowledge about transmission was low. In contrast to the latter, knowledge of ways of protecting self was relatively high. These specific intervention areas need to be strengthened.
- There are however, some aspects of knowledge that need to be addressed, especially those that demonstrate the resilience of culture. Issues include the following incorrect knowledge and perceptions: HIV transmission and kissing; the witchcraft myth; that HIV can be prevented by taking certain medicines; that HIV can be cured by having sex with a virgin; and protection by only having sex with someone you really love, amongst others.
- Education was a determinant of knowledge. Knowledge increased with education, suggesting increased access to information and prevention intervention programmes as levels of education increased. Education may thus improve the person's ability to act on prevention and awareness messages.
- VCT services are not widely used and it is evident that these services are mainly used by females seeking antenatal care.
- Most youth had sex for the first time when they were in their teens and males were generally sexually active at an earlier age than females.
- Sexual activity was also determined by place of residence, with most of the sexually active youth living in the large and small-scale commercial sectors. The clustering of populations in these sectors increases exposure of youth to the risk of HIV infection.

5.6. Recommendations

- Early childhood education on HIV/AIDS and reproductive health should be supported in the district.
- Interventions to enhance awareness and knowledge about HIV/AIDS among youth should be strengthened, particularly in urban and communal sectors.
- Intervention initiatives should educate people on the predisposing factors of HIV infection.
- Multi-sectoral HIV prevention and care efforts in the community need to be supported and strengthened.
- Gender mainstreaming should be considered when designing intervention programmes because the gendered differences noted in this study are important.
- More has to be done to address HIV/AIDS information needs correctly and directly and these strategies should ideally use interactive communication methods. Research should be geared toward revealing the underlying factors in existing myths and misconceptions around HIV/AIDS and addressing them through cultural agents working at community level.
- Interventions for poverty alleviation should be considered. Income generating projects will go a long way towards reducing risk behaviour and risk of infection – economic and social empowerment of women should be emphasised.
- VCT services should be expanded and should promote wide usage and these should be extended to males, services should continue to encourage people to get tested even if they think their behaviour is not risky, and the promotion of personal motivation for VCT should be emphasised.
- The use of condoms should be promoted, emphasising correct and consistent use, and should target those individuals who are, due to their circumstances, likely to spread HIV e.g. divorcees, those on separation, widows and commercial sex workers.
- Funds should be committed towards employing more health personnel and medical care, ensuring capacity building for community structures and activities in key response areas like home-based care.



6. Results for age group 25+ years

6.1. Introduction

The impact of HIV and AIDS on people's lives has been amply demonstrated. Similarly social systems and economies have not been spared. Yet, despite massive efforts, the epidemic continues to grow, suggesting that interventions may not be as effective due to lack of a detailed understanding of the transmission and response dynamics at individual, community and national levels. This calls for a clear articulation of the transmission dynamics for specific population groups, delineating the fundamental determinants. The list of determinants is broad and includes:

- Income and the economic environment, for example, employment, education, as well as absolute and, more importantly, relative poverty;
- The physical environment, for example, dual homes, housing adequacy and neighbourhood safety;
- Early childhood experiences, for example, education, nourishment, sexual and physical or emotional abuse;
- Cultural or community factors, including personal health and sexual practices, gender inequality, community pressures and behaviours; and
- Health services, for example, access to cultural and gender-appropriate services, and equitable access to prevention, care, treatment and support services.

The adult HIV prevalence of 25% means that one in four Zimbabwean adults is living with HIV and AIDS. This translates into a huge number of infected people, who are in fact the reproductive and economically productive.

An understanding of the extent and magnitude of HIV infection among adults above 25 years is important in the prioritisation, design, implementation and evaluation of programmes to support HIV-infected people. It is equally important to understand the extent and depth of knowledge about HIV and AIDS among adults, in order to design appropriate interventions that ensure improved care and protection of HIV infected adults. Such information is essential to inform policy makers and service providers at both a national and local level in designing and/or strengthening prevention, care and support and mitigatory programmes.

Only a few large-scale population-based national studies have been carried out in Zimbabwe to explore *behavioural, social and other determinants* of HIV and AIDS. The present BSS aimed to generate information that would enhance our understanding of the spread of the epidemic.

6.2. Objectives

The general objective of the behavioural risks baseline survey was to determine HIV prevalence, KABP with regards prevention, care and support, and human rights among adults 25+ years old in Chimanimani district.

6.3. Methodology

The detailed methodology is presented in Chapter 2. In brief, the cross sectional study was carried out in 13 randomly selected wards of Chimanimani district, Manicaland province, Zimbabwe. The study area was stratified into urban, rural, resettlement, and small and large scale commercial sectors. Out of the 13 wards, 763 households with adults above 25 years of age were randomly selected and questionnaires were administered to them. Dried blood spot (DBS) samples were collected from the adult respondents. The samples were tested for HIV using commercial HIV EIA kits. Ethical approval was sought from relevant authorities in Zimbabwe and South Africa (for HSRC). Data was entered using EPI6 and analysed using Stata statistical package.

6.4. Results

Table 9.1 shows that a total of 1 013 potential respondents were approached and of these, 792 (78.1%) completed the questionnaire and provided a blood samples for HIV testing. The refusal rate was 3.5%. For this age group, response rate was based on the proportion of sampled respondents who provided both the questionnaire and a blood sample.

Table 6.1: Distribution of response rate

	Response rate	
	n	%
Completed questionnaire with sample	792	78.1
Target respondent not at home	186	18.4
Refusals (sample + questionnaire)	35	3.5
Total questionnaires	1 013	

Calculation of response rate

$$\begin{aligned} \text{Response rate} &= \frac{\text{Complete questionnaires with a sample}}{\text{Total questionnaires} + \text{refusals} + \text{respondents not at home}} \\ &= \frac{792}{1\,013} \times 100 = 78.1\% \end{aligned}$$

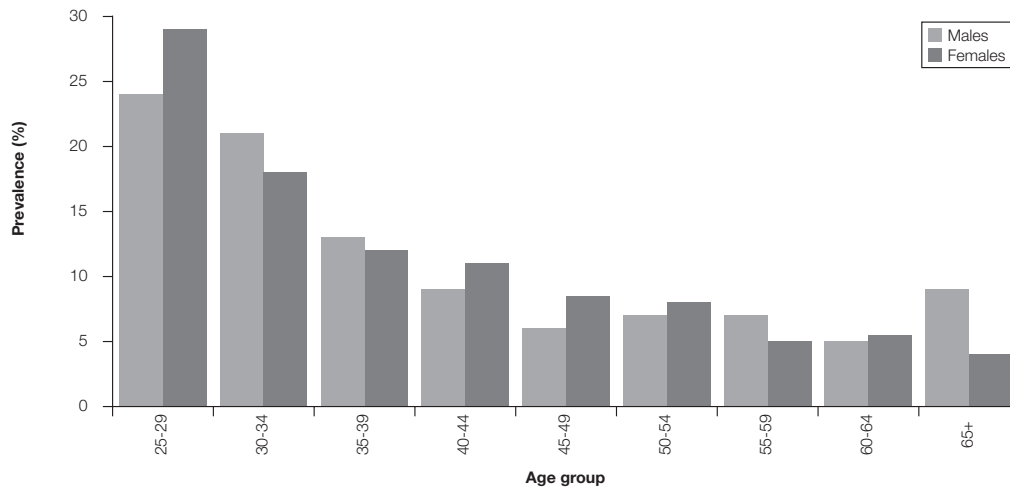
Of the 792 respondents who provided completed questionnaires and blood samples, 29 (3.7%) had insufficient samples for HIV testing. The results that follow were based on the 763 respondents with complete questionnaires and sufficient samples.

6.4.1. Demographic Characteristics

Age and Sex

The majority (54.7%) of respondents were females. Age ranged from 25 to 89 with a mean (SD) of 39.9 (13.4) years. Figure 6.1 shows the distribution of respondents by age group and sex. There were more females in age groups below 50 years and the reverse was true above those above 50 years.

Figure 6.1: Age distribution of respondents by sex

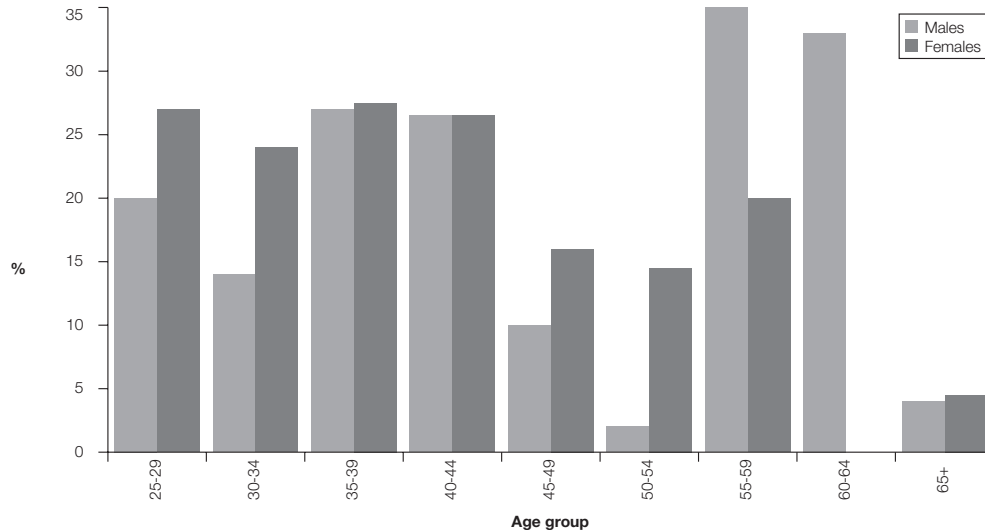


6.4.2. HIV prevalence

6.4.2.1. HIV prevalence by sex and age

The overall HIV prevalence was 21.1% with 95% CI of (18.3–24.2). Prevalence was slightly higher among females (22.3%; 95% CI: 18.4–26.6) compared to males (19.7%; 95% CI: 15.6–24.2). Figure 6.2 shows HIV prevalence by age and sex. Notably, HIV prevalence was higher among females 25–34 years and 45–54 years compared to their male counterparts. Of note also is that prevalence among both males and females was higher in the 25–29 years age group than the 30–34, more so for women.

Figure 6.2: Distribution of HIV prevalence by age and sex



6.4.2.2. Marital status, religion, education and locality

Almost 80% of respondents were married (Table 6.2) while the majority of the adults had either primary school or secondary school education. Most respondents were from communal (43.3%) and resettlement areas (26.6%).

Table 6.2: Selected background characteristics of the sample

Demographic variable	n	%
Marital status (N=761)		
Married	605	79.6
Cohabiting	45	5.9
Single/never married	46	6.0
Widowed	4	0.5
Divorced/separated	61	8.0
Religious grouping (N=654)		
Apostolic sects	254	38.8
Pentecostal	158	24.2
Protestant	131	20.0
Catholic	66	10.1
Traditional/African	31	4.7
Other	14	2.2
Highest educational qualifications (N=763)		
No schooling	67	8.8
Primary school	325	42.6
Secondary school	339	44.4
Tertiary	32	4.2
Sector (N=763)		
Communal lands	330	43.3
Resettlement areas	198	26.0
Large-scale farming	153	20.1
Small-scale farming	24	3.2
Urban	58	7.6

6.4.2.3. HIV prevalence by marital status

Overall, HIV prevalence was higher among the separated/divorced (34.8%), widowed (39.3%) and cohabiting (50%) than the married (17.7%) and single (24.4%). Stratification by sex shows similar trends but with significant differences among females only (Table 6.3). Furthermore, prevalence among single/never married females was more than twice as high as among single males.

Table 6.3: HIV prevalence by marital status

Marital status	Males		Females		Total		
	N	n (%)	N	n (%)	N	n (%)	95% (CI)
Married	300	57 (19.0)	305	50 (16.4)	605	107 (17.7)	14.7–21.0
Single/never married	30	5 (16.7)	15	6 (40.0)	45	11 (24.4)	12.9–39.5
Living together, cohabiting	–	–	4	2 (50.0)	4	2 (50.0)	6.8–93.2
Divorced/separated	10	4 (40.0)	36	12 (33.3)	46	16 (34.8)	21.4–50.2
Widowed	4	1 (25.0)	57	23 (40.4)	61	24 (39.3)	27.1–52.7
Total	344	67 (19.5)	417	93 (22.3)	761	160 (21.0)	18.2–24.1
	p=0.391		p <0.001		p <0.001		

6.4.2.4. HIV prevalence by education

Prevalence was highest among respondents with secondary school education and lowest among those with no education at all (Table 6.4). These differences persisted after stratification by sex but were not statistically significant.

Table 6.4: HIV prevalence by education and sex

Educational level	Males		Females		Total	
	N	n (%)	N	n (%)	N	n (%)
No schooling	16	2 (12.5)	51	9 (17.7)	67	11 (16.4)
Primary school	130	25 (19.2)	195	44 (22.6)	325	69 (21.2)
Secondary school	178	36 (20.2)	161	39 (24.2)	339	75 (22.1)
Tertiary	22	5 (22.7)	10	1 (10.0)	32	6 (18.8)
Total	346	68 (19.7)	417	93 (22.3)	763	161 (21.1)

6.4.2.5. HIV prevalence by sector

Overall, prevalence was highest in the urban and lowest in the SSC sector (Table 6.5). A similar but statistically insignificant trend was observed among males but not females. Among the latter, prevalence tended to be lower in communal lands and SSC, and equally high in urban and LSC sectors (Table 6.7). The pattern was different among men, with the lowest prevalence being recorded in the SSC and the highest in the resettlement sector.

Table 6.5: HIV prevalence by sector

Locality Type	Males		Females		Total		
	N	n (%)	N	n (%)	N	n (%)	95% (CI)
Communal lands	140	22 (15.7)	190	36 (19.0)	330	58 (17.6)	13.6–22.1
Resettlement areas	89	23 (25.8)	109	25 (22.9)	198	48 (24.2)	18.4–30.8
Large scale farming	82	17 (20.7)	71	20 (28.2)	153	37 (24.2)	17.6–31.8
Small scale farming	14	1 (7.1)	10	2 (20.0)	24	3 (12.5)	2.7–32.4
Urban	21	5 (23.8)	37	10 (27.0)	58	15 (25.9)	15.3–39.0
Total	346	68	417	93	763	161 (21.1)	18.3–24.2
	p=0.266		p=0.529		p=0.173		

6.4.2.6. HIV prevalence by household economic status

Overall, HIV prevalence tended to increase with improving household economic status. The same trend was observed among males and females with no significant differences between the sexes (Table 6.6).

Table 6.6: HIV prevalence by household economic status

Standard of living	Males		Females		Total		
	N	n (%)	N	n (%)	N	n (%)	95% (CI)
Not enough money for basics	242	45 (18.6)	338	73 (21.6)	580	118 (20.3)	17.1–23.9
Have basics, short of other things	66	11 (16.7)	51	12 (23.5)	117	23 (19.7)	12.9–28.0
Few luxuries	33	10 (30.3)	27	8 (29.6)	60	18 (30.0)	18.8–43.2
Money for holidays and luxury goods	1	0 (0.0)	–	–	1	0 (0.0)	–
None of the above	4	2 (50.0)	1	0 (0.0)	5	2 (40.0)	5.3–85.3
Total	346	68 (19.7)	417	93 (22.3)	763	161 (21.1)	18.3–24.2
	p=0.240		p=0.738		p=0.338		

6.4.2.7. HIV prevalence by employment status

Prevalence was slightly higher among the employed than the unemployed. The difference was more pronounced among females than males but was not statistically significant (Table 6.9).

Table 6.7: HIV prevalence by employment status

Employed	Males		Females		Total		
	N	n (%)	N	n (%)	N	n (%)	95% (CI)
Yes	144	31 (21.5)	50	16 (32.0)	194	47 (24.2)	18.4–30.9
No	202	37 (18.3)	365	77 (21.1)	567	114 (20.1)	16.9–23.6
Total	346	68 (19.7)	415	93 (22.4)	761	161 (21.2)	18.2–24.1
	p=0.459		p=0.309		p=0.570		

6.4.2.8. Dependency burden

Overall, 86.8% of respondents reported that they had at least one dependant aged 18 years or below. Dependency burden was higher among females (90.2%) than males (86.8%) but the difference was not statistically significant.

Table 6.8 shows that there were no differences in HIV prevalence between those with dependants, and those who did not have.

Table 6.8: HIV prevalence by dependency burden

Has dependants	Males		Females		Total		
	N	n (%)	N	n (%)	N	n (%)	95% CI
Yes	286	56 (19.6)	376	82 (21.8)	662	138 (20.8)	(17.8–24.1)
No	60	12 (20.0)	41	11 (26.8)	101	23 (22.8)	(15.0–32.2)
Total	346	68 (19.7)	417	93 (22.3)	763	161 (21.1)	18.3–24.2
	p=0.941		p=0.463		p=0.659		

6.4.2.9. Discussion: HIV prevalence by demographics characteristics

HIV prevalence by age and sex:

The overall HIV prevalence of 21.1% was lower than the national overage of 24.6% but falls within the confidence interval, suggesting no significant difference. That prevalence was higher among females is not surprising. Women are at greater risk of HIV infection for various reasons, including cultural and economic reasons. Prevalence was consistently high among women 25–44 while it peaked between 35–44 years among men, reflecting that women are getting infected earlier than men.

HIV prevalence by marital status:

Although no significant associations were observed, the tendency towards higher HIV prevalence among the widowed, separated and divorced has been reported in other studies. Similarly the cohabiting are at increased risk. Contrary to observations in earlier studies in Zimbabwe and elsewhere, the married were at lowest risk. This may suggest that married couples are heeding prevention messages and protecting themselves by either sticking to their married partners or using condoms with extra-marital partners.

HIV prevalence by sector:

Although not significant, the sectoral differences in HIV prevalence may suggest differences in access to information about HIV and AIDS. The relatively high prevalence in the urban sector and lower prevalence in communal areas may reflect what has been observed in the early stages of the epidemic – that prevalence is highest in urban centres and spreads to rural areas. Similarly, the relatively higher prevalence in the large-scale commercial sector has been reported in other studies (ZHDR, 2003).

HIV prevalence by education:

There has always been an assumption that education improves knowledge about HIV and AIDS and hence leads to behaviour change. The present study shows no obvious association but a tendency towards lower prevalence among those with no education at all.

HIV prevalence by employment status and dependency:

The findings show that there is high HIV prevalence among employed females. Most of the females who were employed and HIV-positive were widows. The most probable reason for the death of their husbands could be HIV. It is important to note that a considerable proportion of employed married women (37.5%) were HIV-positive. This possibly suggests that there is high rate of unprotected sex with multiple partners in both sexes (employed women and their husbands). It is important to note that females were at higher risk of HIV infection compared to males, irrespective of their employment status.

6.4.3. HIV prevalence and risk behaviour/practices

6.4.3.1. Circumcision among males

Of the 346 males, 26 (7.5%) reported having been circumcised. The mean (SD) age at circumcision was 11.2 (7.4) years. More than half of the circumcised male adults were circumcised at home. Four did not know where they were circumcised.

HIV prevalence by circumcision:

Table 6.9 shows that the prevalence of HIV was slightly higher among the those reporting circumcision compared to those who did not.

Table 6.9: HIV prevalence by circumcision

Circumcision	Males		
	N	n (%)	95% CI
Yes	26	6 (23.1)	(9.0 – 43.6)
No	319	62 (19.4)	(15.2 – 24.2)
Total	345	68 (19.7)	(15.6–24.3)
p=0.800			

6.4.3.2. Self-reported behaviour change

The respondents' HIV induced behaviour change was assessed. Nearly half of the respondents (48.0%) reported having changed their behaviour in the face of HIV and AIDS. More males than females reported changing their behaviour (Table 6.10).

Table 6.10: Distribution of respondents by self-reported behaviour change

Change of sexual behaviour	Males N=346		Females N=417		Total N=763	
	n	%	n	%	n	%
Yes	215	62.1	151	36.2	366	48.0
No	131	37.9	265	63.6	396	51.9
Not stated	0	0.0	1	0.2	1	0.1

6.4.3.3. HIV prevalence by reported change of sexual behaviour

HIV prevalence was significantly higher among females than males reporting behaviour change while the reverse, albeit not significant, was true among those not reporting behaviour change (Table 6.11). Furthermore, prevalence was significantly higher among females reporting behaviour change compared to those who did not (32.5% vs 17.4%; $p=0.002$) while no differences were observed among males (20.4% vs 20.0%; $p=0.855$, respectively).

Table 6.11: HIV prevalence by reported change of sexual behaviour

Change of sexual behaviour	Changed		Did not change	
	N	n (%)	N	n (%)
Males	215	45 (20.4)	90	18 (20.0)
Females	151	49 (32.5)	161	28 (17.4)
Total	366	94 (25.7)	251	46 (18.3)
(95% CI)		(21.3–30.5)		(13.7–23.8)
p=0.013		p=0.608		

6.4.3.4. HIV prevalence by number of sexual partners

Of the 763 respondents, 594 (77.9%) responded to the question on sexual partners in the last 12 months, with 98.7% of these reported having had at least one partner. Only 6.2% reported two or more partners. Five of the eight who reported no partners at all were HIV infected, while prevalence was similar among those reporting one and those reporting two or more partners. Different patterns were observed between males and females (Table 6.12). Among females, prevalence was highest among those reporting multiple partners compared to those reporting one partner. The reverse was true among males. However, in both cases the few reporting no partners were almost all infected.

Table 6.12: HIV prevalence by number of sexual partners over the past 12 months

No. of sexual partners	Males		Females		Total		
	N	n (%)	N	n (%)	N	n (%)	95% CI
0	3	3 (100.0)	5	2 (40.0)	8	5 (62.5)	24.5–91.5
1	263	51 (19.4)	286	54 (18.9)	549	105 (19.1)	15.9–22.7
2+	32	4 (12.5)	5	3 (60.0)	37	7 (18.9)	8.0–35.2
Total	298	58 (19.5)	296	59 (19.9)	594	117 (19.7)	16.6–23.1
	p=0.001		p=0.039		p=0.009		

6.4.3.5. HIV prevalence by risk perception

Respondents were asked whether they thought that they were likely to get infected or not in the near future. Overall, 65.1% of respondents said they believed they would not get infected, while 15.5% said they could possibly get infected and 18.4% thought they would probably get infected.

HIV prevalence was assessed against the adults' reported risk perception. Table 6.13 on the following page shows a trend towards higher HIV prevalence among those who thought that they were likely to be infected compared to those who did not, and this was reflected among both males and females.

Table 6.13: HIV prevalence by risk perception

Risk perception	HIV prevalence					
	Males		Females		Total	
	N	n (%)	N	n (%)	N	n (%)
Definitely going to get infected	–	–	7	2 (28.6)	7	2 (28.6)
Probably going to get infected	39	9 (23.1)	100	25 (25.0)	139	34 (24.5)
Could possibly get infected	41	10 (24.4)	76	18 (23.7)	117	28 (23.9)
Probably won't get infected	134	29 (21.6)	118	26 (22.0)	252	55 (21.8)
Definitely not going to be infected	129	20 (15.5)	112	21 (18.8)	241	41 (17.0)
TOTAL	343		413		756	
	p=0.459		p=0.418		p=0.143	

6.4.3.6. HIV prevalence by condom use

Overall, 44.9% of respondents reported having used a condom. The frequency of condom use was higher among males (55.9%) than females (35.8%). HIV prevalence was one and half times higher ($p=0.025$) among those reporting condom use (Table 6.14). Similar trends were observed among males and females with a significant difference among the latter.

Consistency of condom use with different partners was assessed. Of those reporting condom use, 150 (43.9%) reported multiple partners and of these, 45.3% reported that they did not always use condoms with different partners. As shown in Table 6.16 prevalence was slightly higher among those selectively using than those not selectively using condoms. This difference was magnified and significant among females with no differences among males.

Table 6.14: HIV prevalence by condom use

Use condoms	HIV prevalence					
	Males		Females		Total	
	N	n (%)	N	n (%)	N	n (%)
Yes	193	43 (22.3)	149	44 (29.5)	342	87 (25.4)
No	152	25 (16.5)	267	49 (18.4)	419	74 (17.7)
TOTAL	345		416		761	
	p=0.176		p=0.009		p=0.025	
Use condoms with some partners and not with others						
Yes	53	11 (20.8)	15	10 (66.7)	68	21 (30.9)
No	51	10 (19.8)	30	7 (23.3)	81	17 (21.0)
N/A (only one partner)	89	22 (24.7)	103	26 (25.2)	192	48 (25.0)
TOTAL	193		148		341*	
	p=0.746		p=0.003		p=0.182	

* NB: Of those who used condoms, one female respondent did not answer the question on selective use of condoms.

Overall, 10.2% of respondents reported having ever been tested for HIV. Slightly more males (11.3%) than females (9.2%) reported ever being tested for HIV. HIV prevalence was higher among those reporting ever being tested but this was significant only among males (Table 6.15).

Table 6.15: Prevalence of HIV by history of HIV testing

Ever been tested for HIV	HIV prevalence					
	Males		Females		Total	
	N	n (%)	N	n (%)	N	n (%)
Yes	39	13 (33.3)	38	11 (29.0)	77	24 (31.2)
No	306	55 (18.0)	375	82 (21.9)	681	137 (20.1)
TOTAL	345		413		758	
	p=0.010		p=0.319		p=0.040	

6.4.3.7. Reported STIs by sex

Overall, 7.5% of respondents reported having had an STI in the last 12 months with no difference between males and females (6.7% versus 8.2%; ($p < 0.05$)). The distribution of types of reported STIs is shown in Table 6.16.

Table 6.16: Distribution of types of reported STIs by sex

Signs and symptoms of STI	Males	Females	Total
	N=346	N=417	N=763
	n (%)	n (%)	n (%)
Sores/ulcers on genitals in the last 3 months			
Yes	10 (2.9)	8 (1.9)	18 (2.4)
No	335 (96.8)	408 (97.8)	743 (97.4)
Not stated	1 (0.3)	1 (0.2)	2 (0.3)
Abnormal genital discharge in the last 3 months			
Yes	12 (3.5)	25 (6.0)	37 (4.8)
No	333 (96.2)	391 (93.8)	724 (94.9)
Not stated	1 (0.3)	1 (0.2)	2 (0.3)
Genital warts			
Yes	8 (2.3)	8 (1.9)	16 (2.1)
No	337 (97.4)	408 (97.8)	745 (97.6)
Not stated	1 (0.3)	1 (0.2)	2 (0.3)

6.4.3.8. HIV prevalence by self-reported history of STIs

HIV prevalence was twice as high among those reporting an STI than those with no history of STI in the previous 12 months (Table 6.17). The difference was more evident among females than males.

Table 6.17: HIV prevalence by self-reported history of STIs

Reported history of STI	Males			Females			Totals	
	N	n (%)	95% CI	N	n (%)	95% CI	N	n (%)
Yes	23	5 (21.7)	7.4–43.7	34	17 (50.0)	32.4–67.6	57	22 (38.6)
No	322	63 (19.6)	15.4–24.3	382	76 (19.9)	16.0–24.3	704	139 (19.7)
TOTAL	345	68 (19.7)	15.6–24.3	416	93 (22.4)	18.4–26.7	761	161 (21.2)

6.4.3.9. Discussion: HIV, sexuality and sexual behaviour

HIV prevalence by circumcision:

This study has shown no association between circumcision and HIV prevalence, that being contrary to other studies. While being circumcised may reduce likelihood of infection during unprotected sex, the practice of circumcision itself can be risky if appropriate protective measures are not observed.

HIV prevalence by change of sexual behaviour:

A significant proportion of respondents reportedly changed their behaviour as a result of HIV and AIDS, suggesting that either their personal and community observations or interventions were influencing the change. Behaviour is influenced by a number of socio-cultural and environmental factors. Hence, the lack of association between perceived behaviour change and HIV needs to be viewed cautiously and further analysed in relation to various other factors that may confound or interact with each other.

HIV prevalence by risk perception:

The results of the assessment of prevalence against the adults' self-reported risk perception showed higher HIV prevalence among females who stated that they were either definitely or probably going to be infected. No males were courageous enough to report that they were already infected. What the respondents believed themselves to be may not translate to be what they really were. The results also showed a high proportion of infected adults who reported that they were probably going to get infected and could possibly get infected. These reports reflect a crisis in behavioural change in the face of the widespread pandemic.

Prevalence by ever being tested for HIV:

Prevalence was higher for males who had been tested for HIV compared to those who had not been tested.

Prevalence by condom use:

The results showed higher HIV infection in females and males who used condoms than in those who did not use condoms. This may be because condoms do not reduce risk if they are not correctly and consistently used or possibly because of positive effects of VCT programmes in the community, which encourage people to use condoms despite their positive sero-status. The majority of females who reported that they used condoms with some sexual partners and not with others were HIV-infected. Intervention programmes need to emphasise consistent and proper use of condoms among both males and females.

HIV prevalence by morbidity:

The results show that HIV prevalence was high among adults who reported none of the mentioned signs and symptoms of STIs, HIV and AIDS. The probable reasons could be that participants lied or they do not know the signs and symptoms of STI, HIV or AIDS.

Tuberculosis is a disease that is associated with HIV and has been identified as the leading cause of death in HIV/AIDS patients in sub-Saharan Africa (Jackson, 2002). In Zimbabwe, Malawi, Uganda and Zambia, 45–65% of TB patients are HIV-positive and the disease is on the increase for the first time in many years. Almost half of the females who reported that they had coughed for more than a month were positive. Three quarters of the males who reported that they had treatment of TB were HIV-positive. The results obtained from both males and females established/confirmed the association between prevalence of HIV and TB.

6.4.4. Substance abuse

Overall, nearly a quarter of respondents reported taking alcohol, with six times as many males as females reporting alcohol use (Table 6.18). Of those who reported drinking alcohol, 41.4% did so once a month or less, while the remainder drank at most three times a week or more (Table 6.19).

Table 6.18: Alcohol use by gender

Substance abuse Do you drink alcohol	Males N=346		Females N= 417		Total N=763	
	n	(%)	n	(%)	n	(%)
Yes	152	43.9	29	7.0	181	23.7
No	193	55.8	386	92.6	579	75.8

6.4.4.1. HIV prevalence by alcohol abuse

HIV prevalence was higher among both males and females who reported alcohol use (Table 6.19). Among females, HIV prevalence increased with increasing frequency of alcohol use.

Table 6.19: HIV prevalence by alcohol consumption

Type of substance	Males		Females		Total	
	N	n (%)	N	n (%)	N	n (%)
Drink alcohol	346		417		763	
Yes		152 (43.9)		29 (7.0)		181 (23.7)
No		193 (55.8)		386 (92.6)		579 (75.8)
Frequency	152		29		181	
Once a month or less		64 (42.1)		11 (37.9)		75 (41.4)
Once a week		49 (32.2)		6 (20.7)		55 (30.4)
Two-three times a week		33 (21.7)		6 (20.7)		39 (21.5)
Everyday		5 (3.3)		1 (3.5)		6 (3.3)

6.4.4.2. Discussion: HIV and alcohol use

Several studies have linked alcohol use and increased risk of HIV infection (Jackson, 2002). The observation that prevalence was higher among men who used alcohol in the present study is in agreement with these studies. That more males were taking alcohol as compared to females may reflect a cultural influence where women are generally discouraged from taking alcohol. Although fewer women used alcohol, they were at greater risk of HIV infection than men who used alcohol, suggesting a possible link between reported alcohol use and transactional and casual sex among women. This is further reflected by the observation that HIV prevalence increased with increasing frequency of alcohol use.

6.4.5. Stigma

6.4.5.1. Attitudes towards PLWHA

Several questions were used to assess attitudes towards PLWHA and HIV-related issues. Responses to the questions are shown in Table 6.20 and Table 6.21. Generally, the majority of respondents expressed positive attitudes towards PLWHA, and there were no differences between males and females. However, of note, over a third of both males and females thought that infected children should be isolated and about two thirds thought that HIV-infected women should not be trusted as babysitters.

Table 6.20: Attitudes towards PLWHA

Stigmatising statements	Totals (N=763)					
	Agree		Neutral		Disagree	
	n	%	n	%	n	%
Would not buy from shopkeeper who is HIV-positive	217	28.4	28	3.7	518	67.9
Woman would be foolish to marry a man with HIV/AIDS	479	62.8	49	6.4	235	30.8
Women with HIV/AIDS cannot be trusted as babysitters	460	60.3	59	7.7	244	32.0
One of the main reasons people become HIV is being weak and foolish	587	76.9	49	6.4	127	16.4
Government should not introduce extra levy or tax for HIV/AIDS	266	34.9	100	13.1	397	52.0
Would have problems having protected sex with partner who has HIV/AIDS	284	37.2	111	14.6	368	48.2
Waste of money to train/promote someone with HIV/AIDS	289	37.9	41	5.4	433	56.8
People who have HIV cannot be trusted	434	56.9	88	11.5	241	31.6
People with HIV/AIDS should use separate eating utensils to prevent infections	259	33.9	38	5.0	466	61.1
HIV-positive children should be kept separate from other children	221	29.0	46	6.0	496	65.0
People who have AIDS should expect some restrictions on their freedoms	175	22.9	49	6.4	539	70.6

Table 6.21: Attitudes towards PLWHA by sex

Stigmatising statements	Males N=346			Females N=417		
	Agree n (%)	Neutral n (%)	Disagree n (%)	Agree n (%)	Neutral n (%)	Disagree n (%)
Would not buy from shopkeeper who is HIV-positive	92 (26.6)	12 (3.5)	242 (69.9)	125 (30.0)	16 (3.8)	276 (66.2)
Woman would be foolish to marry a man with HIV and AIDS	220 (63.6)	21 (6.1)	105 (30.4)	259 (62.1)	28 (6.7)	130 (31.2)
Women with HIV and AIDS cannot be trusted as babysitters	213 (61.6)	26 (7.5)	107 (30.9)	247 (59.2)	33 (7.9)	137 (32.9)
One of the main reasons people become HIV is being weak and foolish	280 (80.9)	19 (5.5)	47 (13.6)	307 (73.6)	30 (7.2)	80 (19.2)
Government should not introduce extra levy or tax for HIV and AIDS	123 (35.6)	32 (9.3)	191 (55.2)	143 (34.3)	68 (16.3)	206 (49.4)
Would have problems having protected sex with partner who has HIV and AIDS	122 (35.3)	41 (11.9)	183 (52.9)	162 (38.9)	70 (16.8)	185 (44.4)
Waste of money to train/promote someone with HIV and AIDS	135 (39.0)	17 (4.9)	194 (56.1)	154 (36.9)	24 (5.8)	239 (57.3)
People who have HIV cannot be trusted	197 (56.9)	33 (9.5)	116 (33.5)	237 (56.8)	55 (13.2)	125 (30.0)



People with HIV and AIDS should use separate eating utensils to prevent infections	115 (33.2)	13 (3.8)	218 (63.0)	144 (34.5)	25 (6.0)	248 (59.5)
HIV-positive children should be kept separate from other children	109 (31.5)	15 (4.3)	222 (64.2)	112 (26.9)	31 (7.4)	274 (65.7)
People who have AIDS should expect some restrictions on their freedoms	78 (22.5)	15 (4.3)	253 (73.1)	97 (23.3)	34 (8.2)	286 (68.6)

6.4.5.2. Ways of reducing stigma of HIV/AIDS

The respondents were asked about ways of reducing stigma and discrimination of people living with HIV and AIDS. Table 6.22 shows the responses. The most commonly cited way was educating people. Provision of treatment and disclosure of HIV status were not considered important ways of reducing stigma.

Table 6.22: Ways of reducing stigma of HIV/AIDS stratified by sex

Ways to reduce stigma	Males N=346	Females N=417	Total N=763
	n (%)	n (%)	n (%)
Teaching people to understand how HIV is transmitted	235 (67.9)	245 (58.8)	480 (62.9)
Having accurate knowledge of HIV	109 (31.5)	100 (24.0)	209 (27.4)
By a popular person disclosing his/her HIV status	16 (4.6)	19 (4.6)	35 (4.6)
Treating HIV and AIDS like any other disease	94 (27.2)	104 (24.9)	198 (26.0)
When there is treatment for people with HIV or AIDS	28 (8.1)	31 (7.4)	59 (7.7)
When leaders in the community associate with PLWHA	38 (11.0)	26 (6.2)	64 (8.4)
When all the people with HIV/AIDS disclose their status	19 (5.5)	15 (3.6)	34 (4.5)
Making VCT sites available and persuading people to get tested	31 (9.0)	36 (8.6)	67 (8.8)

6.4.5.3. Discussion: Stigma and discrimination

The survey showed that the majority of the population expressed attitudes of acceptance of PLWHA. Stigma and discrimination remain critical problems in Zimbabwe affecting HIV prevention and care, and contributing to denial and inaction (Zimbabwe Human Development Report, 2003). Of concern is the near one third of respondents who thought that infected children should be isolated and the nearly two thirds who could not trust their children with HIV-infected babysitters. This calls for more education about HIV and AIDS in the community.

6.4.6. Awareness on HIV and AIDS services

6.4.6.1. Awareness of HBCP directed at PLWHA in community

Overall, about 40% of respondents were aware of HBCP in the community. The awareness did not differ between males and females. Similarly, there were no sectoral differences in awareness although respondents from communal lands tended to be more aware than in other sectors (Table 6.23).

Table 6.23: Awareness of HBCP directed at PLWHA in community

Variable	Males		Females		Total	
	N	n (%)	N	n (%)	N	n (%)
Age						
25–49	252	90 (35.7)	329	129 (39.2)	581	219 (37.7)
50 and above	94	38 (40.4)	88	34 (38.6)	182	72 (39.6)
Total	346		417		763	
	p=0.419		p=0.922		p=0.663	
Locality type						
Communal lands	140	60 (42.9)	190	74 (39.0)	330	134 (40.6)
Resettlement areas	89	28 (31.5)	109	44 (40.4)	198	72 (36.4)
Large scale farming	82	27 (32.9)	71	31 (43.7)	153	58 (37.9)
Small scale farming	14	5 (35.7)	10	4 (40.0)	24	9 (37.5)
Urban	21	8 (38.1)	37	10 (27.0)	58	18 (31.0)
TOTAL	346		417		763	
	p=0.983		p=0.564		p=0.518	

6.4.6.2. Providers of HBCP services directed towards PLWHA in community

Table 6.24 shows the reported HBCP service providers in the community. Over half the respondents (53.6%) cited CBOs, while about a third mentioned FBOs and NGOs as the main providers of home-based care. There also were small organisations (women's groups and youth groups) providing HBC services in the community.

Table 6.24: Reported providers of HBCP services directed towards PLWHA in community

Service provider (N=291)	n	%
Faith-based organisations	79	27.2
Community-based organisations	156	53.6
NGOs	96	33.0
Women's groups	51	17.5
Youth groups	18	6.2
Other	51	17.5

6.4.6.3. Support provided to PLWHA

Table 6.25 shows type of support provided to PLWHA. Food was the most common form of support provided to PLWHA in the community. About a third reported that material things, medicine and other health care supplies were provided, while 40% mentioned home visits. Training of family members in HBC was mentioned by about a third of respondents.

Table 6.25: Support provided to PLWHA

Kind of support (N=291)	n (%)
Money	65 (22.3)
Medicine	93 (32.0)
Other health care supplies	90 (31.0)
Training of family members	68 (23.4)
Assistance with care tasks	56 (19.2)
Material things	88 (30.2)
Home visits	117 (40.2)
Emotional support for the sick family member	54 (18.6)
Emotional support for the caregiver	46 (15.8)
Food	224 (77.0)
Other	12 (4.1)

6.4.6.4. Providers of OVC care and support services in the community

NGOs and faith-based organisations (FBOs) were the most cited providers of services directed at OVC in the community (Table 6.26).

Table 6.26: Reported providers of HBCP services directed at OVC in community

Provider (N=485)	Rank (n)	%
NGOs	224	46.2
Faith-based organisations	192	39.6
Community-based organisations	142	29.3
Other	127	26.2
Women's groups	43	8.9
Youth groups	18	3.7

6.4.6.5. Types of support provided to OVC

Food was reportedly the major form of support provided to the OVC (Table 6.27). Community-based organisations were commonly mentioned as the main providers of food, money and material things.

Table 6.27: Cited types of support provided to OVC

Kind of support (N=485)	n (%)
Food	434 (89.5)
Material things	209 (43.1)
Money	180 (37.1)
Home visits	87 (17.9)
Medicine	37 (7.6)
Other health care supplies	37 (7.6)
Emotional support for the caregiver	37 (7.6)
Training of family members	33 (6.8)
Assistance with care tasks	28 (5.8)
Emotional support for the sick family member	24 (5.0)
Other	57 (11.8)

6.4.6.6. Illness in the household during the last 12 months

Although respondents were not asked what type of diseases they were suffering from, 93 (12.2%) reported that they had a sick person in the household in the last 12 months.

6.4.6.7. Support provided to the household with a sick person

Of the 93 respondents who reported having a sick person at home, the majority (81.9 %) mentioned that they received medicine from HBC providers. Nearly 50% of households with a sick member were visited by HBC providers, while a similar proportion mentioned that the sick received emotional support. Nearly 40% received food (Table 6.28).

Table 6.28: Support provided to the household with a sick person

Kind of support (N=83)*	Support provided	
	n	%
Medicine	68	81.9
Home visits	41	49.4
Emotional support for the sick family member	37	44.6
Money	34	41.0
Food	31	37.4
Emotional support for the caregiver	29	34.9
Training of family members	26	31.3
Assistance with care tasks	20	24.1
Other health care supplies	12	14.5
Material things	7	8.4
Other	1	1.2

* NB: Ten of the respondents with a sick household member reported that they did not receive any form of assistance.

6.4.6.8. Type of support preferred for household with a sick person

The respondents were asked what support they would most like to receive and just over a fifth mentioned money and food. Of note, less than 5% mentioned other forms of support (Table 6.29).

Table 6.29: Type of support preferred for household with a sick person.

Support would most have liked	N=68	
	n	%
Food	15	22.1
Money	15	22.1
Money and medicine	11	16.2
Medicine	9	13.2
Other health care supplies	6	8.8
Home visits and emotional support for the caregiver	5	7.4
Money and material things	3	4.4
Medicine and home visits	2	2.9
Other	2	2.9

6.4.6.9. Discussion Awareness on HBC directed at OVC and PLWHA in the community and services provided:

The study has shown that the majority of respondents were not aware of HBC services directed at PLWHA and OVC in their communities. There are two possible reasons for this observation. Firstly, the HBC service may be limited to few sites in the district, which may also explain why awareness was higher in communal lands than other sectors; or secondly stigma and denial may still be a major problem limiting participation in care and support of PLWHA and OVC. It is therefore important that this area be looked into in greater detail so as to come up with new strategies to raise awareness and hence increase use of HBCP and associated services in the community.

Apparently the major form of support provided is food while material things and medicines are a distant second. It is important to understand whether this is by demand or because providers perceive nutrition as a critical intervention for PLWHA. This is particularly relevant considering that the majority of those responding to the question on most desired support mentioned money. However, it is noteworthy that almost a third of respondents recognised that HBC were providing emotional support to the sick at home.

OVC care and support services are very limited in the community, and the most common form of support is food. Again it is critical that an assessment of the needs of OVC be done before providers introduce interventions.

6.4.6.10. HIV and AIDS prevention and care services

The respondents' awareness about HIV and AIDS prevention and care services available in their communities was assessed. Table 6.30 shows the awareness levels about a number of services. The majority of respondents knew about HBC, while less than 10% knew about PMTCT, VCT, STI and welfare grant services. Of note, awareness about PMTCT was very low and there was no difference in awareness between males and females.

Table 6.30: Knowledge of HIV and AIDS prevention and care services available in community

Service	Males (N=166)	Females (N=186)	Total (N=352)
	n (%)	n (%)	n (%)
PMTCT	17 (10.2)	18 (9.7)	35 (9.9)
HIV and AIDS support groups	48 (28.9)	61 (32.8)	109 (31.0)
STI services	14 (8.4)	6 (3.2)	20 (5.9)
VCT	12 (7.2)	14 (7.5)	26 (7.4)
Home-based care	85 (51.2)	111 (59.7)	196 (55.7)
Nutrition programmes	45 (27.1)	58 (31.2)	103 (29.3)
Welfare grants	13 (7.8)	22 (11.8)	35 (9.9)
Other	30 (18.1)	22 (11.8)	52 (14.8)

6.4.6.11. Perceptions of policies related to HIV and AIDS

The majority of respondents agreed that political leaders were committed to controlling HIV and AIDS in the country, and that they publicly recognise the importance of HIV and AIDS. However, more than a third thought that government was not allocating adequate funds to control the epidemic (Table 6.31).

Table 6.31: Perceptions of respondents on policies related to HIV and AIDS

Perception item	Total (N=763)		
	Agree n (%)	Neutral n (%)	Disagree n (%)
Political leaders are committed to controlling HIV and AIDS in this country	498 (65.3)	111 (14.6)	153 (20.1)
Political leaders publicly recognise the importance of HIV and AIDS	609 (79.8)	77 (10.1)	76 (10.0)
The government allocates sufficient funds to control the spread of HIV infections	315 (41.3)	130 (17.0)	317 (41.6)
Government is doing more this year treating PLWHA than during the last five years	415 (54.4)	173 (22.7)	174 (22.8)

The perceptions with regards to policies and commitment of government did not differ by sex (Table 6.32).

Table 6.32: Perceptions of policies related to HIV and AIDS by sex

Perception item	Males (N=346)			Females (N=417)		
	Agree n (%)	Neutral n (%)	Disagree n (%)	Agree n (%)	Neutral n (%)	Disagree n (%)
Political leaders are committed to controlling HIV and AIDS in this country	241 (69.7)	38 (11.0)	67 (19.4)	257 (61.6)	74 (17.8)	86 (20.6)
Political leaders publicly recognise the importance of HIV and AIDS	286 (82.7)	28 (8.1)	32 (9.3)	323 (77.5)	50 (12.0)	44 (10.6)

The government allocates sufficient funds to control the spread of HIV infections	142 (41.0)	45 (13.0)	159 (46.0)	173 (41.5)	86 (20.6)	158 (37.9)
Government is doing more this year treating PLWHA than during the last five years	185 (53.5)	68 (19.7)	93 (26.9)	230 (55.2)	106 (25.4)	81 (19.4)

6.4.6.12. Policy perception and education

Tables 6.32a–6.32d show the policy perceptions by education. Overall, a larger proportion of those with no education compared to those with primary or higher education were positive about political commitment to HIV and AIDS control.

Table 6.32a: Perceptions regarding policies related to HIV and AIDS by education – controlling HIV/AIDS

Perception	Total			
	N	Agree n (%)	Neutral n (%)	Disagree n (%)
Political leaders are committed to controlling HIV and AIDS in this country				
Education level				
No schooling	67	42 (62.7)	18 (26.9)	7 (10.5)
Primary school	325	201 (61.9)	53 (16.3)	71 (21.9)
Secondary school	339	236 (69.6)	39 (11.5)	64 (18.9)
Tertiary non-degreed	28	16 (57.1)	2 (7.1)	10 (35.7)
Tertiary-degreed	4	3 (75.0)	0 (0.0)	1 (25.0)

Table 6.32b: Perceptions regarding policies related to HIV/AIDS by education – recognising HIV/AIDS

Perception	Total			
	N	Agree n (%)	Neutral n (%)	Disagree n (%)
Political leaders publicly recognise the importance of HIV and AIDS				
Education level				
No schooling	67	50 (74.6)	12 (17.9)	5 (7.5)
Primary school	325	253 (77.9)	39 (12.0)	33 (10.2)
Secondary school	339	278 (82.0)	25 (7.4)	36 (10.6)
Tertiary non-degreed	28	25 (89.3)	1 (3.6)	2 (7.1)
Tertiary-degreed	4	3 (75.0)	1 (25.0)	0 (0.0)

Table 6.32c: Perceptions regarding policies related to HIV/AIDS by education – allocation of funds

Perception	Total			
	N	Agree n (%)	Neutral n (%)	Disagree n (%)
The government allocates sufficient funds to control the spread of HIV infections				
Education level				
No schooling	67	26 (38.8)	15 (22.4)	26 (38.8)
Primary school	325	143 (44.0)	64 (19.7)	118 (36.3)
Secondary school	339	135 (39.8)	48 (14.2)	156 (46.0)
Tertiary non-degreed	28	10 (35.7)	4 (14.3)	14 (50.0)
Tertiary-degreed	4	1 (25.0)	0 (0.0)	3 (75.0)

Table 6.32d: Perceptions regarding policies related to HIV/AIDS by education – treatment of PLWHA

Perception	Total			
	N	Agree n (%)	Neutral n (%)	Disagree n (%)
The government is doing more this year treating PLWHA than during the last five years				
Education level				
No schooling	67	31 (46.3)	19 (28.4)	17 (25.4)
Primary school	325	180 (55.4)	84 (25.9)	61 (18.8)
Secondary school	339	186 (54.9)	65 (19.2)	88 (26.0)
Tertiary non-degreed	28	18 (64.3)	5 (17.9)	5 (17.9)
Tertiary-degreed	4	0 (0.0)	1 (25.0)	3 (75.0)

6.4.6.13. Policy perception and sector

Tables 6.33–6.36 show the respondents' perceptions about the government's commitment to the fight against HIV and AIDS. Respondents from resettlement areas and LSC sector overwhelmingly agreed that political leaders were committed while less than 50% of those from urban areas agreed.

Table 6.33: Perceptions regarding political commitment

Perception	Total			
	N	Agree n (%)	Neutral n (%)	Disagree n (%)
Political leaders are committed to controlling HIV and AIDS in this country				
Sector				
Communal	330	203 (61.5)	54 (16.4)	73 (22.1)
Small-scale	198	129 (65.2)	33 (16.7)	36 (18.2)
Large-scale commercial	153	117 (76.5)	16 (10.5)	20 (13.1)
Resettlement	24	21 (87.5)	1 (4.2)	2 (8.3)
Urban	58	28 (48.3)	8 (13.8)	22 (37.9)

Table 6.34: Perceptions regarding political leadership public support

Perception	Total			
	N	Agree n (%)	Neutral n (%)	Disagree n (%)
Political leaders publicly recognise the importance of HIV and AIDS				
Sector				
Communal	330	273 (82.7)	35 (10.6)	22 (6.7)
Small-scale	198	154 (77.8)	22 (11.1)	22 (11.1)
Large-scale commercial	153	125 (81.7)	14 (9.2)	14 (9.2)
Resettlement	24	21 (87.5)	1 (4.2)	2 (8.3)
Urban	58	36 (62.1)	6 (10.3)	16 (27.6)

Table 6.35: Perceptions regarding government support for HIV and AIDS control activities

Perception	Total			
	N	Agree n (%)	Neutral n (%)	Disagree n (%)
The government allocates sufficient funds to control the spread of HIV infections				
Sector				
Communal	330	125 (37.9)	61 (18.5)	144 (43.6)
Small-scale	198	96 (48.5)	22 (11.1)	80 (40.4)
Large-scale commercial	153	76 (49.7)	26 (17.0)	51 (33.3)
Resettlement	24	9 (37.5)	5 (20.8)	10 (41.7)
Urban	58	9 (15.5)	17 (29.3)	32 (51.2)

Table 6.36: Perceptions regarding government commitment

Perception	Total			
	N	Agree n (%)	Neutral n (%)	Disagree n (%)
The government is doing more this year treating PLWHA than during the last five years				
Sector				
Communal	330	173 (52.4)	73 (22.1)	84 (25.5)
Small-scale	198	120 (60.6)	43 (21.7)	35 (17.7)
Large-scale commercial	153	91 (59.5)	37 (24.2)	25 (16.3)
Resettlement	24	14 (58.3)	4 (16.7)	6 (25.0)
Urban	58	17 (29.3)	17 (19.3)	24 (41.4)

6.4.6.14. Discussion: Policy perceptions

Perception of policies related to HIV and AIDS:

Most of the respondents were positive about the efforts being made by the government in controlling the epidemic, but still a fairly large proportion remained unconvinced or noncommittal. The perception about political commitment and government input varied with education and sector, suggesting the role of education and politics in shaping perceptions. For example, respondents from resettlement areas were more positive about government involvement compared to those from the urban sector. The respondents from the resettlement areas are beneficiaries of the government's land reform programme and hence may feel more inclined to appreciate their efforts. Similarly, positive perception decreased with increasing education. The trend in Zimbabwe is that the more educated are critical of government while the less educated are more supportive. This indicates the need for impartial information and education of all communities, cognisant of the role of politics in shaping the understanding of policy issues.

6.5. Conclusions

The prevalence of HIV is high but similar to the estimated national HIV prevalence based on ANC surveillance of pregnant women. The age prevalence is expected and so is the higher prevalence among women, especially in the younger age groups of 25–35 years. This study is the first to report HIV prevalence in this age group based on a randomised community study and a relatively large sample size. The majority of respondents were of the Apostolic religious sect. Thus, HIV/AIDS programmes need to be cognisant of the role of religion in shaping the perceptions, attitudes and practices with regards to education about HIV and AIDS. The level of literacy among the respondents was relatively low, with 42.6% of respondents having reached primary school. This is an important factor to consider in developing communication strategies for HIV/AIDS programmes.

Most households reported that they did not have enough for the basic needs of their families. Thus, poverty is a major problem in the community. The impact of poverty, in particular the gendered aspects, on access and acceptance of interventions should be considered. The respondents' general knowledge about HIV and AIDS was relatively high but specific knowledge about transmission was low. These specific intervention areas need to be strengthened.

Education was a major determinant of knowledge. Knowledge increased with education, suggesting increased access to information and prevention intervention programmes as levels of education increased. Similarly education, and possibly the related political awareness, influenced perceptions about policy. These need to be addressed in appropriately designed programmes to ensure the adequate participation despite political affiliation of community members.

6.6. Recommendations

- To reverse the current trends in HIV and AIDS, it is critical that the relationship between the epidemic and human development be acknowledged at all levels and that the principles of sustainable human development be a major focus and priority of the country's policies and programme.
- IEC on sexuality, responsible sexual behaviour, family planning, unsafe abortions, gender roles, STIs and HIV and AIDS should be strengthened and coverage improved.
- There is a need to encourage and promote adult communication and interaction regarding issues about HIV and AIDS. Activities that address social pressures on sexual behaviour should be considered.
- Use a behaviour change framework to define and evaluate activities by employing a variety of teaching methods designed to involve adults and have them personalising the information.
- Make HIV and AIDS issues adult-friendly by ensuring confidentiality, privacy, respect and the high quality information necessary for informed consent, and by including them in programme design.
- Increase opportunities for women's education and employment to empower them to be independent and self-sustaining.



7. General conclusions and recommendations

7.1. Introduction

The previous chapters presented BSS data by age group, and several conclusions were drawn from the specific findings of each age group. This chapter attempts to provide a global view of the findings by making comparisons between the age groups with regards to some of the key variables investigated, with the overall objective of highlighting similarities and differences between the age groups. The general conclusions are then used to draw up some general recommendations where possible.

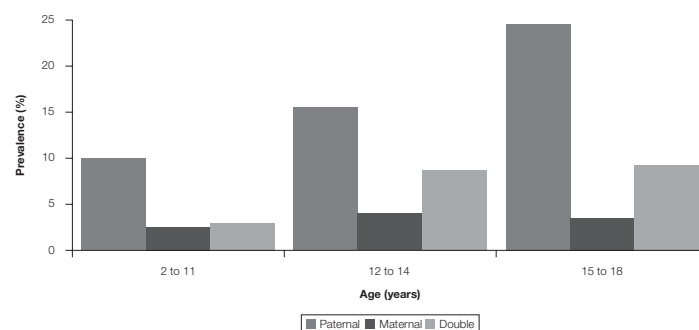
7.2. Demographic details

The demographic profile of the whole study population mirrors that of the general population as described in the OVC census report. This suggests that the sample was representative of the general population.

Orphanhood

Orphanhood was defined for age groups 2–11, 12–14 and 15–18 as per the Zimbabwean definition of orphan (Skinner, Tsheko, Mtero-Munyati, et.al., 2004). The prevalence of orphanhood in these age groups is shown in Figure 7.1 below. The data show that orphanhood is a major problem in the study area, and increasing with age. Of note is the fact that prevalence of paternal orphanhood is more than three times higher than maternal orphanhood across all age groups. This suggests that more men than women are dying and that they are dying earlier than women. Considering that in general men are the breadwinners, this observation suggests that the majority of households with orphans are deprived of the breadwinner, thereby worsening already existing poverty. This is likely to impact negatively on livelihood strategies of widows and children who may engage in transactional sex for survival, or in drug use. That prevalence of double orphanhood is constant across age groups suggests the existence of safety nets that absorb orphans into extended families. Nonetheless, the presence of double orphans suggests that a proportion of orphans may be heading households.

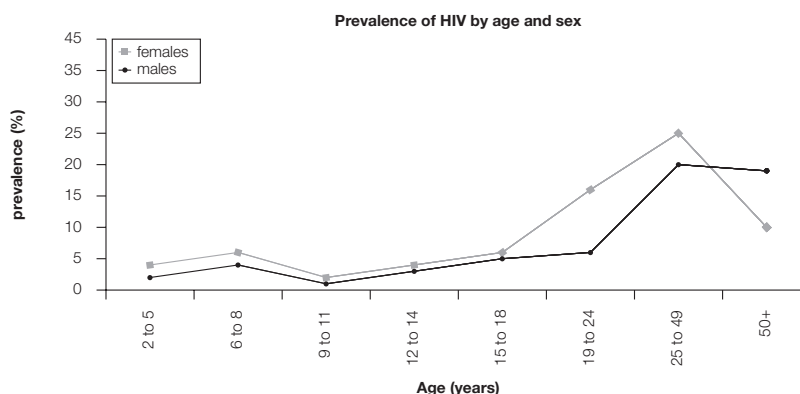
Figure 7.1: Prevalence of orphanhood by age group



7.3. HIV prevalence by age

The prevalence of HIV across age groups is shown in Figure 7.2. The overall prevalence of HIV in the study area is similar to the 2004 national prevalence of 21.4% reported by the MOHCW (2005). This suggests that the recent revision of the 2003 prevalence from 33.3% to 26.4% by the MOHCW may be justified (ZHDR 2003). However, levels are still unacceptably high and all efforts need to be made to stem the tide of infections. The prevalence trend is expected and is similar to that reported in other studies (Nelson Mandela Study/HSRC, 2002). However, the prevalence in the younger age groups is lower than that reported in the Nelson Mandela study in South Africa (Nelson Mandela Study/HSRC, 2002). The latter raised issues about sources of infection in the non-sexually active and it has been suggested that nosocomial infection may be an important route. While our study does not disprove this hypothesis, we are of the opinion that infection in the non-sexually active is most likely acquired vertically and that some of these children are living to beyond 10 years. Furthermore, the BSS found no obvious evidence of child sexual abuse. A study carried out in Zimbabwe showed very low levels of Hepatitis C virus infection, more transmissible through health care than HIV, among adults (Kallestrup et al., 2003). However, there is a need for further studies in this area.

Figure 7.2: HIV prevalence by age and sex

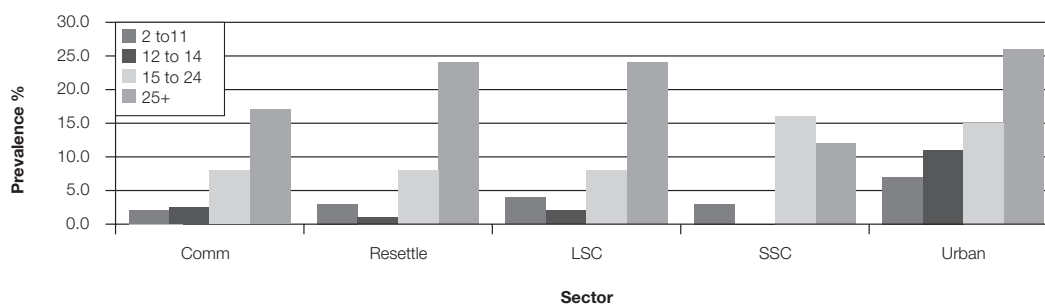


Our data show that 12–14 year olds are at risk of infection. Assuming that the majority of infections are acquired horizontally, the data suggest that a significant proportion of children are engaging in sex at an early age, despite the finding that the average age of initial sexual activity was reportedly above 15 years in the study population. Of even greater concern is the near threefold increase in prevalence between the age groups 15–18 and 19–24 years. This increase is even higher among females. Indeed, among the 19–24 year olds, prevalence is three times higher among females compared to males, in agreement with other studies in Zimbabwe and elsewhere (Gregson et al., 2002). Intergenerational sex involving young girls and older men explains the higher prevalence among young females and has been identified as a major factor fuelling the epidemic. Interventions need to be designed to address the factors driving young girls into early and intergenerational sex.

7.4. HIV prevalence by locality

Figure 7.3 shows that the age distribution of HIV infections was generally similar in the five sectors. However, of note is the fact that prevalence rates for all age groups, except the 15–24 year olds, were higher in the urban sector than other sectors. In the 15–24 year age group, prevalence was highest in the resettlement sector. Also of note is that prevalence among the 12–14 year olds was more than four times higher in the urban than all other sectors. This suggests that this age group in the urban area is particularly vulnerable and engaging in early sex, possibly because of economic hardships and lack of parental control. It is possible that a significant proportion of children had migrated from the other sectors to seek employment as domestic maids (girls) or touts (boys). In this situation there is no parental control, and young girls engage in sex for money. The observed contrast among the 15–24 year olds suggests that interventions need to be age and context specific to address the major factors fuelling transmission in the different sectors.

Figure 7.3: Prevalence of HIV by sector



7.5. Rites of passage

Overall, a small proportion of respondents across all age groups reported having gone through rites of passage rituals. In particular, very few males reported circumcision, while a slightly higher percentage of women reported virginity testing. The bivariate analysis did not show any associations between rites of passage practices and HIV infection.

7.6. HIV and AIDS-related knowledge

Comparisons of HIV-related knowledge are made among the 12–14, 15–24 and 25+ age groups, only because it is assumed the guardians are represented in adult age groups. Overall, knowledge levels were above 75% and increased with age with no significant differences between males and females. Twenty five years into the epidemic, it is of concern that up to 25% of the study population lacked adequate general knowledge about HIV and AIDS, despite the massive mass media and targeted IEC activities carried out nationally. This suggests that access to information is still limited. The most common media is the radio and it is possible that a significant proportion of our study population does not have radios, let alone televisions. Of even greater concern was the finding that knowledge on HIV prevention was even lower, especially among the 12–14 year olds. This calls for more concerted efforts to reach these groups with information and communication for behaviour change through targeted interventions, such as peer education and interpersonal communication.

7.7. Awareness of AIDS services across age groups

Overall, less than 40% of respondents were aware of HIV and AIDS services in their communities and the awareness increased with age with no significant differences between males and females. However, some sectoral differences were evident. The services included HBC and OVC care and prevention. Awareness on prevention services was even lower suggesting that these services (VCT, RH, PPTCT) may be very limited in the study area. HBC was the most commonly cited service, most likely because the NGO, Family AIDS Caring Trust (FACT), has provided HBC services in the province for a long time. Nonetheless, our findings indicate that whatever services are available are not well known and hence not being accessed by the general population. There is a need to increase the visibility of care and support as well as preventive services in the district as a whole. That there was no significant difference in awareness on preventive services between males and females suggests that ideal fora for information dissemination to women are MCH services. Similarly, there is a need to identify ideal fora for information dissemination to men.

7.8. Strengths and Weaknesses of the study

Strengths

This was a population-based survey based on a random sample. Thus, the findings are considered representative of the general population. This is the first study of this magnitude and therefore provides accurate statistics at community level. The study also attempted to dissect the demographic, socio-cultural and economic factors influencing transmission. An appreciation of HIV and AIDS services was also assessed, giving an indication of availability and access to the services, and a proxy for acceptance of the services.

Weaknesses

While the assumption of randomness is strength, it is possible that bias could have been introduced during data collection. There are three possible sources of bias. Firstly, randomisation was effected through counting households based on a given interval. It is possible that research assistants could have made errors in the counting since there was no systematic way of counting, especially in communal areas where households are also randomly placed.

Secondly, the selection of a respondent at the household level was based on not only availability but also the need to balance sexes. However, as is the case with most communities in Zimbabwe, women are more likely to be at home than males. Whether the men found at home have similar characteristics to those not found can not be verified.

Thirdly, the study was conducted during school term, hence school-going age children were not easily accessible. This reduced the sample size for the school-going age and may have introduced bias in that those found at home may not be representative of the children in this area.

Finally, this report is based on bivariate analysis. Therefore the interpretation of associations between HIV and the various variables is very limited, since there was no control for confounding. Similarly, no interactions were assessed. Thus the discussion, conclusions and recommendations made at this stage are not conclusive.

There is a need therefore to carry out more detailed analysis, including multivariable analysis to control for confounding and assess for interactions. In addition there is an equally urgent need to address the orphan problem as well as the issue of awareness of services. Similarly, emphasis needs to be placed on strengthening and/or designing interventions aimed at reducing the rate of HIV transmission and to provide care (including treatment) and support of the infected and affected.

7.9 Future Research

This study has provided a benchmark for evaluation of interventions that will be implemented in the district. Thus, follow-up BSS surveys should be conducted to determine the trends in HIV prevalence, care and support. Such studies will enable crude incidence rates to be assessed in the district. The present study has also identified areas that need further exploration in order to delineate the determinants of transmission and the care and support needs of communities. For example, the subtle sectoral differences in HIV prevalence need further research to identify and describe the factors that influence transmission in each of the sectors. Such data is essential for appropriately designed and targeted interventions.

7.10. Recommendations

Pending more detailed data analysis some recommendations can be made:

- There is need for interventions to address the orphan problem. The interventions should range from direct food and material support to OVC, to improving sustainable livelihoods of widows and OVC.
- There is a need to address the issue of infected children. While the government is moving as quickly as possible in making ARVs available to the vulnerable, generally there has been a lack of emphasis on children. HIV and AIDS service organisations should mobilise and prepare communities for ART. The mobilisation should be supported by strong advocacy for immediate introduction of ART for children as well as adults. The association between HIV and morbidity was observed in this study, albeit not significant at this stage of the analysis.
- Appropriate and properly targeted preventive interventions are called for to address the HIV transmission dynamics for the various age groups, cognisant of the sectoral differences observed in the present study. The one-size-fits-all approach to prevention using standard ABCDE approaches alone are unlikely to yield the desired results. Thus, each sector requires an in-depth analysis to direct interventions with regard the fundamental determinants of transmission.
- Despite the long-standing awareness campaigns, general and specific knowledge about HIV and AIDS remains disconcertingly low at about 70%. There is thus a need to ensure that the general and specific population groups access information on HIV and AIDS. This calls for multi-media approaches that bring the information to people's doorsteps.
- Awareness about HIV and AIDS services depends on the availability and accessibility of the services. The study suggests that these services are limited in the study area. There is therefore a need to increase the services, including HBC, OVC and prevention services.
- Following up on the above, existing services as well as other health services should strengthen and scale up their HIV-related activities. In particular, reproductive and maternal and child health services need to mainstream HIV and AIDS into their services.

REFERENCES

1. Bryson, YJ. (1996) Perinatal HIV-1 Transmission: Recent advances and therapeutic interventions, *AIDS 10* (suppl 3): S33–42.
2. Central Statistical Office (Zimbabwe) and Institute for Resource Development/Macro Systems Inc. (1989). *Zimbabwe Demographic and Health Survey 1988*. Columbia, Maryland.
3. Central Statistical Office (Zimbabwe) and Macro International Inc. (2000). *Zimbabwe Demographic and Health Survey 1999*. Calverton, Maryland.
4. Central Statistical Office (Zimbabwe) and Macro International Inc. (1995). *Zimbabwe Demographic and Health Survey 1994*. Calverton, Maryland.
5. Gisselquist, D, Potterat, JJ, Brody, S. (2004) Running on empty: Sexual co-factors are insufficient to fuel Africa's turbocharged HIV epidemic. *Int J STD AIDS*; 15(7): 442–52.
6. Gisselquist, D, Potterat, JJ, Brody, S, Vachon, F. (2003) Let it be sexual: How health care transmission of AIDS in Africa was ignored. *Int J STD AIDS*; 14(3): 148–61.
7. Gisselquist, D, Rothenberg, R, Potterat, J, & Drucker, E. (2002) HIV infections in sub-Saharan Africa not explained by sexual or vertical transmission. *Int J STD AIDS*; 13(10): 657–66.
8. Gregson, et al. (2002) Sexual mixing patterns and sex differential in teenage exposure to HIV infection in rural Zimbabwe. *Lancet*; 359: 1896–1903.
9. Grosskurth, H, et al. (2000) Control of sexually transmitted diseases for HIV prevention: Understanding the implications of the Mwanza and Rakai trials. *Lancet*; 355: 1981–7.
10. Jackson, H, (2002) *AIDS Africa: Continent in crisis*. SAFAIDS, Harare.
11. Kallestrup, P, Zinyama, R, Gomo, E, Gerstoft, J, Ullum, H. (2004) HIV in Africa - still a major matter of unsafe sex. *Int J STD AIDS*; 15(10): 709–10.
12. Kuhn, L, & Stein, ZA. (1995) Mother infant HIV transmission: Timing, risk factors and prevention. *Paediatric and Perinatal Epidemiology*; 9: 1–29.
13. Ministry of Health and Child Welfare Zimbabwe Report 2002, 2004.
14. Munyati, S, Rusakaniko, S, Mupambireyi, F, Mahati, S, Chibatamoto, P & Chandiwana, B. (2003) *Population Census Report of OVC in Bulilimamangwe and Chimanimani Districts in Zimbabwe*. BRTI-NIHR OVC Project Report, Harare.
15. Orphans and Vulnerable Children Project – Zimbabwe. *TARIRO*; July-December (2004). BRTI-NIHR OVC Project, Harare.
16. Poverty Reduction Forum and IDS (2002). *The Humanitarian Situation in Zimbabwe: Private Sector and Civil Society Perspective*; Harare.

17. SAFAIDS (2002). *HIV/AIDS Action: Responding to stigma and discrimination*; 53, Harare.
18. SAfAIDS; September (2000), Harare.
19. Shisana, O & Simbayi, L. (2002) *Nelson Mandela/HSRC Study of HIV/AIDS: South African First National HIV Prevalence, Behavioral Risks and Mass Media*. HSRC Press: Cape Town.
20. Skinner, D, Tshenko, N, Mtero-Munyati, S, Segwabe, M, Chibatamoto, P, Mfecane, S, Chandiwana, Nkomo, N, Tlou, S & Chitiyo, G. (2004) *Defining orphaned and vulnerable children*. Human Sciences Research Council Press: Cape Town.
21. *UNAIDS Report 2003*.
22. *UNAIDS Report, 2004*.
23. UNICEF (2003). Situational Assessment and Analysis of Children in Zimbabwe; *Cited in Zimbabwe Human Development Report 2003: Redirecting our responses to HIV and AIDS*; Poverty Reduction Forum and IDS, Harare.
24. Zimbabwe Human Development Report (2003). *Redirecting our responses to HIV and AIDS*. Poverty Reduction Forum and IDS, Harare.

