HYGIENE AND HEALTH: WASH PRIORITIES IN TODAY'S SOUTH AFRICA

Research findings from schools and communities in poor communities

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Figures and tables

ACRONYMS AND ABBREVIATIONS

ARV	Antiretroviral therapy
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
PLWHA	People Living with HIV and AIDS
RuralCARE	Home-based HIV/AIDS Caregivers
RuralEDG4	Rural Grade 04 Educators
RuralEDG9	Rural Grade 09 Educators
RuralG4	Rural Grade 04 Learners
RuralG9	Rural Grade 09 Learners
RuralPAR	Rural Tsawana learners' parents
RuralPLWHA	Rural PLWHA
UrbanCARE	HIV/AIDS home-based caregivers
UrbanED	Urban Grade 04, educators
UrbanG4	Urban Grade 04,10 years old learners
UrbanG9	Urban Grade 09, 15 years learners
UrbanPAR	Urban Parents
UrbanPLWHA	Urban PLWHA

EXECUTIVE SUMMARY

The WASH campaign is seeking to deepen its impact in hygiene and health promotion by commissioning research to identify health messages, and improve communication to achieve better health outcomes. This research, conducted by the HSRC has the objective of identifying practices for intervention, determining messages, and defining target audiences and communication in relation to health and hygiene particularly by young people in HIV/AIDS high risk areas. The results are to establish an approach linking the WASH campaign to initiatives and messages in HIV/AIDS health promotion.

The objective is to provide sets of appropriate tools that will contribute towards a reduction in diarrhoeal diseases and in HIV/AIDS prevention: thus contributing to better levels of health and particularly a reduction in child mortality. In addition a research objective is to study the effects of against opportunistic water wash/borne diseases on People Living with AIDS.

Research into knowledge and attitudes in relation to water related diseases and reproductive health was conducted high risk settings in both urban and rural areas. The method employed focus groups involving school children in Grades 4 and 9 (average age 10 and 15 respectively), educators, parents, PLWHA, and care-givers. A narrative method was followed in discussions; in which a storyline was presented and participants invited to provide their own comments and interpretation. Following these discussions, questionnaires with a wide range of demographic and health issues were completed by participants.

From the focus groups and small-scale survey it appears a lack of knowledge of health and hygiene in relation to water related diseases and HIV/AIDS in itself is not the key problem. Two issues were highlighted: the first, in relation to water and sanitation is a very uneven availability of facilities in the school and community to make it possible for people to use a toilet and then wash hands. Relevant messages are being conveyed at school and at home. There is a good level of knowledge of hygienic practices (although some ignorance of the nature of infections and their transmission) and little resistance to the messages being communicated on handwashing and hygiene.

In relation to the second issue, HIV/AIDS, there is also reasonable knowledge of the disease and its transmission, even though there is, almost exclusively among boys and men in the community, some contradictory acceptance and views. In the focus groups the discussion was about peers in the community and there were many comments that young men tended to doubt the existence of HIV/AIDS, use violence in love relations, and are not prepared to follow the ABC principles. In discussion many boys stated that they do not support these views and actions. Young women generally are reported to be more prepared to accept that the disease is a threat to their lives and to follow these principles.

These views were reinforced in the focus groups of PLWHA and care-givers who both make a strong link between the health and hygiene issues highlighted in the WASH campaign and the needs of PLWHA.

What links can be made between messages relating to both health and hygiene and HIV/AIDS? From the focus groups there appears to be a major difference between WASH and HIV/AIDS messages: in the first case the messages are not contested and the lack of facilities is identified as the problem, in the second there are some trends in the community towards the rejection of HIV/AIDS health messages.

The researchers argue that the links between hygiene messages and the promotion of reproductive health need to be carefully considered. In focus groups, PLWHA make the point that hygiene and water related issues are crucial to their health.

A strategy is proposed in which this strong point is used not only to reinforce WASH messages but to assist in education about HIV/AIDS. There are a number of well qualified organisations in the field (such as loveLife) which have advanced and well funded programs. Educators and NGOs in the areas surveyed reported that they are not evident locally. LoveLife, for example, is not reported to be intervening generally in the two types of high risk areas identified: rural communities and informal settlements.

Because of this there is a great need for education about HIV/AIDS in the schools; for curriculum development and new methods of teaching. It is proposed that the WASH campaign should combine the messages on water with those of HIV/AIDS and that PLWHA and care-givers be trained to present health messages in rural communities and schools. Messages should be prepared and piloted in various forms of media and activities. In this way the connections between health and hygiene in relation to HIV/AIDS and the availability and quality of water could be taken up in a WASH campaign.

The results from the survey showed that although attitudes to health and sexual reproduction have a cultural dimension, younger and more educated people see culture as less fixed and are likely to be more responsive to new messages. There is a demand from schools for health and hygiene promotion and the WASH campaign, together with the Department of Education, could help bring the educational policy commitments on School, Youth and Adolescent health education forward.

INTRODUCTION

> Learners in Burgersfort in Limpopo have been hit by an outbreak of bilharzia and more than 100 pupils at SM Nkoana primary school in Leboeng village have tested positive for the disease. The learners' symptoms include urinating blood. The community relies on unpurified water from a nearby river. SABC, 12 May 2005

> The Mthatha area of the former Transkei, in the Eastern Cape, was abuzz with helicopters today as the provincial health department embarked on a massive campaign of immunisation and general health education. This follows the outbreak of a mysterious disease associated with pigs that has left one child dead and 20 others hospitalised. Coza village in the Libode area has no sanitation. SABC, 3 May 2005.

> Major differences were found amongst various types of locality with youth living in urban informal areas having significantly higher HIV prevalence (20%) than youth living in urban formal areas (9%) (Shisana. & Simbayi, 2002:61)

Impoverished people in South Africa are more vulnerable to ill-health; and yet there are a range of resources which should be serving their needs. Those who are better off have access to a hygienic domestic environment, access to good household and medical facilities, and better schooling; all of which reinforce health messages. For those outside this health-enabling environment are vulnerable to many of the socio-economic diseases which characterize the underdeveloped world. The health of impoverished people in South Africa is vulnerable to a wide range of environmental and communicable diseases. In the period during which the research was being undertaken the public radio reported on outbreaks of bilharzia in Limpopo and of tapeworm infestation in the Eastern Cape and the Minister of Health flew in to check on the medical intervention. Although bilharzia was reported as an 'outbreak' it is endemic in rural communities of South Africa with access to rivers and streams. Worm infestations and particular condition linked to pigs have a considerable history of occurrence in the area (Foyaca-Sibat, 2002).

Although both are reported as unusual health incidents both are also linked to individual and domestic hygiene and point to wider problems of access to safe drinking water and adequate sanitation. In the absence of these improved conditions the health of rural communities is constantly being undermined by diseases such as bilharzia (schistosomiasis) which, although threatening life, is a prominent, chronic, recurring infection in endemic areas, with a lasting impact on the quality of life. These conditions are blighting the lives of children although they are not considered a priority even though drug treatment relatively cheap (Mascie-Taylor, 2003:1921). Millions of people, particularly the young, are held back from realizing a healthy and productive life because of debilitating health conditions. The

total for all three soil-transmitted infections and schistomosomiasis is 43.5 million life years lost which is second only to tuberculosis and precedes malaria and measles.

The health settings in rural communities are partly replicated in urban slums in particular in relation to HIV/AIDS which is leading to the debilitation of over five million and to the death of hundreds of thousands a year in South Africa. How can the lives of children in urban and rural impoverished communities in South Africa be protected from chronic and life threatening diseases?

In this report research is presented on water related diseases (the existing field of the WASH campaign) and the implications for a strategy health promotion for reducing both the risk of water related diseases and HIV/AIDS and improving the life of those living with HIV/AIDS.

WASH OBJECTIVES AND SOUTH AFRICAN POLICY INITIATIVES

In an important international statement, the WASH campaign recognizes that billions of unserved people "mostly the poor and marginalised citizens living in squalid, unhealthy environments in the developing world" (WASH, 2002). The WASH campaign here recognises sanitation facilities as a basic human right and gives particular attention to children, who are most vulnerable, in the campaign for better hygiene. Diarrhoea kills some two million children a year, which is described as "a scandal in a world in which the resources are available" to meet basic sanitation needs. It is argued there are two reasons for the lack of remedial action. Firstly politicians and policy makers regard sanitation as a "dirty word"

> There is no prestige or political capital to focus on sanitation because those who are most in need have the least political power (WASH, 2002).

Water, it is argued, always gets the first priority and the backlogs mount: "revolutionary thinking" is needed to change strategy away from this preoccupation, as as safe water alone leads to minor health improvement. It seeks the prioritization of hygiene to get far greater impact:

> Sound hygiene behaviour must be recognised as a separate issue in its own right, with adequate sanitation and clean water as supporting components.

A combined effect of the three elements of water, sanitation and hygiene is needed as sustained hygiene is virtually impossible without a source of water and a safe means of disposal of human and other wastes. The lack of progress towards supporting sound hygiene, it concludes, is creating a "crisis of governance and political will" (WASH, 2002).

Its strategy is captured in VISION 21 which (inter alia) puts forward a holistic approach and seeks "technologies that respond to actual needs" around the acknowledgement of hygiene, water and sanitation as a human right, and the elimination of poverty (WSSCC, Vision 21).

Poverty alleviation is a goal mentioned in the prospectus of the last WASH workshop: "Safe water, sanitation and hygiene - WASH issues - are essential to poverty reduction, for a better quality of life and the overall development process. The greatest mistake of national and international development efforts over the last fifty years has been the failure to secure these basic needs."

Publicity has been given internationally and locally to death from handwash and waterborne diseases. Additionally the problem of the health conditions of young people at risk and/or people living with HIV/AIDS has a major dimension in South Africa.

The White Paper on Water Supply and Sanitation (1994) emphasised the provision of infrastructure as well as the importance of changed practice in achieving sanitation.

> These inadequate facilities, combined with unhygienic practices and a general lack of formal water supplies, as well as safe disposal of other domestic waste water, represents South Africa's sanitation problem (DWAF,1994:33).

However, the provision of sanitation infrastructure and the promotion of good hygienic behaviour did not receive much priority until the cholera outbreak in 2000/01. This revealed an alarming disparity between the provision of sanitation against progress in water delivery and sanitation has gained new significance.

The White Paper on Basic Household Sanitation followed in September 2001 and a renewed commitment was made to accelarating sanitation infrastructure delivery. When the WASH campaign was launched in South Africa March 2002 the emphasis turned in addition to the provision of sanitation to good hygienic practice as an essential element of improved health and standards of living. The aim of WASH in South Africa is "to improve the environmental health conditions of the people of South Africa and, in particular, to reduce the incidence and transmission of waterborne diseases". WASH is designed to build inter-departmental coordination as well as seek partnership with other agencies in South Africa.

South Africa is one of the handful of countries that have established their own national WASH programmes. Others include the Philippines, Senegal and Madagascar.[1]

RESEARCH OBJECTIVES

The relaunching of the WASH campaign should speak to the issues faced in the poorest of communities and to link campaigning on water related issues to that of HIV/AIDS.

HSRC has been requested to deal with the two components of WASH i.e. content and communication. Not enough research has been done on the content component of WASH, and there is a need for exploratory research that can be applied. In addition as WASH is a broad programme aimed at meeting the Millennium Development Goals, there is need to draw in these departments: Department of Education, the Department of Health, District Municipalities, and civil society groups.

[1] http://www-dwaf.pwv.gov.za/new/campaigns/WASH/default.htm

The research objectives are to identify existing community understanding of health and hygiene practices, to locate gaps in knowledge and in practice, and to devise messages to lead to improved hygiene. The first phase of the research project is to identify practices for intervention (by all authorities including particularly HIV/AIDS care-givers), determine messages, and define target audiences and communication in relation to health and hygiene particularly by young people in high risk areas. This will establish a method and approach for the WASH campaign in South Africa and, most importantly, bring together initiatives and messages in relation both to water borne diseases and to HIV/AIDS.

The objective is to provide sets of appropriate tools that will contribute towards a reduction in diarrhoeal diseases and in HIV/AIDS prevention: thus contributing to better levels of health and particularly a reduction in child mortality. In addition a major research objective is to study the effects of opportunistic water wash/borne diseases on People Living with AIDS and how to promote improved hygiene amoung these groups.

The second phase of the research project is to evaluate the intervention in relation to these health messages and to conduct a survey of the changes in behaviour and in health and hygienic conditions.

METHOD

A method appropriate to the objective has been devised for this research; this was planned to involve two sites with poor people vulnerable to both water related and HIV/AIDS, one informal urban and the other traditional rural. The approach adopted was to focus on schools as the institution regarded in policy as central to the health improvement of children and, in the longer term, the communities where they live. The research follows the objective of relating conditions, practices, and health messages to young people in high risk areas.

One of the most challenging aspects of the work has been to link a range of health issues from worm infestations to sexual practices around the WASH themes. In many health conditions concealment or even denial is an integral aspect of the psychology of survival; although these aspects are well understood in relation to HIV/AIDS they appear more generally, particularly in relation to diseases associated with poverty and underdevelopment e.g. cholera (see Nations, 1996). Observation, focus groups, interviews and surveys were designed to provide many views of the range of disease in areas.

The research also responded to these challenges by widening the range of participants to include younger and older strata of school children, parents, educators, community health workers and caregivers, and People Living with HIV and AIDS (PLWHA).

The approach has been to place children at the centre of the research with focus groups to allow the fullest expression of ideas and feelings followed by questionnaires with many open-ended questions to capture responses in the most open technique possible. Focus group discussions and the limited survey were used to identify the existing state of knowledge and beliefs among school going youth as the stratum of the population most

likely to be involved as subjects but also possibly (because of their improving education) as actors in health promotion.

Through observation, participation in the communities, focus groups and surveys, the work has brought together community profiles of services and health, basic demographics, and household data. Through this work in the field there is considerable data on health and hygiene practices, and attitudes to social change has been gathered. The researchers have worked to identify the existing state of knowledge and practices and gauge the distance of these from the necessary practices for health. Due importance has been given to local culture and awareness and the identification of channels between a wide range of communicators and children.

Both the quantitative and qualitative material has allowed a ranking of issues and attitudes against current socio-economic conditions. From the data it has been possible toidentify? gaps in knowledge, misconceptions, and in perceived priorities among respondents. These have been measured against the research which has been conducted on prevalence and severity of water related and soil-transmitted disease against fault lines of delivery and access to water and sanitation services.

TARGETS FOR IMPLEMENTATION

Through the adoption of a series of international agreements, statements and the Millenium Development Goals (MDG) a set of policies, official targets and benchmarks have been established against which hygiene promotion can be measured. South Africa was involved in VISION 21 which was launched by the Water Supply and Sanitation Collaborative Council (WSSCC) at the Second World Water Forum and Ministerial Conference in The Hague in March 2000. It set out goals which had already been captured in the Reconstruction and Development Programme, but which had not been achieved (i.e. full access to water and sanitation by 1999[2]) although the question of hygiene has been added.

VISION 21 TARGETS

Targets set for 2015	Targets set for 2025
Universal public awareness of hygiene.	Good hygiene practices are universally applied.
The percentage of people who lack adequate sanitation globally should be **halved**.	All people have adequate sanitation.
The percentage of people who lack safe water should be **halved.**	All people have access to safe water.
Eighty percent of children are educated in hygiene practices.	All primary school children are educated in hygiene practices.
All schools are equipped with adequate sanitation and hand washing facilities.	All schools are equipped with adequate sanitation and hand washing facilities.

Minnie Venter-Hildebrand, 2003

An exhaustive discussion of these goals and their 'carry over' into the Millenium Development Goals will not be undertaken here, although there was a more specific link made between hygiene, sanitation, and safe water. In Goal 6 of the MDG the targets relate to combatting HIV/AIDS, malaria and other diseases and place safe drinking water and basic sanitation at the centre of prevention of water-related diseases, including diarrhoeal diseases, schistosomiasis, filariasis, trachoma and helminths (UNICEF, 2004:7).

Undoubtedly the adoption of the MDG spelt out first in 2000 had an influence on the writing of the crucial White Paper on Water Services which was eventually adopted by the Cabinet in 2003. In this document specific targets are set for full access to safe water by 2008 and to sanitation by 2010, and, in addition, a set of references to hygiene education and wise use of water both in schools (by 2005) and the practice of safe sanitation in homes by 2010.

The precise goals and dated objectives are set out in the table below.

[2] "Water and Sanitation: The RDP plans to supply 20 to 30 litres of clean water each day to every person within two years, and 50 to 60 litres a day within five years from a point no more than 200 metres from their dwelling. All homes must have sanitation and refuse collection within two years." See ANC, 1994.

Cabinet approved objectives

Targets and benchmarks	Strategic Framework 2003
All schools have adequate and safe water supply and sanitation services by 2005.	Indicator 3, page 6
Hygiene education and wise use of water taught in all schools by 2005.	Indicator 7, page 6
All have access to a functioning basic water supply facility by 2008.	Indicator 1, page 6
All have access to a functioning basic sanitation facility by 2010.	Indicator 2, page 6
All households supplied with piped water receive a quality meeting minimum standard for potable water in SABS 241.	Indicator 3, page 64
All clinics have adequate and safe water supply and sanitation services by 2007.	Indicator 4, page 6
Free basic water to be supplied to all domestic consumers.	Indicator 5, page 65
Free basic sanitation to be provided to domestic consumers.	Indicator 6, page 65
All households with access to basic sanitation to practice safe sanitation by 2010.	Indicator 8, page 6
All consumers not to experience interruptions of less than 48 hours (at any one time) and cumulative interruption (during year) of less than 15 days.	Indicator 4, page 64
No water to be discharged into environment which does not meet discharge standards.	Indicator 9, page 65

DWAF, 2003, pages indicated in table.

The targets also significantly relate the provision of water and sanitation to key institutions in children's livesi.e. schools and clinics. As will be seen from a reading of the targets, all schools are to receive adequate safe water supply and sanitation services by 2005, a point which will be returned to below.

WHY SCHOOLS?

Early in the research it was recognised that a decision had to be made about the locus of the research itself and the subsequent recommendations. Since youth are the sector to be targeted a focus on school children has been inevitable, but equally in relation to the broader social and environmental issues the community has been a point of reference.

The research has been focused on schools for two reasons; firstly this is the setting in which virtually all the children and youth of South Africa spend daily most of their active day, and secondly because there is a well established policy framework which spells out health promotion as an integral part of educational activities. The Department of Health's policy guidelines for youth and adolescent health regard the school as the intervention setting with

the potential to reach the largest number of adolescents (D7oH, 5.2; p30) and the argument could be made equally for younger children. For those 56% in the rural population who live more than 5 kilometres from a health facility, the school is the most accessible site for health instruction (DOH, 2001:30).

In addition to this very practical consideration a specially drafted *School health policy and implementation guidelines* of 2003 set out to create health promoting schools, to remove barriers to learning, to assist children otherwise beyond the reach of health services, and to provide health education. The policy document sets out the health barriers which impact both on the children directly and their educational development.

> The major health barriers to learning for children in South Africa are primarily related to poverty and include poor nutrition, environmental deficiencies such as poor water and a lack of sanitation, and disabilities including gross loco-motor dysfunction as well as impaired vision or hearing. These factors impact on attendance at schools and the learners' ability to concentrate in the classroom. This contributes to the poor pass and retention rates for schools and impacts negatively on the overall development of children and youth (DOH, 2003, ix).

The argument is further extended by the fact that there are 12 million children in schools which are often also the site of many disfunctional aspects of their lives.

Other important health factors impacting on the development of children and youth of school going age include issues relating to sexuality, HIV, AIDS and reproductive health, trauma violence, substance abuse and mental health problems.

There are considerable oportunties for advancing health promotion in schools. Most children spend up to 13 of their formative years, from early childhood, in a classroom environment. During this stage they are considered "captive audience" (DOH, 2003: 3) for health education. Although the health curriculum is mentioned (page10) it is not well developed but the issues to be included in health promotion include:

- Life skills
- Child abuse.
- High-risk behaviours, including substance abuse and violence.
- Road safety and overall safety within homes and communities.
- Environmental health, including water safety and sanitation.
- Healthy lifestyles.

A leading concept in health policy in South Africa is that the Health Promoting Schools (HPS) which combines a Primary Health Care (PHC) approach which embodies all the elements of health care, with specific emphasis on promotive and preventive health care activities in this case with education. The HPS initiative is conceived as providing a school health service (DOH, 2003:1.1.1; page 3) involving immunisation and other basic public health practices with the essential points:

> Development of healthy school policies
> Address health needs
> Development of health needs

Personal skills
Supportive environment
Community action involving the school and broader community.

The Youth and Adolescent Health policy of 2000 also proposes that schools should become centres of community life, creating healthier school environments and dealing urgently with the HIV/AIDS emergency. The problem is that although the schools are the prime institution for intervention, in poor areas they are often appalling infrastructure leading to insanitary conditions. The Nelson Mandela Foundation study of rural schools (2005:84) supports this conclusion as does the *School Health Policy* document of 2003.

The latter in the section on poverty and environment (1.1.3; Page 7) found that 25% of the schools do not have water within the walking distance and 75% do not have electricity. Nearly half of primary and combined schools use pit latrines, and these are often insufficient in number, over-utilised and smelly. The school children were found to be at risk of HIV/AIDS; 24% of learners were sexually active and 46% saw their friends as being sexually active and by the age of 19 years, 35% of all girls surveyed had been pregnant or had a child. It proposed that the rights of children should be upheld and promoted and that the Health Promoting Schools Initiative should take forward the national health priorities. It suggests that there should be assessment of the health of learners to identify barriers to learning and points out with approval the involvement of health personnel in the Albany district in the Eastern Cape which had carried out such an assessment (page 27).

Undoubtedly schools have to be the focus for health promotion, but the question is that of resources, materials and infrastructure.

HYGIENE CODES AND THE BROADER IDEA OF HYGIENE

In undertaking the research it is necessary to locate benchmarks for knowledge and practice in disease common to poor communities in South Africa from which to measure current understanding and practice. The knowledge and practice set out in the terse statements which make up a 'hygiene code' do not provide comprehensive knowledge of a disease, cause, transmission, and treatment, but rather a set of rules which would lead to the avoidance of health problems.

Two such codes have been selected, one from the WASH campaign which prioritises sanitation and hand washing and another from the Department of Health in KwaZulu-Natal which was drafted in the face of the cholera epidemic. As will be seen from a detailed examination of the text, the messages do not differ significantly except in their detail. The specific measures for each practice may, however, be important. In the case of hand washing the matter of timing is important (for example *after* using a toilet and *before* feeding a child) and the practices may need some meticulousness. A study of hand washing by mothers concludes that most hand washing is superficial and is often done with reused water including that in which dirty nappies have previously been soaked or rinsed. (Dialogue,

1989). Although mothers in poor communities report they wash their hands after touching money, rubbish or adult human faeces, observation found that this was not always the case. Baby stools are also not considered to be dirty or contaminating. It was found that hands are rarely washed with clean water and soap and they are generally dried on the mother' s clothes.

In few communities is it also considered necessary to scrub out containers used to collect water before storage and the quality of water has been found to deteriorate over time. The cycle of transmission disease in domestic and local environments with potentially high levels of e-coli in water and on hands and eggs or cysts of parasites may require a good level of practice to be broken.

Hygiene and cholera codes

The WASH Hygiene Code	To Prevent Cholera
All faeces should be disposed of safely. Using a toilet or latrine is the best way.	Use proper toilet facilities only and wash hands after use. Do not contaminate rivers or leave sewage where it can be washed into a river by rain.
All family members, including children, need to wash their hands thoroughly with soap and water or ash and water after contact with faeces, before touching food, and before feeding children	Wash your hands before handling or eating food.
Washing the face with soap and water every day helps to prevent eye infections.	
Water should be drawn from a safe source if at all possible. Water containers need to be kept covered to keep the water clean.	Use only clean, treated or boiled water.
Raw or leftover food can be dangerous. Raw food should be washed or cooked. Cooked food should be eaten without delay or thoroughly reheated.	Wash all raw food with clean, treated or boiled water. Wash food utensils in clean, treated or boiled water.
Food, utensils and food preparation surfaces should be kept clean. Food should be stored in covered containers.	Protect food from fly contamination in your homes.
Safe disposal of all household refuse helps prevent illness.	Do not allow children to play in dirty pools, rivulets or storm water outlets.

WASH Campaign

ttp://www.comminit.com/strategicthinking/stdigitalpulse/sld-1626.html

KwaZulu-Natal Department of Health, 2003.

http://www.kznhealth.gov.za/cholera.htm

Additional rules have also to be made in relation to codes setting out strictures to limit water related diseases. It has been found that soil-transmitted helminths (Ascaris lumbricoides, Trichuris trichiura and hookworm) abound particularly in low-lying rural communities in the East Coast of South Africa

Research has found that parsites flourish where water and sanitation services are inadequate, preventive services weak, and treatment is difficult to obtain (Kvalsvig 2003). In areas in which parasites are endemic even those who take preventative measures are at risk and the cycle of infection is difficult to break.

These codes of prevention and practice are limited by the level of water services, the wearing of shoes, and the presence of domestic animals in the close vicinity of children.

Prevention of parasitic infections

Parasitic infection	Prevention strategies
Bilharzia (Schistosomiasis)	Avoid swimming or wading in fresh water where schistosomiasis occurs. Do not spread the disease by urinating into rivers and streams. Drink safe water. Boiling water for at least 1 minute will kill any harmful parasites, bacteria, or viruses present.
Roundworm (Trichuris trichiura)	Do not walk barefoot or contact the soil with bare hands in areas of infection.
Hookworm	Hookworm is common where there is likely to be faeces in the soil or sand. Avoid contacting soil that may be contaminated with human faeces. Do not defecate outdoors. Dispose of nappies properly.
Ascaris	Wash hands with soap and water before handling food. Where sanitation and hygiene are poor, avoid water or food that may be contaminated.

CDC fact sheets, accessed June 2005.

Despite these reservations these codes serve as the guide to questions of hygiene practice and as benchmarks against which prevention strategies are being managed.

FOCUS GROUPS AND SURVEY: SOME BACKGROUND

The research was conducted at two localities. The urban townships of Shakashead and Shakaskraal with their attached informal settlements, which lie in the shadow area which lie inland on the other side of the northward freeway from Ballito, have a significance beyond their relatively small size. The local municipality of the Dolphin Coast is the setting of the first management concession in South Africa and has been studied to see the progress of water and sanitation under these conditions. It is also the setting for an important faith-based initiative in community care which has ensured that there is a reasonable level of support for families with AIDS sufferers, a highly motivated group of caregivers and generally greater awareness of the pandemic. The caregivers have ensured that there is a greater acceptance of ARV treatment and an alternative to the hopelessness of those affected and their families.

The community is relatively well served with a clinic in Shakaskraal and formerly 'Indian' schools at a primary and secondary level. Despite these resources, the community is regarded as very poor and there are shack areas adjoining the townships in which people are largely unserved with water and sanitation. In Shakashead it is possible to see women still collecting water from dirty pools despite the provision of water through standpipes because they cannot afford the cost of a card.

The other site, Bizana, falls within Region E of the Eastern Cape, which has the highest HIV prevalence in the province.

HIV incidence

Region A. 22.1% (PE-Uitenhage Metropole)

Region B. 15.1% (Queenstown Area)

Region C. 17.1% (Mdantsane)

Region D. 7.5% (Umtata)

Region E. 22% (Bizana and Umzimkulu)

Stofile, 2000

The region is also one of the poorest in South Africa and is characterised by inadequate communication and transport infrastructure which makes delivery of services in health, education, and welfare difficult. According to information received by researchers, the area was once provided with an improved water supply project although this is now inoperative but no sanitation.

However, despite its poverty, the Bizana area has an active Eastern Cape Civil Society dealing with many aspects of development. One of the most prominent ongoing project in the area is called Bambisanani Project which is a faith-based and large project involving the implementation of home-based care systems in the area. The project, which offers a range of services to people infected and affected by HIV/AIDS, is being led by a youth activist working to building social cohesion around caring for PLWHA.

The schedule of visits and research activities is presented below.

Focus Groups

Shakaskraal

Number	Date	Place	Participants	Code
1	28 Jan	Shakaskraal Methodist Church	HIV/AIDS home-based caregivers	UrbanCARE
2	09 Feb	R A Padayachee Primary School	Grade 04,10 years old learners	UrbanG4
3	10 Feb	R A Padayachee Primary School	Grade 04, educators	UrbanED
4	12 Feb	Ethembeni Hospice Nkobongo	PLWHA	UrbanPLWHA
5	14 Feb	Shakaskraal Secondary School	Grade 09, 15 years learners	UrbanG9
6	14 Feb	R A Padayachee Primary School	Parents	UrbanPAR

Bizana

Number	Date	Place	Participants	Code
1	21 Feb	Tsawana Junior Secondary School	Grade 04 Educators	RuralEDG4
2	21 Feb	Tsawana Junior Secondary School	Grade 04 Learners	RuralG4
3	22 Feb	Tsawana Junior Secondary School	Tsawana learners' parents	RuralPAR
4	22 Feb	Tsawana Junior Secondary School	Grade 09 Learners	RuralG9
5	22 Feb	Tsawana Junior Secondary School	Grade 09 Educators	RuralEDG9
6	24 Feb	Bizana: Paralegal Advice Centre	PLWHA	RuralPLWHA
7	24 Feb	Bizana: St Patricks Hospital	Home-based HIV/AIDS Caregivers	RuralCARE

Altogether 42 school children participated in the focus groups and completed the exit questionnaire; they were equally divided between 21 Grade 4 learners and 21 Grade 9 learners. Of the total 19 were boys and 23 girls; 33 were African, 1 was Coloured and 8 were Indian.

Within each grade there is a range of ages; in Grade 4, 9 - 12 years old and Grade 9,. 14- 16 years old with the oldest in each grade generally in the rural areas.

In the rural area the majority fetched water from the river; in the urban area from a public standpipe or a direct connection. Although there were significant differences between rural and urban schools, both groups were highly involved in collecting water for their homes, altogether 86% of the total. About a third of the children reported taking the prime responsibility for collecting water, another third shared the responsibility with their sister

and mother, and the remainder either had their mother take responsibility or did not need to collect water. Among children in the rural area 90% of children (19 out of 21 of these learners) are involved. For more 60% of the children collecting water is an activity they undertake more than three times a day. Very evidently these children are carrying a heavy burden in supporting their families. In addition the children have a high level of water contact by washing clothes, dishes or bathing in the river.

The urban/rural contrast is also evident in the toilets available; in the rural area the family of only one learner had a flush toilet and most had unimproved pit latrines or none; in the urban area 14 learners had a flush toilet and the remaining 7 Ventilated Improved Privies. Most of the children (28) lived in a house made of blocks or bricks with 11 in mud and stone houses, and 3 in shacks.

The parents of children at the three schools were involved in focus group discussions; there were 8 involved in Shakashead and 9 in Bizana; the groups were overwhelmingly made up of mothers (88%) and most had completed Grade 8 or further. Some 60% of parents regarded themselves as poor and the remainder as 'better off'. While most were satisfied with government's handling of health issues, most were dissatisfied with its handling of water and sanitation (54%), and more than 60% were dissatisfied with its creating jobs. Most parents felt that people help each other in their neighbourhoods, but in Bizana half felt that this happened 'rarely' – these were also those who regarded themselves as poor.

Questionnaires were also completed by 19 teachers and 24 People Living with HIV/AIDS.

The numbers in each focus group were, in the nature of the technique, limited and the samples of parents, educators and PLWHA not drawn on a representative basis. The questionnaires have, however, been analysed with a few to ranking issues and exploring the context in which health messages could be communicated.

PERSPECTIVES ON POVERTY

The lives of the young people living both in urban and rural conditions of great poverty is marked by poor health and limited prospects for personal growth. In discussion with school youth and community members a wide range of afflictions and disease, all having a decided effect on health and wellbeing, received mention. In the focus groups and follow-on survey particular attention was paid to water related diseases associated with the WASH campaign and the notions of health and hygiene among children, adults, and teachers with particular attention to HIV/AIDS. These diseases included diarrhoea, bilharzia, worm infestation, as well as HIV/AIDS. In the nature of a focus group discussion, however, other issues associated with the lives of children arose and these will be reviewed before an examination of the state of knowledge of these diseases.

In the eyes of the communities one of the key features of life which showed the lack of social order and progress for young women was the rising level of teenage pregnancies. This is regarded by some of the older members of the community as an illustration of the lack of response of youth to reproductive health messages.

> You can tell from a number of pregnant teenagers around the community and those that you see at the clinic. You can also tell from a number of babies that each boy has father, some have fathered as many as three with different mothers (UrbanPLWHA).

In this setting the rising number of fatherless children is deeply shaming. In the focus group in the rural area the following discussion was recorded:

> Looking around your community how is the prevalence of teenage pregnancies in the community?
> All: Shush!!! Do not even mention that.
> The rate of teenage pregnancy is very high and is escalating, we as parents do not even what to say or do to avoid this problem (RuralPAR).

Among parents there is a sense of lack of control and a feeling they are ill-educated in comparison with the rising generation and that the youth are 'in charge'. Tied to this is the presence of threats to parents of girls:

> What we have lost together with culture is also the security of protection that one used to enjoy as an elder. Nowadays, boyfriends usually come up the house and ask the girl's father "Can I see my girlfriend?" And you can see that if you are steadfast you may end up being beaten up by these young men (UrbanPAR).

This loss of authority of an older generation is also carried into the public sphere as is related by an woman participant:

> You see about nowadays you cannot approach somebody else's child and say "Oh, my child why are you, so young, behaving like this?" Neither can you walk up to a parent and say I saw so and so with a man because you may end up being

> stabbed by the boyfriend accusing you of "Going to tip off a girl's mother" about her love life (UrbanPAR).

The lives of many of the children and parents (and young men) coming from desperately poor communities their lives have been touched with abuse and violence. In a number of comments these factors were mentioned largely in the context of sexual relations. One of the ten year old participants felt that a commitment to abstinence by a girl would be rejected in the following brutal terms:

> The boyfriend will refuse to abstain, and he will rape her (RuralG4).

Many of the participants portray communities which are bleak in the presence of death and threatening to women. One of the rural parents lost two daughters to AIDS and was left with the responsibility for a baby for whom she feared:

> I lost a daughter to HIV/AIDS leaving behind her an eighteen month old baby who is 100% healthy...It is up to us as parents to give them full protection and clear advise about this disease, we must ensure that they are confined within our yards to limit the chances of them being raped(RuralPAR).

Although not sought, the question of sexual abuse and rape kept appearing in focus group discussions.

Child rape

Those people living with AIDS often feel that life had unpredictable and terribly destructive shocks in a culture which seems very different from idyllic rural life:

> People only think of themselves and want to satisfy their own needs. For example say a man has a 3-month-old baby at home and a wife goes to get water from the river. He is left at home alone with a small child and then he decides to rape his own child. If he is not concerned with the welfare of his own child how can he be bothered with somebody else's? (RuralPLWHA).

Rape of babies and young girls appears to be a dominant threat in the minds of people living with AIDS:

> Parents must pay attention and don't just sit and relax when they do not know or see where the children are for up to three hours. It's terrible how kids are being raped out there, it is very sad (RuralPLWHA).

This is also mirrored in the urban slum where a caregiver arrived late for the focus group meeting because she was following through with a police enquiry into a number of rapes:

> There are four children who we took to hospital after being raped, but the police at Umhlali were not helpful. We ended up asking for a car to take us to Durban where the police took our matter up and certain people have been arrested. The first rape victim is two-and-a-half years, the second six years and the third child is thirteen years old (UrbanCARE).

The children of the shacklands are presented as particularly vulnerable:

> Yes it is important because some of children are being abused, and no one knows they keep it as a secret within themselves, so parents should teach them so that a child would know that if uncle touches my private parts is doing a wrong thing, I'll have to report him to Mom or to the police or whoever, especially those who come from the shacks around here where they share one room with male adults. (UrbanED).

Despite the feeling that parents do not have control over behaviour, particularly sexual behaviour of their children, a number of young participants in focus groups mention points made to them. Drugs were mentioned as a particular issue by one of the urban youth who was told by his mother that he shouldn't "do drugs" as he would not have anything to eat (UrbanG4).

The view of the social environment in urban slums and rural communities, particularly from those living with HIV/AIDS or cargivers, is somewhat unflattering and pessimistic. Children generally have the view that life is improving despite acute social problems.

Accessing facilities for health and hygiene

The difficulties of accessing safe water are considerable. As is mentioned by one of the rural caregivers, in a community where there are no water services, getting sufficient water depends on the state of health of those in the family.

> It's not easy because although not everyone is HIV positive, a person could be suffering from something else so it's not easy to carry even 25 litre. And another thing we sometimes run out of water here in the rural areas and you can only have 25 litre a day. You have to cook and clean from it (RuralCARE).

The problem is universal:

> It's not easy because we get water from very far. We do not have taps here in the rural areas. We have tried to make applications to get connections because the diseases are spreading very fast. That's one of the reasons diseases spread so fast in the rural areas is because of the shortage of water and you do not get any from the river (RuralCARE).

The conditions in poor urban communities are also far from ideal. In a focus group discussion one of the Caregivers makes the following assessment:

> Really, I don't know what to do about the filth that one finds out there, but there are no toilets or water here. Some people even end up using the water that has been used for washing. I am talking about rainwater that flows down the streams. You find children playing there. . Other people are washing their clothes in that same water....the very people that are sick....There are others that have been stabbed, and in such cases it is easy for people to contaminate each other with blood. So, we live under such circumstances (UrbanCARE).

Many of the parents acknowledge the changes which had taken place in their urban community and mentioned support from the municipality in terms of providing a water tanker when services break down. They do, however, also mention that some families cannot afford to access piped water:

> Do you still have a problem of water supply in the area?

Not any longer. Even if there is the situation has improved quite a lot now because even if there happens to be an interruption of water supply a water tanker comes along to provide water.
Do they also have pre-paid standpipes?
Yes and others still collect water from the streams (UrbanPAR).

Conditions in rural schools

The conditions in the two schools had a marked contrast; in the urban settlements studied there were few complaints from the learners although the educators felt there was some room for improvement. By contrast the conditions in the rural school was appalling; there were high numbers of learners per classroom, very inadequate toilets for girls and broken toilets for boys and no water supplies. The learners were expected to fetch water from a borehole nearby for the educators and for their classes; after some discussion it turned out that there was 25 litres per class with some classes as large as 120. In these conditions the educators were somewhat reluctant to enlarge on conditions and unhappy with the conditions for the children.

According to the educators the problem lies on all fronts:

> You can see the situation of our toilets, we can't even close them, so flies move in and out the toilets and the classrooms, and you have also seen our classroom it is totally impossible to clean them, so they are always in an unhygienic condition which is likely to cause diseases like diarrhoea (RuralEDG9).

> OK, do learners have hand-washing facilities?
> No, they do not have.
> So how do they wash their hands say they have been to the toilet?
> They do not wash their hands.
> So they do not wash their hands.
> No they do not (RuralEDG4).

In summing up the position at the rural school the educators could not say the children were protected against diarrhoeal disease at the school. The following exchange between interviewer and educator shows the difficulties faced:

> How would you say your learners are protected against diarrhoea here at school?
> We encourage them to drink clean water.
> OK, but do you have clean water here within your school premises?
> We have a borehole just around the school (RuralEDG4).

With these difficulties it was difficult to encourage children to wash their hands; when asked how this happened at the rural school the following discussion was recorded:

> They use buckets.
> And then how do they wash their hands?
> They scoop from the bucket and wash, scoop and wash, scoop and wash, scoop by their hands and wash…
> They use their hands to scoop water from the bucket?
> Yes.

The educators were evidently humiliated to admit that the school could not maintain the health of the children:

> I think it is a question of water because we do not have any water; so washing hands is not in their minds because there is no water, so they just go to the toilet and back to the classroom without washing their hands. So is not in their minds that I have to wash my hands after visiting a toilet, I think that is basically a problem.

The conclusion of one of the educators was that children at the school were not protected against insanitary conditions, indeed that they were vulnerable:

> I cannot say they are protected against diarrhoea because there is no clean water around the school, I mean within the premises of the school and the toilets we are using are not up to standard, so I cannot say they are protected (RuralEDG4).

The educators do, however, feel that they are playing a positive role in health promotion through the Life Orientation subject and discussions with learners "one is covered".

> We teachers do tell them that they must condomise because beside getting pregnant there is this disease that is killing us is this HIV/AIDS. We always try to tell them to be careful and we always try to tell to make use of the clinic for some advice. Sometimes we even invite the clinic nurses to come and tell them (RuralEDG4).

The educators are evidently concerned for the health of their learners, but, as the last remark makes clear, in some areas feel it is better that there should be external intervention at school to carry the message forward.

KNOWLEDGE OF WATER RELATED DISEASES

In this section analysis is made of the diseases associated with the WASH campaign as well as of the relationship between these diseases and HIV/AIDS is made. The analysis includes the identification of diseases, their causes, transmission, prevention and treatment. The current knowledge of disease of the children is recorded through the focus groups, a method which is open to discussion and reception of a wide range of ideas and opinions including those which are not conventional and unorthodox and go against medical opinion. The method can only provide a limited ranking of different ideas and issues, but is not prescriptive and allows a free ventilation of views. It has been supplemented with a survey of those participating in these focus groups. The existing state of knowledge is first explored and in a later section the number of children recording their knowledge of disease is recorded.

Diarrhoea

The knowledge of diarrhoea was limited in discussions; in the Rural Grade 4 and Grade 9 focus groups as initially all the participants professed to not know the condition. On reflection the older learners all remembered that diarrhoea was caused by contaminated drinking water. Among urban learners the disease is associated with stomach sores leading to diarrhoea or HIV (UrbanG4). It has the first rank among the diseases mentioned by learners in the survey.

Although the rural learners were somewhat reluctant to acknowledge the disease they did mention that their parents had told them to wash their hands after using the toilet to avoid the condition (RuralG4). In the urban areas learners mentioned that they could protect themselves from diarrhoea by washing their hands with soap (UrbanG4). Diarrhoea was identified as being associated with chicken pox and sores:

> You get dirt inside your stomach and you get sick.
> When you get sores in your stomach you can get diarrhoea HIV or chicken pox (UrbanG4).

They mentioned it was caused by drinking contaminated water associated with cholera, and had knowledge of how water could be purified:

> Water must be boiled to kill the germs in water because if this is not done people consuming unpurified will suffer diarrhoea.
> We must add Jik to the water collected from unsafe sources (UrbanG4).

However they also said that they had not been taught about diarrhoea. Among older learners it is seen as a problem of a 'running stomach' and 'going non-stop to the toilet' and a problem arising from using contaminated water (UrbanG9).

Although the knowledge is uneven two participants mentioned the Oral Rehydration Therapy (ORT); this is a particular issue with People Living with HIV and AIDS who have high incidence of diarrhoea associated with their illness. A young learner also knew how to make up a solution:

> When you have diarrhoea and your stomach is running you must boil a litre of water, add a teaspoon of salt and eight teaspoons of sugar (UrbanG4).

In the rural community the older children are well aware that they should use toilets to avoid the spread of diarrhoea.

> It is important that we use toilet to protect against diarrhoea, because if we use open space to defecate flies will transfer germs from the human excreta into the house or on to our foods (RuralG9).

The dominant view of the transmission of diarrhoea is that contaminated water (rather than poor hand washing and hygiene) is the problem (RuralG9) and access to safe water the solution.

In this community, however, there is a very low level of self-constructed pit latrines and no evidence of VIPs; safe water is only available to the clinic which has a borehole.

Bilharzia (Schistomosomiasis)

Bilharzia (termed 'red urine' in the discussions) is not as well acknowledged although the descriptions of the opposition of parents to swimming in the rivers is often mentioned.

> Our parents say we must not swim in the dirty rivers, because there are harmful insects in the dirty water, which may enter through our skins and then give us problems like that of urine with blood.(RuralG4).

> It does happen that children suffer bilharzia because they use to bath and swim in rivers where there are these invisible worms causing bilharzia that children could not see, they just swim there without knowing how harmful it is to their health, but it is very rare in our community (RuralPAR).

Knowledge of bilharzia is more readily acknowledged by PLWHA who readily acknowledge that they have seen its effects but also feel it is very rare in the community because dams and rivers are situated away from where people live. There is, however, divided opinion on the matter:

> Sometimes you see children coming from school traveling in groups going to swim in the river and we try and stop them but them you'd have to do it every other day. (RuralPLWHA).

> No one can really understand the causes of it because in the areas where I stay children suffer from it all the time (RuralPLWHA).

Those young learners living in the urban areas do not know the meaning of the word or identify 'red urine' among their age groupings. One did mention that it is linked to dirty water and germs:

> You find that the water has bubbles. That means you must know that water is dirty and you must get out of the water because it probably has germs (UrbanG4).
> My great auntie used to pass out urine in the colour of blood (UrbanG4).
> If you swim in dirty water red blood come out with urine (UrbanG4).

Older children more readily stated they knew the disease and that it is difficult to treat.

> Do not swim in the rivers because there is a thing called Bilharzia which might get inside your body and when you have to go to urinate blood comes out with your pee. And it cannot be treated easily it needs to be treated in hospitals (UrbanG9).
> How do you get the Bilharzia?
> If you swim in water, which is polluted (UrbanG9).

Urban parents also show knowledge of the disease:

> You know it is the condition of children passing out red urine. In the rural areas where I grew up it was most common because there are quite lots of dams pools and you will find children swimming in these pools very often. And since the water in these pools is dirty and stays still you normally find children getting infected with this thing called bilharzia (UrbanPAR).
> What I also hear is that playing in still and dirty water causes Bilharzia (UrbanPAR).

Among all the Rural PLWHA there was agreement that bilharzia is caused by children playing in polluted water.

There are some beliefs in rural areas which offer some unusual views of the disease in particular the view that swimming in the river causes a severe skin rash.

> That's also another thing that shouldn't be done by children because there is something (imvukuzane) found in polluted water that gets into the skin of the children (RuralG4).

These children are warned off swimming in the river by parents saying they could drown and that "there are harmful animals" (RuralG4) as well as that they will get blood in their urine.

Worms

Worm infestation are acknowledged in the two communities.

> My young brother once had worms, they came out through his mouth, and mom took him to the clinic where they gave him some medication (RuralG4).

The learners are, however, quite uncertain how worm infestations are caused and what can be done to prevent them and a question on these lines was responded to in silence (RuralG4). All Rural PLWHA tend to regard worms as part of life and that it is impossible to avoid getting worms completely.

"Ayikho": There is no way (RuralPLWHA).

In the urban area knowledge was available among older learners about the condition (UrbanG9) and these regarded prevention as as follows: "You must eat food that is cooked well and not half-cooked". Parents had experienced seeing worms coming out of the noses of children in their community (UrbanPAR). Indeed it is regarded by some as 'very common' and some parents have worked out a treatment regime.

> I think the inhalation of dust also causes it. Most children I usually see play on the ground/gravel in the yards. What I have also discovered is that this problem of worms manifests itself through the swelling of the bellies of some children. In that condition you usually find that a child refuses to eat food but would appear to be normally healthy. My own child already knows that every after six months it has to take a pill which deals with worms (UrbanPAR).

Despite the common experience and knowledge of treatment, the causes of worm infections are not known.

> In my case I have seen that my neighbour's children have worms. But I do not know what causes them (UrbanPAR).
> The infection is closely associated with thirst and the need for water (UrbanPAR).
> I do believe that the problem of worms is for real because even with my child when I offer it food it appears like it has got worms, because it take lots and lots of water and it is the case that when you've got worms you easily get thirsty (UrbanPAR).
> The worms I have heard a lot about them. My child also once had that problem. She drank a lot of water (UrbanPAR).

The urban parents regard the treatment of infestations thorugh medication very effective as they see the worms 'come out' (UrbanPAR).

Among rural learners there is a fairly strong view that worms are caused by eating rich food or snacks.

> Eating a lot of chips causes worms.
> Yes, the yellow ones containing a lot of cheese.
> Eating a lot of chips causes worms.
> Do you all agree that eating a lot of chips causes worms?
> All Rs: Silence.
> Who has got a different response?
> Eating salty foods also causes worms?
> Who else with a different response?
> All Rs: It is the chips and salty foods that cause worms (RuralG4).

The children feel that worms can be avoided by either vomiting or taking a laxative tablet.

The rural parents have much the same view as the children, and the younger generation is evidently absorbing the views of the older generation.

> I think it is the different types of food that children eat cause worms, foods like Maas and eating a lot of chips and not cleansing a child's bowels.
> What else do you think causes worms?
> All Rs: Silence (RuralPAR).

Some of the Rural PLWHA feel that worms are derived from eating canned foods.

The view of rich food causing worms is fairly widespread and also found among Urban Grade 9s and Urban Parents:

> How can one prevent the problem of worm infection?
> Do not eat a lot of sweet.
> You mustn't drink lots of sugar in water or sweet juice.
> You mustn't leave food for an hour without covering it (UrbanG9).

When asked about the cause of worms, the Urban Parents responded as follows:

> I am not sure, but I think it is sweets.
> Anyone else who may have seen or heard that a neighbour's child had worm infections?
> It has happened with my children as well as with my neighbour's. I think eating a lot of sweets as well as these yellow and brown chips that children like causes it (UrbanPAR).

Hygiene and safe water

A dominant theme among rural participants is that the water they access is contaminated. In the urban settlements where the children live people can access communal taps from some distance if they can afford the R70 for a card, although there is no sanitation available.

There is common agreement among older learners that hands should be washed after using the toilet (RuralG9) and among younger urban learners both before and after playing (UrbanG4). There is no mention of hand washing before eating although it may be practiced.

Among the older children there is knowledge of how to make water safe:

> Our parents advise us to dissolve limestone in the water, in order to purify it.
> Add Jik and use the water after two hours.
> We must add Jik to the water collected from unsafe sources (RuralG9).

There is no mention of boiling water.

The connection between poor sanitation and unsafe water is well understood by those living with HIV/AIDS and Rural Caregivers.

> It is important that each and every house should have toilets since most people help themselves by going to the bushes, you find that when the rain comes it washes all that until it gets to the water. That is why it is important that a sick person should use clean water so that even the food he eats, the flies from outside will not get to his place and his food (RuralCARE).

The Rural Caregivers feel there is a lack of knowledge by those living with HIV/AIDS both of the need for careful sanitation and hand washing.

> I always tell people that cleanliness is important, because you may find that there is a person who is sick and has AIDS but knows nothing about the importance of hygiene and has never been told by anybody (RuralCARE).

One sees the transmission of HIV as linked to poor sanitary practices:

> You find a person who has the virus, who helps the virus multiply because the flies inside the toilet also sit on the person. And on top of that, the person gets out of the toilet and goes to eat food without having washed the hands (RuralCARE).

> Another problem that we face here in the rural communities is that food is left uncovered. Baby bottles are also left uncovered and you find that flies are just buzzing around and dogs are sucking from the uncovered bottles (RuralPLWHA).

The Rural Caregivers provide the most definite response and have an evangelical zeal to improve the hygiene of PLWHA.

> We teach them to burn papers. We teach them to wash their hands if they are going to touch food and also to cover their food.
> And also once the hole has been dug it has to be covered. Every time he wants to relieve himself he would go there and once done, just cover the hole and then wash his hands with water (RuralCARE).

Both the Rural Caregivers and Rural PLWHA have a wider notion of hygiene than that handwashing and use of toilets. In addition the PLWHA spell out the following broader health regime:

> She has to be very clean and wash her hands all the time so that she won't have any stomach problems.
> She must eat healthy food.
> Vegetables are very important. She must eat lots of vegetables and fruits.
> How would vegetables and fruits help?
> They help give support if you are weak because even if you cannot eat food you can drink fruit juice and it gives you energy (RuralPLWHA).

The Urban Caregivers also have a wider notion of hygiene in mind but portray that as characteristic of people living in fear of contagion.

> I will begin on the issue of hygiene. Here people do understand something and are conscious of hygiene. But for those who are sick, other members of the family are afraid to touch that person because they fear they will contact the disease.
> But you find that they themselves have not gone for a test to find out about their status (UrbanCARE).

KNOWLEDGE OF REPRODUCTIVE HEALTH ISSUES

In discussion of the issues around reproductive health many of the hard attitudes and beliefs surfaced. Although there was relatively free discussion among the mixed focus groups, they characterise the atitudes and practices of (other) "boys" and "girls" of in their narratives as polarised and sharply distinct. The attitudes and practices of boys as reflected in these disucssions are first posed and then contrasted with those of girls.

Attitude of males

The differences were highlighted around the question of abstinence. In the focus group a narrative was introduced in which a girl responded to expression of love of her older boyfriend by saying that she wished to abstain. Did the children think the boyfriend would understand her position?

> All Grade 4 learners: No, he will not understand (RuralG4).

In the responses boys are presented by girls and boys of the ages of 9 - 11 as hostile to the idea of abstinence and determined to have their way: indeed they are portrayed as prepared for violence and rape.

> The boyfriend will think she is lying to him, whereas she will be truthful.
> The boyfriend will suggest that they better use a condom, but not to abstain.
> The boyfriend will force her to have sex with her, even without a condom because he will not be able to suppress his feelings.
> The boyfriend will refuse to abstain.
> The boyfriend will refuse to abstain, and he will rape her.
> The boyfriend will refuse to abstain, and he will beat her, as he is older than her (RuralG4).

Only one of the younger rural school children felt that a boyfriend would fear the consequences of his action and leave the girl alone.

> The boyfriend will force her to have sex with her, even without a condom, but if she refuses, the boyfriend will leave her alone because if he could force her, she will go and report him to the police (RuralG4).

Constained both by new policing on sexual violence and by the evidence of the disease the 'boy' faces a dilemma. In the focus group of People Living with HIV and AIDS, the women felt that men generally turn towards denial or force:

> Men do not believe there is such a thing as AIDS. When they see a plump person like me who is positive they deny the result of the blood test and say that the doctors are lying (RuralPLWHA).

Others feel that a boyfriend with a lot of friends would "just use her to get what he wants" but relent in the end. Men are presented as arrogant, blustering but finally uncertain and despondent and needing help.

> All: If you tell them all of these things one by one, they can cry (RuralPLWHA).

Men appear both as aggressive and violent but also desperate and lacking emotional stability.

A boy is presented as unlikely to accept abstinence as he would be more likely to want a baby (UrbanG4) which his girlfriend wanted to avoid. The urban learners do, however, show a wider range of possibilities in an adolescent love relationship. One argues that love should make a boy more understanding:

> If he loves her enough then he should understand that sex is not the point. The way you treat the person is what matters most. It also shows that he doesn't love her for what she is. He just wants something from her (UrbanG9).

Boys are presented as under pressure from their peers "some of them are pushed" but possibly prepared "to wait until the right stage comes" (UrbanG9).

> Some of them can understand that love is not about sex it is about love.

One of the boys expressed new possibilities of the time:

> I think that if a girl says 'no' she means no, because if you love her you can understand. If you don't understand that you may push her to do that.
> Do you think most of the guys understand that?
> Most of them think a girl doesn't like them. You see, like if they keep pushing her into it she must say 'just back off' (UrbanG9).

These 'new' attitudes appear largely in the urban areas, significantly among children and youth.

Attitude of females:

Girls are presented in the focus groups as having quite different interests; much more concerned about protection from HIV/AIDS and more committed to the idea of abstinence. A girl is committed to protecting herself in the following ways:

> By not sleeping with her boyfriend without a condom.
> By not falling in love with a boy.
> By not having more than one boyfriend.
> By not engaging herself in a sexual relationship with her boyfriend, but they can be lovers without having sex.
> By not having more than one boyfriend.
> By not engaging herself in a sexual relationship with her boyfriend, but they can be lovers without having sex.
> By not having more than one boyfriend, but if a girl happens to sleep with her only one boyfriend, they must use a condom.
> By not having more than one boyfriend, but they should abstain even if there is one boyfriend (RuralG4).

These responses come from the same children who expressed themselves on the range of responses of boys; here a new set of possibilities are presented. The urban school children see the girl wanting to express choice in the situation:

> Some of the boys think that you don't love them truthfully...that you think he has got the disease and that is the reason why you don't want to sleep with him.
> She doesn't want a child.
> Or she doesn't want to sleep with him besides the fact that she may not want to have a child (UrbanG4).

While a boyfriend is thought of wanting to have a baby, a girl is seen as much more concerned to avoid pregnancy and the travails of teenage pregnancy.

> If you sleep with a boy you might get pregnant. That's the message I am reading from this story.

> Do not have sex because if you do, the girl might fall pregnant and need to have a job to support the child (UrbanG9).

The urban school children also present views that some boys are also prepared to believe that "love is not about sex it is about love" and to be more understanding. As expressed by a boy:

> I think that if a girl says 'no' she means no, because if you love her you can understand. If you don't understand that you may push her to do that (UrbanG9).

Although not expressed by the school children, a rural person living with HIV/AIDS felt that in addition to the issues of survival, a girl could have a vision for herself:

> Besides unprotected sex and unplanned pregnancy because she can always have protected sex, but I think she has a dream for herself that she wants to achieve (RuralPLWHA).

Such views relate to the notion of improved self-esteem among children and youth as an protective factor against HIV/AIDS.

SURVEY RESULTS: WHAT CHILDREN THINK

The focus groups gave the children, educators, parents, PLWHA, and caregivers opportunities to put forward their perceptions of disease, personal relations, and environment. This has been used to the full in the preceding sections; the task is now to present the results of the questionnaires completed at the end of the discussion. While the focus groups had the advantage of allowing a free flow of ideas, the questionnaires were useful in allowing participants to record their responses on paper where disclosure may have been hampered in open discussion.

The questionnaires were largely open-ended and avoided precoded responses apart from in some basic questions. This allowed the respondents the greatest opportunity to reflect on their own experience and knowledge; they were, by the nature of being open-ended and permitting multiple choice. This procedure involved a large amount of time in coding of the responses, but the result should be one reflecting more accurately, for instance, the experience of disese in the priorities of the invidual and community.

One of the most important questions was that put to the children about their perceptions of common health problems affecting children which permitted multiple choice responses. In the table below the elicited multiple responses of the children are presented as they were spontaneously mentioned. Of the 41 children 37 mentioned diarrhoea, cholera and dysentry as their first concern. This is then followed by tubercolosis and HIV. The water related conditions of worms and bilharzia although not given a high priority are also mentioned.

Common health problems affecting children

Disease/condition	Frequency	Percent
Diarrhoea, cholera	37	25%
TB	19	13%
HIV	18	12%
Headache	14	9%
Cough	12	8%
Skin problems	10	7%
Backache	9	6%
Constipation	7	5%
Fever	5	3%
Chickenpox	4	3%
Malnutrition	4	3%
Sores	3	2%
Flu	3	2%
Cancer	3	2%
Bilharzia	1	1%
STD	1	1%
Total multiple responses	150	100%

If all the water related diseases (diarrhoea, skin rashes, worms and bilharzia) are added, however, these have a much higher ranking: 68 out of 121 recorded or 56% of the total. It is likely that worms and bilharzia are understood as chronic ailments of childhood as they do not have the dramatic impact of diarrhoea and thus have a lower ranking than the conditions should have.

Parents have a similar health risk profile of their children although there is a lower placing of HIV/AIDS and TB and a somewhat higher placing of bilharzia and worms.

Parents' perception of health problems of children

	Frequency	Percent
Diarrhoea, cholera	8	27
Headache, asthma, cough	8	27
Bilharzia, worms, rash	5	17
High BP, stress, epilepsy	5	17
HIV/AIDS, TB	4	13
Total	30	101
15 Valid cases		

The question is the extent to which the children suffered these diseases and conditions is posed in a question on missing school. Of the 18 learners reporting that they did (43% of those surveyed) most were younger learners in Grade 4 as compared to older learners in Grade 9.

Parents provide another perspective on the health conditions of children; while reflecting on the general health conditions of children generally worm infections are not ranked highly as a disease, but in a direct question about 'your children' 88% of parents in urban and rural areas mentioned that their children complained of worm infections.

Educators were also asked about the health conditions of children and 80% reported that their learners complained about worm infections. While one had witnessed worms coming from the mouth of a child the main effect of poor health was evident to them in poor concentration, tiredness, and lethargy, followed by skin rashes and sores, and finally by malnutrition and poor appetite.

REVIEW OF KNOWLEDGE AND PRACTICE

In an exploration of the gaps in knowledge and practice the data has been analysed to take further the presentation of the views of learners and to examine these views against the prevention codes mentioned above.

Children views on causes of diarrhoea

	Frequency	Percent of responses	Percent of all cases
Drinking contaminated water	33	50	81
Not washing hands	20	30	49
Eating with dirty hands	11	17	27
HIV/AIDS	2	3	5
TOTAL	66	100	

In the table above children rank contaminated water as the most important cause of diarrhoea (33 out of 42 making mention of this) followed by not washing hands and eating with unwashed hands. These views approximate to those of received wisdom on the subject.

In relation to the cause of worms, however, there is a more complex picture. In the table below children identify the eating of rich food (a point made repeatedly also by parents) as the cause of worms.

Causes of worms

	Frequency	Percent of responses	Percent of all cases
Eating rich and unsafe food	29	47	71
Playing in the sand	16	26	39
Drinking dirty water	7	11	17
Dirty nails	5	8	12
Eating soil	5	8	12
TOTAL	62	100	

41 Valid cases

Those mentioning rich food are by far the majority and the more conventional views of worms being transmitted by playing in the sand and eating soil are relegated to a much lower status.

There is a strong opinion, found in the focus group discussions (although not explored in the questionnaire) that worms are caused by rich, salty, or sweet food. Among the rural school children this was stated to be the main cause. This opinion also appears in the following remarks in an urban setting:

> The other cause of worms is eating sweet staff like these sweet and unhealthy snacks that our children eat. Therefore, I think that children should stop eating these unhealthy snacks (UrbanPLWHA).

Whether this is a view put forward by parents wanting to warn children off unwholesome snacks or a wider belief needs further investigation.

Unconventional views of the cause and prevention of disease is not peculiar to South Africa. A study of diarrhoea in the Punjab has found that mothers believed that a distended abdomen which often accompanies diarrhoea was the visual evidence that a child had eaten more food than the digestive system could handle. The perceptions are described as follows:

> Not only solid foods, but also liquids in big amounts would provoke diarrhoea. Too much of certain kinds of food or combinations of food were perceived as inappropriate and associated with having a bad influence on the stomach. Very sour and very sweet foods were examples (Nielsen etal, 2001).

There is possibly some association in a number of cultures between rich food, diarrhoea and worm infestation.

The responses in the questionnaire on handwashing (which was not exhaustively discussed in the focus groups) showed conventional views from the children. Of the 42 respondents 38 (or 91%) mentioned washing their hands after using the toilet and before touching food. The children also mentioned having instruction from their mothers or fathers to wash hands to get rid of germs, after playing and using the toilet, and before cooking.

These responses generally appear to be in line with the Code of Hygiene and other prescriptions for health but the research did not permit (by time and funding) close observation in the household to see what practices were apparent. As was evident from the group discussions among the educators, the facilities in the rural school do not exist and a major effort would have to be made to ensure adequate handwashing in this setting. Although the children reported that soap was available for handwashing at home, it was also not clear whether there was adequate water available.

The HIV/AIDS messages which are put out actively in church groups, LoveLife, and in the clinics can be summed up in the ABC acronym: Abstain, Be Faithful and Condomise. In the focus groups from among the Grade 4 to Grade 9 the ABC message did not have to be explained; it was readily understood. As is evidenced in the focus groups there are, however, strong attitudes identified in the community (although less amongst themselves) against all three parts of the message.

CHANGING CONDITIONS IN SCHOOL AND HOME

One of the chief concerns in WASH health promotion is the lack of facilities for new practices to take place homes but also in schools. This issue was canvassed in focus group discussions with parents, caregivers and educators and it is obviously a contradiction to advocate hand washing without the facilities being available. In this section the responses of communicators toi this problem is presented and assessed.

How can things be improved at home?

	Frequency	Percent
Hygiene - soap, clean conditions	5	31
Water facilities	3	19
Sanitation facilities	3	19
Nutrition - Healthy diet	3	19
Health facilities- Clinics	2	12
TOTAL	16	100

11 valid cases

In the case of parents the emphasis was on improvements in children's health coming from a combination of improved hygiene with improved facilities. In the first rank five of the parents felt that better provision for hygiene through the provision of soap and clean conditions would improve hygiene. There was no particular mention of the need for additional education and knowledge.

In relation to hand washing in the home parents felt that virtually all of the children had the message, the problem was rather that of encouragement and provision of facilities.

Parents desire better conditions for their children but again feel that these can be achieved through a combination of better water facilities and hygiene practice such as keeping the house clean, protecting food and washing utensils. If the need for facilities in water and sanitation are combined this makes up over 40% of the responses followed by hygiene education, bathing, and general instruction in cleanliness.

For those people living with HIV/AIDS there was constant repetition that improvements could only come with the delivery of services. The disease places heavy demands on water provision especially as it advances:

> 8 litres (a day) can be okay but there are days when a person has diarrhoea, you have to wash his clothes and change him. In some families you find that there are two infected people and that causes an even greater need for water.
> For example in a very distant rural community there is an old lady who has two bedridden children and they really need water (RuralCAREGIVER).

In these desperate conditions, the idea of improvement has to be replaced by that of an emergency service.

Educators were also asked about ways of improving conditions, in this case at school.

How could things be improved at school?

	Frequency	Percent
Water facilities	10	42
Sanitation facilities	6	25
Health messages	4	17
Hygiene facilities	3	12
Nutrition - Vegetable gardening	1	4
TOTAL	24	100

Among the educators the emphasis is also strongly on facilities: water and sanitation, then health messages and finally hygiene facilities. In the urban schools there is less of a problem but in the rural school there is a considerable problem with facilities. While in general educators see improved hygiene as largely coming from the provision of more soap and disinfectants, handwashing facilities, and towels, more school cleaners, proper concrete floors in the rural school these niceties are overtaken by the need for basic water and sanitation facilities.

The educators felt that hand washing could only be improved with better facilities, followed by inspection of hands, etc, to ensure that hygiene was being maintained.

How to ensure hand washing is practiced

	Frequency	Percent
Provision of basic facilities	11	55
Inspection	6	30
Routine training and demonstrations	3	15
Total	20	100

Assessed as a whole the ideas of parents and educators for improvement hinge around the provision of basic facilities and improved existing facilities. The contradiction between intention and capacity runs through the conclusion of the report

The educators in the rural school feel inadequate in communicating any message of improved hygiene because of very poor conditions at the school:

> There is something to be done about sanitation at the school, because what we teach in the classroom is not done practically due to the lack of facilities. The toilets are a disaster, they are not fit for human use. There are no tanks to collect even the rainwater, children depend on the borehole which is about a kilometre away from the school. For our own use we sometimes ask the clinic to use their toilets (RuralEDG4).

While the rural educators feel uncomfortable about the possibility of achieving hygienic conditions those in urban areas also feel a lack of resources. When asked if the school could become a health-promoting centre for the children there was the following reply:

> Well yes, but the problem is with funds, see we do not have enough hand washing facilities and the school cannot afford soap for hand washing (for the learners (UrbanED).

The difficulties in reaching the elevated objectives set out in the Department of Health's policy framework seem large when discussed with educators serving learners in impoverished communities.

LEARNING FROM OTHERS

Children in school are linked in many ways to a surprisingly large number of communicators; to teachers, mothers, fathers, nurses, aunts, social workers, nurses, and doctors; as well as to their peers. As could be expected the mother is the person who is regarded as giving the best advice about health, followed by the teacher, doctors, nurses, fathers and other relatives in that order.[3]

An example of communications can be taken from hand washing. From the survey children regard the mother as providing very definite instruction in hand washing in the following order: That it is important wash hands to get rid of germs, to wash hands before eating, after playing and after toilet, and before cooking. The overwhelming majority reported that there is soap available for hand washing.

Somewhat unexpectedly these same messages were reinforced by peers who repeat the message generally and about washing before eating, and after playing respectively. About 20% of the children, however, reported that their friends said 'nothing' about the practice.

Questions were posed about what children learnt about using school water and sanitation. An overwhelming majority of learners reported that they had been taught about the use of toilets at school, although mainly around flushing a toilet and not leaving a mess, using a toilet rather than urinating in the yard, and cleaning the toilet before use. Although these appear as 'model answers' the questionnaire did have the advantage of not providing closed questions and each of these points were recorded spontaneously.

Receptivity to messages

Given the wide range of communications received by children the question is whether the messages, received as instructions, guidance or as 'value-free' information, are accepted and acted on. In relation to the prioritising of safe water, the use of toilets at home and at school, and hand washing there is relatively little difference between the attitudes recorded between educators, parents and children. There is a major difference, however, between the attitudes expressed in focus groups and recorded in questionnaires and practice and the observed and acknowledged gap arises in here between desire and resources.

In relation to parasitic infections there are, however, gaps in the acknowledgement of the conditions which may be seen by children as humiliating and degrading. There is most markedly a gulf between knowledge and practice in relation to HIV/AIDS; the question here

[3] Rather than weighing down the text with tables, the points mentioned below represent the ranking of responses by children to these issues.

appears not simply to be a lack of knowledge of the disease but of opposition to the consequence of this knowledge.

There is more than a simple gap in youth denying the disease or its severity and reality, the knowledge of HIV/AIDS is both admitted and its consequences or implications denied at the same time. The result is that young men particularly are regarded as not being at all responsive to the written and verbal messages they receive:

> They do not respond to any of these messages, they are clear illustrations at the clinic on how to practice safe sex, but it seems all of this fall on deaf ears (UrbanPLWHA).

The Caregivers in urban and rural settings who are excellent communicators as they come from the communities they serve and have considerable personal and religious motivation feel that their work, which is both inspired and exhausting, is not receiving the response it should. Of the 23 Caregivers who responded to the question of response, 5 felt that there was a positive or good response while 10 felt there was partial acceptance (particularly by girls). The remaining 8 (mostly those in Bizana) felt that they did not know what response they were receiving.

While messages on hygiene generally are accepted by children there does seem to be a problem in relation to HIV/AIDS, an important exception which begs an explanation which goes beyond the scope of this report, although there will be points made in the conclusion in this regard.

Many of the questions of changed practice are understood to be dependent on culture and it is often argued that new health practices may be in conflict with traditional or current forms of culture. In South Africa culture is regarded as a synonym for tradition, which it is not, but this is the meaning of the word in common language – that it is fixed and immobile. The argument that there could be a conflict between culture and new practices is made in relation to the situation; it is, for example, not seriously argued that people living a more traditional life in the rural areas do not want piped water as they prefer to collect water from the river, the traditional practice. It is rather made in relation to changes in reproductive health and in the relationship between men and women.

The culture of my people can change (Agree)

	Percent
Educators	60%
PLWHA	60%
Parents	44%
Child Grade 4	38%
Youth Grade 9	76%

The question of culture was put to the educators, PLWHA, parents, and school children attending focus groups. The table reveals a range of opinion among poor (mostly African) people. Although there were important minorities responding that they strongly disagreed

and in some groups a number of 'don't knows', there are majorities among educators, PLWHA, and among older school children who feel that culture can change.

Significantly parents and younger children record lower levels of feeling that culture can change. It is likely that those who are most optimistic in relation to the future and better educated also feel that culture can change and that there is the possibility of new experiences and practices. Such a view is probably essential to health and survival during the pandemic of AIDS.

HYGIENE PROMOTION PROPOSAL

In the literature of hygiene promotion there is a debate about the best method of promoting health. A strong argument has been made by Curtis et al (2000) that the number of messages of health promotion should be reduced to those which would discourage only the most risky practices. In the case of hygiene promotion, the greatest reduction in diarrhoeal disease would be achieved if the child's immediate habitat, the domestic area, were secured. Following a review of the epidemiological evidence of a primary barrier such as safe stool disposal, it is concluded that this would be the most effective.

> In the absence of local evidence to the contrary, hygiene promotion programmes should give priority to the safe disposal of faecal material and the adequate washing of hands after contact with adult and child stools (Curtis et al, 2000:22).

In the South African setting described here, it is, however, difficult to adopt a single setting approach as there are many initiatives in the field; the task appears to draw together these strands into a common thread.

Sanitation is, for example, a matter for public provision and the safe disposal of faecal material has to be promoted as a matter of public health *and* linked to such provision. Although it is not listed separately, sanitation facilities are basic to countering the water related diseases listed here. Advocacy for public provision is essential to countering these diseases and will be returned to again in conclusion.

In the first table below an approach is put forward which, for convenience sake, separates out knowledge of water related diseases from the action needed to lower the incidence and break the cycle of infection. The context is presented of both the formal and informal settlements in urban areas and rural traditional areas of poor or very low access to sanitation. This is followed by identification of a disease, the risk of infection, knowledge of the cause, transmission and treatment. The various concepts of prevention was confused with the concept of treatment.

The second table sets out further knowledge and possible action to eradicate these diseases through specific knowledge of high risk practices, prevention and treatment followed by communication, replacement practice and an assessment of receptivity of children to new messages and practices.

Assessment of knowledge of water related diseases

	Diarrhoea	Worms	Bilharzia
Context	Poor or very low access to sanitation	Poor or very low access to sanitation	Rivers and streams available particularly in the rural areas
Identification by youth	Well known and openly acknowledged	Known but concealment	Known but some concealment
Risk of disease/condition	High	High although children accord worms a low ranking	Moderate although children record a low ranking
Knowledge of cause of disease	Unsafe water, but less knowledge of hygiene	Not well understood	Linked to river water but not well known No mention of cycle of disease repeated by urinating in rivers and streams
Transmission of disease	Path fairly well understood	Not well understood	Not understood
Treatment	Evidence of knowledge of ORT	Less information and belief that worms are inevitable	Not well known and a level of infection is accepted

Action on water related diseases

	Diarrhoea	Worms	Bilharzia
High risk practice	Drinking unsafe water Not washing hands	Not washing hands Small children eating soil	Swimming in rivers Drinking unsafe water
Message: prevention	Wash your hands particularly before handling water Before eating Use a toilet to avoid contamination of water sources	Wear shoes Encourage small children not to put soil in their mouths	Avoid swimming in rivers Do not urinate in rivers and streams
Message: treatment	ORT	Visit the local clinic for medication	Visit the local clinic for medication
Communication	Combination of curriculum development; educational posters, and community information.	Combination of curriculum development; educational posters, and community information.	Combination of curriculum development; educational posters, and community information.
Replacement practice	Providing safe water at school Washing facilities at school and at home	Medical services should visit schools	Medical services should visit schools
Receptivity	Children are highly receptive but see a problem in accessing water and sanitation	Unclear: children would see the need to clean up their environment first Not all children have alternative shoes when playing	Boys not receptive to high risk practice (swimming) which is recreational

From the table it is shown that there is a range of knowledge and quite different responses to different conditions and diseases. Diarrhoea, for instance, is widely acknowledged, but worm infestation appears to be concealed; some prevention practices are fairly readily understood, others ignored or resisted.

HIV/AIDS education and health promotion

In interviews with educators, NGOs and care-givers the question of HIV/AIDS education in schools was raised. Although the information on HIV/AIDS received by children comes from a number of sources and it is not possible to separate out the different components it is clear that schools, particularly those in high risk areas, are not providing adequate the HIV/AIDS education. Although in one school the educators said that the questions were covered in Life Orientation, no educators disagreed with the statement of one that they needed outside assistance in putting over the essential facts and messages.

A review of rural education found essentially the same demand from learners and parents and a similar recognition of a gap from educators (Nelson Mandela Foundation. 2005): children made the request, "Teach us more about HIV/AIDS" and a parent is quoted as saying, "There must be health education in our schools because there are many killer diseases like HIV/AIDS and ways of treating water before we drink". Similarly in a survey of 691 children in KwaZulu-Natal in grades 3-7 with an average age 11 years, 78% wanted HIV/AIDS education and most of these felt that it should be provided by a nurse (Taylor, 1999).

The question is to what extent these expressed needs are being met and the form of teaching in schools. There are agencies such as loveLife which is well funded and has a particularly high media profile. Could loveLife take up this task and avoid some potential duplication of work? From interviews with specialists in the field it appears that loveLife does not focus on school education (except peripherally) and presents messages around a lifestyle above those of youths in high risk areas. Although loveLife has earned recognition in providing basic education on HIV/AIDS to youth and has won international recognition for its work, it was not mentioned during interviews at either location.

Officials in NGOs involved in caring for PLWHA mentioned that loveLife activities are concentrated mainly in Y (Youth) Centres in urban areas which provide sports, training, and entertainment and are largely not accessible by youth from rural areas or informal settlements. Direct education in HIV/AIDS in schools varies widely and appears to be provided by educators with occasional support from health workers. The difficulty appears that educators feel unprepared and embarrassed in providing HIV/AIDS education and much prefer health workers or NGOs to undertake the task.

Health workers are, however, preoccupied with counselling and the current ARV roll-out and are often without adequate transport to get to distant schools. Unless there is a planned intervention with funding, commitment, and transport (and at neither setting was this in evidence) it is unlikely to take place. This gap in education indicates how important curriculum development is in relation to HIV/AIDS to ensure there is some basic information available to learners.

In the absence of such an intervention there are certainly opportunities for the WASH campaign to work with national and provincial Departments of Education to combine health promotion on water and hygiene with that of HIV/AIDS. The question is whether teams of care-givers and PLWHA can be trained to provide instruction around prepared simple texts which make the link between water related diseases and HIV/AIDS. This issue is tied to that of curriculum development although not exclusively. Educators will be much more prepared to prepare for such education if there is explicit reference to health education in HIV/AIDS in discussion of the curriculum. Educational material and associated activities is vital to present information, reinforce ideas, and to link to educational objectives.

Together with the Department of Education there appears an opportunity to further health education along the lines spelt out in School Health and Youth and Adolescent Policy through the WASH campaign intervening particularly in rural schools. This opportunity could be best taken forward by preparing materials and activities for health promotion teams with specialised agencies in the field.[4]

Strategic and ethical issues

A strategy of health promotion would involve drawing on the supports for changes in practice and surmounting the barriers to this change. This would involve strengthening supports and overcoming the quite significant barriers which are largely material rather than psychological.

A strategy to improve hygiene has also to involve the general improvement of the quality of life of poor people to succeed. Action involves more than a well motivated and coordinated team, but also the cultivation of points of support and a wider program to improve conditions of life in a life sustaining service such as water and sanitation. This involves more than simply listing supports and barriers.

The summary White Paper on Sanitation puts forward such a strategy but is relatively pessimistic about influencing hygiene behaviour:

> There is little public awareness of the strong links between sanitation and health. This must be redressed through an information dissemination programme aimed at promoting awareness of the role of sanitation in health (DWAF, 2001).

The emphasis here is unfortunately on knowledge and awareness rather than a combined strategy of sanitation implementation and health promotion. As will be argued below there is a fairly high appreciation of the health problem of poor sanitation; the greater problem is impoverishment of the rural population and very low levels of access to adequate sanitation.

If an information dissemination program is put forward alone it invites the question of facilities and resources. In the WASH campaign this issue has been discussed and it is felt that there has to be sensitivity; there is a lack of sufficient water in many impoverished rural communities and few hand washing facilities.

[4] One of the opportunities for partnership could be the request by Soul City Institute for submissions on a health or development issue which is a national priority to feature in the popular mass media. Mail and Guardian, 5-11 August 2005.

> The Department of Water Affairs and Forestry recognises that such messages must be sensitive to the situations of people. Promoting handwashing with soap in areas where there is a lack of water and low incomes will promote resentment rather than change, as it is a resource problem, and not a behavioural one (Clement 2002:2).

While the WASH campaign agues that the "dissemination of information.(facilitates) the conversion of knowledge to beliefs, attitudes and actions" (WASH, 2002), in the South African context this dissemination has to be combined with a program to deal with the basic causes in deprivation of poor people of basic water and sanitation facilities.

CONCLUSIONS

Health promotion models, such as Green and Kreuter's health promotion model and that of Knowledge Attitude and Practice (KAP) start work with a rational model of knowledge and behaviour: gaps will be identified that there is an absence of knowledge which, once provided, will lead on, through the possible turbulence of enabling and reinforcing factors) towards the appropriate remedial action. The progress from implementation of health promotion to changed behaviour, improved health and quality of life is not seen as problematic.

Other studies have, however, concluded that the gaps between knowledge, attitudes and practice are not readily explained by a lack of knowledge or a delay in behavioural change. The 'KAP-Gap' can measure the distance between knowledge and practice but it does not usefully explain the reasons and give insight into the processes at work. The method itself, although useful in providing a quick diagnosis, is limited by not adequately examining the social, cultural and infrastructural features of hygiene practice. There is, for example, a common complaint in the research that people provide the answers they expect the researcher to want; reasonable knowledge is not matched by the appropriate practice, but practice itself can only be understood by patient direct observation rather than by questionnaires.

1 Knowledge of prevention in itself is not the barrier

The first general conclusion of the study is that, although there is some important lack of understanding in detail and some pronounced misconceptions, knowledge in itself is not the barrier to improved practice and health benefits. There are messages being received on environmental health from many quarters and from the data of focus groups and open-ended questionnaires, many of these are accepted. The emphasis is on prevention and there is still a need for better explanation of causes, transmission, and appropriate treatment. In the knowledge of any disease even among well educated people there is likely to be some misunderstandings or incorrect information.

There is not a radical gulf between knowledge and practice in relation to common approaches to most diseases except in HIV/AIDS where reported actions of the youth fly in the face both of communicated knowledge and the growing experience of both communities and individuals.

2 Provision of facilities is the prime obstacle

The main obstacle between knowledge and practice in impoverished communities is neither knowledge, attitude or practice in itself; provision; the implementation of the targets set out in the Reconstruction and Development Programme and most importantly the Strategic Framework for Water Services of 2003, is critical to an improvement of insanitary conditions in poor communities.

As is mentioned above unless there is a level of advocacy here it will not be possible to engage in campaigns as the messages for better health practices will be drowned in the question of lack of facilities.

Where facilities do not exist there has to be discussion and planning with municipal government to ensure that health promotion is combined with the implementation of improved services.

3 Advocacy and rights are central to promotion

Health promotion involves the mobilisation of the supports within a community needed to carry messages through into practice. Both to win the acceptance of these messages and because it is an important aspect of the democratic life of South Africa the rights to water and sanitation and plans to improve the health and living standard of the community have to be discussed. Children and young people generally need to be involved in a national or provincial planning process.

There is an urgent need for inter-departmental coordination to carry out the work necessary to meet targets of the SFWS both in the provision of facilities and in health promotion. Better quality lives and schools demand higher levels of inter-departmental cooperation. In the Department of Health's proposal for health promoting schools it is mentioned that one of the objectives is for health personnel to visit schools and undertake assessment of children. Health workers particularly in rural areas are overstretched but there is a strong argument for teams of school health workers to be created to serve this need. From the perspective of DWAF there is a need to assess the adequacy of water and sanitation facilities and to offer assistance for curriculum development.

The provision of hygienic conditions is a challenge to local government to provide what is urgently needed particularly in rural communities but also in informal settlements. It is essential to reach marginalised groups in effective ways to pass on health messages in improving conditions and to involve children and adolescents in participating in this work. Communities should be told their rights established in the constitution, law and policy in relation to water, sanitation and hygiene.

4 HI V/AIDS messages should be linked to treatment issues

Linking hygiene issues to HIV/AIDS has been one of the most difficult relationships to establish in the research. In broad outline there should be messages to reinforce the concept of young people protecting themselves both against the should discussed in relation to treatment issues. Many of the children are now quite aware that the PLWHA are prone to diarrhoea and need to know what it means in practice to be immune deficient.

The key issue in relation to HIV/AIDS is, however, not knowledge as many surveys have found that there is a high level of knowledge of the disease (although some important gaps in relation to durability of condoms, etc). Some misconceptions have developed into a statement of belief and are be unlikely to be changed by additional knowledge alone as they express opposition to their use. The WASH campaign cannot take on responsibility for this level of engagement but rather spell out in public forums the issues of care of PLWHA (involving exemplary hygiene, very careful attention to water quality, and improved sanitation). Materials should be prepared for curriculum development in this regard. Caregivers and PLWHA who have an invaluable repository of information and experience and who can readily communicate with community members should be involved. They also have good knowledge of the links and the combinations of HIV/AIDS and hygiene and water related issues

More than anyone they have the potential of communicating directly with children about the safe reproductive health practices; starting with the safe water issues and interlinking these messages with those of preventing HIV/AIDS.

This does not guarantee that their messages are accepted but does bring local experience and knowledge to bear. Increasingly the young generation is talking without embarrassment about the issues and in the focus groups young children spoke directly from their experience, for instance, of the relationship between HIV/AIDS and diarrhoea. Cultural explanations are made in relation to sexual practices but the research shows that the younger and more educated generation is open to the notion that culture can change. In addition the focus groups among parents found them concerned for their daughters becoming teenage mothers or of girls who are understood to want to postpone child bearing to later years.

The children do identify the possibility of change taking place in the culture in which they are growing

5 School facilities have to be improved

Provision in schools is often inadequate or grossly inadequate both in terms of the facilities and the number of children expected to make use of them. A surveyof hygienic practice in sample of rural schools found that while 46% of school children had adequate hygiene education at school only 8% of children had access to improved sanitation and hand washing facilities at their schools (Venter-Hildebrand, 2003). This evaluation is confirmed in visits to 27 schools during a study of the sustainability of rural water projects conducted by

the author in which only one school had hand washing facilities but this school did not have access to water. In no school was soap provided.

The Strategic Framework for Water Services sets out the target of providing all schools with adequate water and sanitation by 2005. There is a considerable distance between present conditions and this promise; even educators in the urban schools which were part of the study felt that they would need additional resources particularly improve hand washing facilities and to provide soap.

The danger in the current situation with large groups of children in insanitary conditions that many schools themselves become places for disease transmission rather than health promotion. The current level of provision leaves the Department of Education potentially vulnerable to public interest legal action in not meeting constitutional and statutory requirements.

6 Curriculum development should be prioritised

While it is argued above that knowledge in itself is not the barrier to improved hygiene, this should not be taken as indicating that there is no need for broader and deeper health education.

There is a need for curriculum development, for instance, around the question of worms and bilharzia for children to have an all-rounded view of the cycle of infestation. Knowledge of these parasites should not be separated from natural science; and hygiene should be integrated into natural science rather than be the subject of school administration. In this way the curiosity and interest of children will be stimulated while the health message is being conveyed.

At present it is not clear what instruction in water related disease is available in the classroom. In an interview with an expert in curriculum development it was mentioned that the curriculum is now set out by teachers who work within broad guidelines and with texts. Whether health and water is discussed or taught depends on the particular schoool, the teacher, and the teaching materials available. Curriculum development is thus closely related to the resources available.[5]

There are very few posters and graphic material available in schools serving the children of the poor on health subjects. It is essential that the WASH campaign provide graphic posters and materials to add to the general knowledge of the children in sensitive areas.

Gaps and misconceptions are often related to the lack of specific knowledge of all the links between the identification, cause, transmission, prevention and treatment of water and faeces related diseases. The gap is observable not so much in relation to prevention and treatment as the former is often passed on at school or becomes public knowledge and the latter is available from nurses and doctors when people are ill. Although one study has concluded that prevention is "an unknown concept" possibly because of low awareness of

[5] Interview with Linda Chisholm, 11 November 2002.

the cause of disease (WRC, 2000) it was found in this study that prevention is fairly well understood. Prevalence does engender knowledge, even if low levels of infection are often tolerated as an inevitable part of the lives of poor people in rural and urban informal areas.

The problem is, as is also mentioned in the WRC study, that prevention is at times confused with treatment and the whole cycle of disease needs to be understood to understand all the links to people's health. There is, uneven knowledge of possible treatment particularly when disease is regarded as inevitable and chronic. The treatment of bilharzia is, for instance, is unevenly known possibly because the infection is tolerated unless there are severe symptoms and there is relatively low level of access of clinics and hospitals in rural areas.

7 Improved practice requires improved services

The gap between knowledge and practice is basic to most studies in relation to health and hygiene practice. The literature often sets out simple principles which, if practiced, would lead to major improvements in health. The Lancet reports, for instance, that 42-47 percent of all diarrhoea could be prevented if people washed their hands with soap at key times (WSP, 2004). What is less discussed is the gap between people's understanding and aspirations and the means to realise them. Where water has to be fetched at considerable distance the emphasis is on use for drinking and cooking rather than for hand washing and bathing. In those communities dependent on water carried from source, at least four trips are needed to make an adequate bath, and would place a considerable demand on household resources. In addition among poor families there are not hand washing facilities, adequate soap, or even the rudimentary pit latrines. In these conditions even a fairly good knowledge of hygiene does not lead to improved practice.

The unresolved lack of resources leading on to the very visible gap between promotion and practice is evident from a recent study of the impact of hand washing on diarrhoea. This research found that there was a very significant lowering of the incidence of diarrhoea among children living in households in Pakistan receiving weekly handwashing promotion and free soap. This promotion of hand washing was, however, only possible during the phase of research and was "prohibitively expensive for widespread implementation" (Luby et al, 2004:2554). It is not clear whether improved health behaviour could be sustained in conditions of widespread poverty and poor public health programs.

Improved health and hygiene practices among the urban and rural poor depends very largely on public provision and health promotion without the improved water and sanitation facilities targetted in the Strategic Framework for Water Services?? sends contradictory messages. The White Paper on Transforming Public Service Delivery sets out what should be done where the "promised standard of service is not delivered": there should be a "full explanation and a speedy and effective remedy" (page 15). The challenge particularly to municipalities, but also to national departments, is to integrate the messages on health promotion and service improvement. There is both a health imperative and the constitutional rights of the people to be considered and integrated into improved hygiene for poor people.

South Africa has a child friendly policy framework as by signing the Convention on the Rights of the Child it pledged to "put children first". All hygiene interventions should both acknowledge this framework and make sure that it is put to good use.

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