

**Comprehension of HIV/AIDS Print Material
among
Adult Basic Education and Training students**

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November, 2008

DECLARATION

I, Lilian Atieno Gangla Birir, declare that this research report is my own, unaided work. It is submitted in partial fulfilment of the requirements for the degree of Master of Management (in the field of Public and Development Management) in the University of the Witwatersrand, Johannesburg. It has not been submitted for any degree or examination in any other university.

Lilian Atieno Gangla Birir

November 2008

DEDICATION

To my husband

Joseph Kiplimo Kea Birir

and to our children

Jason Kipkoech Kea Birir

and

Tamara Jepchumba Kea Birir

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ABSTRACT

This research report describes a study which seeks to establish whether public information print material on HIV/AIDS is easily comprehensible to Adult Basic Education and Training Students. The study focuses on the visual presentations in the print material and seeks to establish whether these visual elements are effective as communication tools and if there are differences in the ways in which humans and objects are recognized and interpreted. The research material consists of thirty visuals which are taken from the *HIV and AIDS and Treatment* booklet. The recognition of humans, analogous objects and abstract objects and comprehension of the basic message were tested. Thirty individual interviews were carried out among Adult Basic Education and Training students. All respondents were presented with the thirty visuals in order to find out if they were able to recognise the visual elements and if they were able to comprehend the intended message of the visual.

The results indicate that visuals are useful as a communication tool on health issues with low literate audiences. Furthermore, the use of concrete representation of humans and analogous objects are easily understood by low literate readers. However, the use of abstract objects in print material makes it more difficult for the low literate reader to understand the message as the meaning of most abstract objects need to be learnt. Therefore, such health information documents which are targeted at the public should incorporate concrete visual elements such as humans and familiar objects as well as portray objects in the same manner in which they exist in the readers setting. Moreover, the use of abstract objects should be avoided because low literate readers may not have developed a high level of visual literacy.

Key words:

Literacy, Health and Comprehension.

LIST OF ABBREVIATIONS

ABET	Adult Basic Education and Training
AIDS	Acquired Immunodeficiency Syndrome
ARV	Antiretroviral
HIV	Human Immunodeficiency Virus
NACOSA	National AIDS Co-ordinating Committee of South Africa
PMTCT	Prevention of Mother to Child Transmission
STI	Sexually Transmitted Infections
NCI	National Cancer Institute
UNAIDS	United Nations Programme for HIV and AIDS
VCT	Voluntary Counselling and Testing
v	Visual

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CHAPTER 1

INTRODUCTION

HIV/AIDS has ravaged the African Continent. Though it is a global problem, in sub Saharan Africa the effects have been very widespread. South Africa has not been spared the effects of this pandemic. The statistics indicate that the situation is not abating. According to the UNIADS (2006:17) “South Africa’s AIDS epidemic—one of the worst in the world—shows no evidence of a decline. Based on its extensive antenatal clinic surveillance system, as well as national surveys with HIV testing and mortality data from its civil registration system, an estimated 5.5 million [4.9 million–6.1 million] people were living with HIV in 2005. An estimated 18.8% [16.8%–20.7%] of adults (15–49 years) were living with HIV in 2005”¹. African governments, like others across the world, have begun to take action to save their people. This has meant that various governments have adopted various strategies to address this huge challenge. In South Africa, the government began looking at the problem of HIV/AIDS after it came into office in 1994. However, despite various strategic plans drawn up by the government new infections continue to occur.

The government is perceived to have dawdled on its response to the disease rather focusing on prevention measures that were seen not to be working. It was argued amongst various circles that awareness of the disease was not the problem but rather the lack of prolonged livelihood after infection, which resulted in various social problems such as, single parent households, orphans,

¹ UNAIDS’ HIV prevalence estimates describe the percentage of adult men and women (15–49 years) living with HIV nationally. These estimates incorporate a variety of HIV data, including those gathered in household HIV surveys and at antenatal clinics. Antenatal clinic HIV data, meanwhile, reflect only HIV prevalence in pregnant women who use public antenatal facilities. Comparisons between these two sources of data have shown that antenatal clinic-based HIV estimates tend to be higher than those based on household HIV surveys.

child-headed households and a lack of family income. It was argued particularly by the Treatment Action Campaign, an AIDS activist group, that the government needs to allocate more resources to the provision of anti-retroviral therapy which helps to prolong life allowing people to continue being productive in the economy whilst supporting their families.

The government eventually gave into this argument and began the rollout of free antiretroviral therapy in certain sentinel sites subject to the patient meeting certain criteria. It is estimated that “21% of HIV infected women and men are receiving antiretroviral therapy while 14.6% of pregnant women receive treatment to reduce mother-to-child-transmission” (UNAIDS 2006:455). However, this is not the only intervention government has adopted; it continues to use communication interventions to address prevention, care and treatment of HIV and other medical conditions.

1.2 Background to the study

In 1992, the National AIDS Coordinating Committee of South Africa (NACOSA) was launched with a mandate to develop a national strategy on HIV/AIDS. The goals of this plan were to a) prevent HIV transmission, b) reduce the personal and social impact of HIV infection, and c) mobilise and unify provincial, international and local resources (Department of Health 2000: 5). The South African National STD & HIV/AIDS Review was conducted in 1997, in line with the goals outlined in the NACOSA plan. This review indicated that there are both strengths and constraints. One of the constraints worth noting is that health promotion materials are not always available in the vernacular and are not client-sensitive or user-friendly (Department of Health 2000:6).

Subsequent to the Review, some of the recommendations have been addressed. All public information documents in the media campaign run by the

government are now available in all 11 official languages. Nonetheless, “biomedical interventions and research have received the primary attention, particularly research on the development of an AIDS vaccine” (Department of Health 2000: 6).

One of the most important communication-centred initiatives that followed from the NACOSA plan was the *Beyond Awareness Campaign*. This campaign ran from 1997 to October 2000, and focused on advertising, materials development, training and research. One of the overt objectives of the Campaign was to “develop and distribute communications resources that can support action around HIV/AIDS” (Hurt 2000: 1; DOH 2001). Subsequent to the *Beyond Awareness Campaign* the government then adopted the Khomanani Campaign.

Currently, the *Khomanani Campaign* is running and it is a partnership between the Government and the Non Governmental Organisations (Soul City and Love Life). According to AIDSINFO the Khomanani –caring together -campaign’s vision is “to create a nation that is informed, inspired and united in defeating the threat of HIV/AIDS”. The vision is future-focused and all inclusive –“if we all act together, we can make a difference”. The mission is further listed as “to move the nation to act by informing, inspiring and empowering individuals, civil society, business and government, through the effective and efficient use of media”. AIDSINFO further adds that the objectives of the Khomanani campaign which are listed as “encourage safer and healthier sexual behaviour; encourage care and support in the community; facilitate openness and acceptance of people living with HIV/AIDS and promote government initiatives are in tandem with the Government’s five-year HIV/AIDS/STD strategic plans for South Africa 2000-2005”.

1.3 Definition of terms

Pictorial illustration is defined as “those configurations of line, dot or area and any combination of these three resembling events or objects (persons, places and/or things) either as perceived or as generally conceived” (Fleming 1967: 247). In this report the term visuals will be used to refer to pictorial illustrations.

Low literates are defined as “people who have received a maximum of eight years of formal schooling. This limit is based on the fact that South Africans can formally leave school after having passed Grade 9 and because people who have received schooling for less than nine years are characterized as having only ‘marginal reading skills’ by Project Literacy” (Carstens, 2004: 11). In this study the term low literate will refer to all ABET students included in this study as completion of ABET level 4 is considered equivalent to Grade 9 and both qualify one to obtain the General Education and Training Certificate.

1.4 Problem statement

Despite this adoption of the use of print media, literacy levels remain a big challenge to the success of these interventions. All over the world, adults with the lowest literacy levels suffer the highest rates of morbidity and mortality from chronic diseases. People need to understand health information in order to apply it to their behaviour. Twenty-three percent of the world’s adults cannot read or write (PATH 2002:1). PATH (2002:1) further states that this proportion is even higher in developing countries, where half the population is illiterate.

In South Africa, basic instructional materials on health issues are generally pitched at the level of plain English (a readability level of 60, or Grade 9), yet more than 70% of the South African population have only marginal reading

skills. Given this situation, the question one should ask is what strategies should be used to convey important health information? The answer has often been sought in the use of visual media. If health promotion materials are to be effective, they must be appropriate for the literacy level of the user group; they must be easily readable and understood. This could mean that people must accept the message, and change their behaviour. Thus, for a media-campaign to be effective within the context of the AIDS pandemic it should lead to behaviour change. PATH (2002:3) defines Behaviour Change Communication “as a process for promoting and sustaining healthy changes in behaviour in individuals and communities through participatory development of appropriately tailored health messages and approaches that are conveyed through a variety of communication channels”. The aim of the South African government in investing in these communication initiatives is clearly to achieve this.

Health information materials are crucial for any patient’s successful compliance to medication, prescribed dietary requirements and lifestyle changes. An infection like the HIV virus makes this even much more important as the actions that the patient employs in terms of compliance to these entire factors could mean the difference between a healthy lifestyle and demise. With the advent of home-based care, the importance of instructions and compliance has become even more critical as the medical practitioners try to serve as many people as possible and reduce the number of bed occupancy. The state has also embraced this shift in its *Comprehensive Policy on HIV/AIDS*.

As a result, governments are investing huge sums of taxpayer’s money into communication campaigns. These initiatives, it is hoped will go a long way in not only educating people but contributing to behaviour change and hence reducing the prevalence rate of HIV/AIDS. At the same time there are people who are already infected and must be taken care of. The instructional materials

come into play at this stage in particular though not exclusively. In order to develop effective messages, the communicators need to take into consideration various factors. The audience plays a critical role in their decision as they determine what type of information should be included in the documents and in what format. As financial resources are limited and the people to be reached by these campaigns are many, print media is usually selected for this. Print media is relatively cheap, can reach a wider audience, does not require technology to distribute and can be adopted to meet the needs of various audiences. Moreover, print materials provide a written record that people can refer to on a continuous basis (PATH 2002). Despite all these advantages, the literacy levels in Africa are a big problem.

Literacy is a global problem. In many countries, education is provided to the population either for free or at a nominal fee for the poor; however, this has not resulted in a total literate world. Many countries today struggle with the problems of literacy levels and research indicates that the level of schooling is not necessarily an accurate indicator of the literacy level. According to the National Adult Literacy Survey (NALS), which is considered the most accurate portrait of literacy in America today, “approximately 21 percent of adults may lack the necessary literacy skills to function adequately. Another 27 percent have marginal literacy skills (Davis et al 2002:135). In addition, these adults lack the ability to “read, write, and speak in English, and compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve goals, and develop knowledge and potential” (Kirsch 1993 cited in Davis et al 2002:135). The South African situation is comparable.

According to South Africa’s 1996 census report (1998: 36) “only 6.2% of the people living in South Africa had tertiary education, 16.4% had standard 10/Grade 12, 33.9% had some secondary school education, 24.2% had some or

had completed primary education while 19.3% had no schooling” (Statistics South Africa 1998:36). In addition to this, statistics on the number of functionally illiterate adults vary quite significantly: Aitchison (1999) reports that “7.4 million (18.5% of the adult population) are functionally illiterate” , whereas the South Africa Institute of Race Relations (2000: 107-133) states that “46% of the South African population is functionally illiterate while more than 70% of the South African population has only marginal reading skills, 30% is functionally illiterate and the other 40% has limited skills” (Carstens & Snyman 2003; Project Literacy 2004). Furthermore, in South Africa, some of the problems associated with printed documents are the literacy (educational) level and the linguistic diversity of the South African population (Hugo1996b: 174).

In light of the above statistics on the literacy levels in the country and given that the print media is still to a large extent, one of the cheapest means of communication with the largest target audience, it is paramount that the documents so designed must communicate the messages effectively.

1.5 Purpose of the study

The purpose of this study is to establish whether the public information print material on HIV/AIDS is easily comprehensible to Adult Basic Education and Training students.

1.6 Research question

The research questions seek to establish the comprehensibility of the HIV/AIDS print material. The study tests the booklet *HIV and AIDS and Treatment* by Soul City (2004) among Adult Basic Education and Training students as a case study. The sub-questions are:

- i. How effective are visual presentations as communication tools on HIV/AIDS?
- ii. Are there differences in the ways in which humans and objects are recognized and interpreted in the print material?

1.7 Delimitation of the study

Print material includes a wide range of material including books, booklets, leaflets, pamphlets and posters. However, given the scope of this study it is not possible to focus on this wide range of items. A booklet was therefore selected based on its content and relevance. In the current communication intervention, treatment is now one of the key messages hence, the selection of *HIV and AIDS and Treatment* booklet, which is a full colour booklet with both text and visuals. Though the booklet has both text and visuals, this study will focus on the visuals within the booklet. This is premised on the fact that this is a public information booklet, which means that its target audience is everybody in the country. However, given the level of literacy in the country, it can be argued that the incorporation of the visuals is done to assist low literate audiences comprehend the messages.

1.8 Limitations of the study

This study seeks to determine the comprehensibility of public information document but focuses on one booklet the *HIV and AIDS and Treatment* booklet published by Soul City. The findings of this study can therefore not be generalised to all public information documents on HIV/AIDS given the qualitative and exploratory nature of the study. However, the finding can create value by highlighting the challenges that readers faced in deciphering meaning from these materials.

Furthermore, though the document has both words and pictures to convey the message, this study focused specifically on the pictorial elements of the booklet. This is done because low literate audiences will rely on the pictorial elements to obtain the messages and if the document targets everyone, and the literacy levels are relatively low in this country, then these documents should be pegged at levels that are accessible and understandable to all. Nonetheless, it can be argued that the researcher should then have selected a purely pictorial booklet on the same topic. The researcher did collect a corpus of documents from the Department of Health and Soul City on the given topic and no full pictorial document could be found.

1.9 Structure of the Research report

This research report is structured into six chapters as detailed below:

Chapter 1: Introduction

In this chapter the background of the study, the problem statement, purpose of the study, research questions and the scope of the study are presented.

Chapter 2: Literacy and well-being

In this chapter key literature on literacy and health are discussed. The use of visuals as a communication tool is discussed together with the challenges of using visuals for low literate audiences. In addition, the reading process and the comprehension are also discussed.

Chapter 3: Research method

The research design and instruments are presented in this chapter.

Chapter 4: Presentation of Results

In this chapter results of the study are presented.

Chapter 5: Interpretation of results

An interpretation of the result is presented in this chapter.

Chapter 6: Conclusions and Recommendations

Conclusions and recommendations are discussed in this chapter.

CHAPTER 2

LITERACY AND WELL-BEING

The importance of health literacy cannot be overemphasised. Health care and self care place a heavy responsibility on patients and caregivers on the management of disease. In addition to the biomedical interventions that have been adopted to address HIV and AIDS, the communication initiatives are also a key strategy that is used in addressing the HIV pandemic. In this chapter, the relationship between health and literacy is examined as the two are intricately intertwined with one's literacy level playing a big role in one's wellbeing. Furthermore, the impact of low literacy on the ability to read and the readability of the health information documents will also be discussed. In addition, how people read and comprehend both text and visuals will be examined. Since communication is one of the key interventions used in the health care domain and has been adopted as a key intervention to address the HIV/AIDS pandemic, how to use visuals effectively in print documents to communicate health information will be discussed.

2.1 Health literacy

Though the concept 'Health Literacy' has been defined severally, there are certain overlaps in these definitions. Most of the definitions include an element of the ability to understand health information and to act on the knowledge gained. Below are three definitions which illustrate this.

Firstly, Zarcadoolas, Pleasant & Greer (2005:196-197) define "health literacy as the wide range of skills, and competencies that people develop to seek out, comprehend, evaluate and use health information and concepts to make informed choices, reduce health risks and increase quality of life."

Secondly, Paasche-Orlow, Parker, Gazmararian, Nielsen-Bohlman & Rudd (2005:175) adopt the definition of health literacy used in *Healthy People 2010*, which defined health literacy as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.”

Thirdly, health literacy is defined by the National Health Education Standards as the “capacity of an individual to obtain, interpret and understand basic health information and services and the competence to use such information and services in ways which are health-enhancing” (Sullivan 2000:1).

Thus, it can be argued that “health literacy is central to multiple health systems priorities, including quality, cost containment, safety and patients’ involvement in health care decisions” (Parker, Ratzan & Lurie 2003:147). Consequently, health literacy has a big role to play in determining not only how well one gets involved in day-to-day health activities but also the extent to which they will ensure that they have good health. The ability to read health information materials plays a huge role on at least two levels. The knowledge that one gets from these instructional material and the extent to which one will follow the instructions provided in these documents.

Although the demonstrated evidence of the association between health and education is strong, the explanations for this association and the underlying mechanisms have not been extensively studied. Rudd, Moeykens & Colton (1999:3) report that “in medical care settings, the patient’s oral language skills are related to his or her ability to describe symptoms and can subsequently affect practitioner’s ability to diagnose”. They add that “patients’ literacy directly influences their access to crucial information on their rights and their health care, whether it involves following instruction for care, taking medicine,

comprehending disease-related information, or learning about disease prevention and health promotion” (Rudd et al 1999:3). Besides, literacy levels may directly affect access to care. For example, difficulties in completing registration forms or applications for insurance coverage may delay the procurement of needed medical services (Baker et al 1996). Furthermore, “Illiteracy or low literacy, which is often accompanied by feelings of embarrassment or shame, may diminish a person's capacity to express his or her concerns in our highly literate health care environment” (Parikh, Parker, Nurrss, Baker & Williams 1996).

In addition, van Servellen, Brown, Lombardi, and Herrera (2003) argue that health literacy is important for various reasons including “its ability to empower patients to seek medical advice, and work closely with medical practitioners to treat their illness and it also encourages patients to make informed decisions about how to improve their health status as they have the necessary knowledge”. Moreover, “studies of health literacy abilities show that many of the people with the greatest health care needs in our country have the least ability to comprehend information required to successfully navigate and function in our health care system” (Parker & Gazmararaian 2003:116).

2.2 Literacy situation in South Africa

The level of literacy is a global problem. Many countries today struggle with the problems of literacy levels and research indicates that the level of schooling is not necessarily an accurate indicator of the literacy level. Despite increased access to education, literacy levels have not necessarily improved in South Africa.

Various studies into the literacy levels in South Africa have been conducted and though the data varies, the consensus is that literacy levels in the country are relatively low. For instance, according to Statistics South Africa's (1998: 36) only "6.2% of the people living in South Africa had tertiary education, 16.4% had standard 10/Grade 12, 33.9% had some secondary school education, 24.2% had some or had completed primary education while 19.3% had no schooling".

In addition to this, statistics on the number of functionally illiterate adults vary quite significantly: Aitchison (1999) reports that "7, 4 million (18.5% of the adult population) are functionally illiterate", whereas the South Africa Institute of Race Relations (2000: 107-133) states that "46% of the South Africa population is functionally illiterate while more than 70% of the South African population has only marginal reading skills, 30% is functionally illiterate and the other 40% has limited skills".

In light of the above statistics on the literacy levels in the country and given that print media is still to a large extent, one of the cheapest means of communication with the largest target audience, it is paramount that the documents so designed must communicate the messages effectively. For this reason, the print material designed need to be able to communicate with the readers at their literacy level otherwise the purpose for which they are produced will not be achieved.

2.3 The Readability of Health Materials

Dale and Chall (1948:11) define readability "as the sum total (including interaction) of all the elements within a given piece of printed material that affect the success which a group of readers have with it. The success is the extent to which they understand it, read it at optimum speed and find it interesting".

Morris & Stilwell (2003:76) expound on this definition saying that it focuses on “three principal aspects namely, comprehension, fluency (of reading) and interest.” Hence, it can be argued that the words alone are not enough to determine whether or not a text is comprehensible but rather the way in which it is presented together with the actual message that it is communicating contribute directly to its readability.

Schrivers (1989) discusses three methods that can be used to evaluate text. Firstly, text-focused methods which are used to assess text quality by means of general principles or guidelines, based on ideas or research about how readers respond to texts. Text-focused methods tend to use readability formulas, computer-based stylistic analysis programs, guidelines and maxims and checklists. Secondly, expert-focused methods use feedback by professionals who have expert knowledge about the subject, audience or genre. And finally, reader-focused methods make use of feedback by potential readers from the target audience.

Most of the medical and public health literature mentioning literacy focuses on assessing the readability levels of materials used in health care settings and for health promotion. Material assessment studies clearly document that many health promotion and patient education materials, patient rights and informed-consent documents, as well as directions for medication or self-care, are not easily accessible to the average adult. The literature shows evidence of continued efforts to assess patient information materials and ensure that the level of literacy required for comprehension is appropriate (Doak & Doak 1996; Ngoh & Shepherd 1997, Dowse & Ehlers 2001).

Reported research into assessment of readability of health –related material indicates that there is a gap between the literacy abilities of readers and the

literacy demands of the material. The readability levels are way above literacy abilities.

2.4 The reading process

There are several theories that have been developed to explain how people read. The process described by McKeon (2003) has been selected for the purposes of this study as it explains how people read in the context of health communication. McKeon (2003) identifies five steps in the reading process namely, input, decoding, encoding, output and feedback.

2.4.1 Input

According to McKeon (2003, n.p.) “the stimulus is whatever the patient may be asked to read.” The health context offers several types of documents that patients need to attend to including administrative material such as routine forms, promotional material such as advertisements of new medicines or treatment options and educational material, for instance, medication guidelines. “After receiving the stimulus the patient then needs to attend to it and at this stage the senses – visual, auditory and tactile modes become involved” McKeon (2003: n.p.). Therefore, “patients need visual acuity, hearing acuity, and the ability to write” (McKeon 2003: n.p.).

These three sensory modes are necessary for anyone who is listening to, reading or writing health information but for the low literate patients they face challenges on all three fronts hence medical practitioners and document designers need to accommodate their special needs. This can be done by using appropriate visuals, using simple terms as opposed to medical jargon, explaining illnesses and treatment options and using closed-ended forms as opposed to open-ended ones so that the patient can simply select the response that applies to them.

2.4.2 Decode

The next step is the word recognition stage. According to McKeon (2003) “patients have a number of ways in which they recognize words”. These include knowing words from sight or memory, sounding out the words or seeing a part of the word as familiar. For the low literates however, decoding is a serious challenge as they may not have the required strategies for recognizing words. Hence, McKeon (2003) recommends that health care practitioners should take time in explaining the written text to the patients in a way that they not only learn some sight words but also recognize the key words in the particular brochure based on the context.

2.4.3 Encode

The next step, encoding or comprehending the information is the reason for which all these documents on health are written. McKeon (2003) argues that “not only do patients need to identify words, but they must also understand them and be able to apply the new health concepts to everyday life”. Various strategies can be used in assisting patients understand these new concepts. She adds that there are at least three strategies that can be used to aid comprehension.

Firstly, McKeon (2003, n.p.) states that “a key to helping patients understand new information is to help them access prior knowledge and personal feelings about the new health concept.” This can be done by brainstorming a topic to determine what the patient knows, what they do not know and hence need to learn and any misconceptions that they have on they topic that are then clarified.

Secondly, the use of graphic organizers can assist in comprehension. McKeon (2003) says that “by illustrating the necessary information either with pictures

or in a chart format, the health care professional outlines the essential concepts”. These illustrations assist the reader draw links between the concepts being discussed.

Thirdly, the use of guided discussion is another strategy that can assist comprehension. Here the health practitioner “lists several concepts to be learned, discusses them with the low literate patient, and asks the patient to summarize the concepts grasped”. Based on the patient’s explanation one can determine if they have actually understood what has been discussed.

2.4.4 Output

According to McKeon (2003) “this stage of reading typically involves oral or silent reading”, however the case of low literates may make this very difficult to accomplish. If the main goal of any reading activity is not simply to enunciate the words but to actually understand what is being said and to be able to explain it in one’s own words, then one should apply teaching strategies. By using teaching strategies such as eliciting prior knowledge and developing on it, using graphic organizers and guided discussions the patient stands to gain more knowledge from the exercise than simply enunciating the words.

2.4.5 Feedback

Feedback is an important stage in the reading process and an indication of comprehension. McKeon (2003) states that “feedback involves thinking about new information and knowing when one understands and when one does not understand”. For low literate patients it is necessary for the health practitioner to receive feedback by having a discussion with the patient. This will assist the patient share what he knows or has learnt and the health practitioner can then evaluate if the patient has actually understood the information or not.

2.5 Low literacy

Low literacy is generally measured in terms of one's ability to read and write. The school level attained is used as a guideline to indicate one's literacy level. However, recent studies have indicated that educational level is not necessarily an indication of literacy level. Davis et al (1990) argue that the low literate people read three to five years below their educational level. One's literacy level determines how one approaches reading. In the following section differences between how literate people and low literate people read will be discussed.

2.5.1 Reading Text

Doak and Doak (1996:4) differentiate between the skilled readers and the poor readers. They state that while "the skilled readers interpret meanings, read with fluency, get help for uncommon words, grasp the context and are persistent readers the poor readers take words literally, read slowly, miss meaning, skip over the word, miss the context and tire quickly".

Doak et al (1996:1) state that "those with low literacy skills cannot read pamphlets or booklets, directions on a bottle of aspirin, or the explanation for a food exchange list". Besides, "vocabulary is not their only limitation; often they cannot understand the illustration and medical pictures used in health-care material" (Doak et al 1996:1). On the contrary, they can learn from nearly any health instruction that is designed and presented in ways suitable for them (Tomaselli & Tomaselli 1984; Doak et al 1996; Beveridge & Griffiths 1987, Hugo 1996b, Mayer & Sims 1994).

2.5.2 Reading Visuals

When comparing the reading approach taken by literate audiences to those adopted by low literate audiences when examining visuals, Doak et al (1996:92)

found that all literate people follow the following steps when they read visuals: “(a)decide to read or look (selective exposure); (b) finding the message; (c) locating relevant details; (d) interpreting the information (selective perception); (e) deciding to remember (or forget) the message (selective retention)”. On the other hand, for poor readers, “their eyes wander about the page without finding the central focus of the visual, they tend to skip over principal features, and their eyes may focus on one detail and the poor reader is generally slow to interpret information and when they do they interpret the words literally” (Doak et al 1996: 93).

In addition, the National Cancer Institute (1994) found that there are some common characteristics among low literate audiences regarding how they interpret and process information including“(a) tendency to think in concrete/immediate rather than abstract/futuristic terms,(b) literal interpretation of information (c) insufficient language fluency to comprehend and apply information from written materials, and (d) difficulty with information processing, such as reading a menu, interpreting a bus schedule following medical instruction or reading a prescription label.”

2.6 Visual Literacy

Although there is a conception that visuals are a universal phenomenon and thus can be used to communicate the same message worldwide to all audiences, research has shown that this is not the case. Bradley (1995:11) says that “although some pictures and diagrams are universally understood, there are many that are only understood within their own culture and others that seek to impose a cultural form on others”. Dowse & Ehlers (2001) report on a study they conducted in the Eastern Cape, South Africa among low literate Xhosa speakers. They compared the responses to standardized pharmaceutical pictograms developed in the United States and locally developed-culturally

appropriate pharmaceutical pictograms depicting the same action. Their findings indicate a strong preference among South Africans for the locally developed pictograms due to their cultural sensitivity.

The purpose and function of visual literacy in communication is to provide a system for the formulation, recognition and understanding of visual messages. However, due to unique codes and characteristics of visual communication, visual literacy must be acquired separately from verbal and written skills (Hugo & Skibbe 1991: 47).

Though research indicates that there is much to be gained in using visuals to communicate with both literates and low literates, there is a need for readers to develop visual literacy which would then enable people to read visuals and comprehend them. Visual literacy has been defined by various people in various ways. The definitions incorporated here are relevant to this study and is in no way representative of all the definitions of visual literacy.

Wileman (1993:114) defines visual literacy as “the ability to read, interpret, and understand information presented in pictorial or graphic images” he associates this with visual thinking which he defines as “ the ability to turn information of all types into pictures, graphics or forms that help communicate the information” (Wileman 1993:114). In this study the ability of the low literate readers to read, interpret and understand the visuals is examined. Furthermore, Braden & Hortin (1982:41) define visual literacy as “the ability to understand and use images, including the ability to think, learn and express oneself in terms of images”. They further state that “this definition is intended to incorporate the essentials of visual learning, visual thinking and visual language.” It is also intentionally directed at the individual who must develop these abilities.

In addition, Sinatra (1986:5) defines visual literacy as “the active reconstruction of past visual experience with incoming visual messages to obtain meaning”. This definition helps tie in prior knowledge to what is presented in the current visuals. Further, Seels (1994:107) defines “visual learning as the most complex theoretical constructs because it refers to both learning from visuals and research on designing visuals for instruction”. In this study, the researcher examines what the respondents learn from the visuals while at the same time conducts a study into how the visuals should be designed in order to make them more effective.

Despite the variations in these definitions provided above, they all used the term visual literacy to refer to the acquisition and construction of knowledge as a result of interaction with visual phenomenon.

Hugo & Skibbe (1991) argue that “often audiovisual teaching materials are designed from the wrong point of view. Instead of aiming at informing a particular target group, illustrations are based upon the technical and creative skills of producers. The result is visually attractive material that lacks educational value”. Furthermore, Hugo & Skibbe (1991: 47) adds that “producers try to save on media development and production costs by using the same material for different ethnic population groups without recognizing the way that cultural habit, values and communication styles directly influence the manner in which visual messages are interpreted”. In order for these materials to be effective educational materials there is need to restructure them and adapt them to the local environment.

Andreas Fuglesang (cited in Linney 1995: 23) wrote in 1973 that:

We have to acknowledge that understanding of the pictorial language is an acquired ability and, more important, we have to realise that it is

necessary to develop a pictorial literacy, which exists, if visual aids are to be of optimal value in the communication of knowledge.

His observation is linked to that of Linney (1995: 23) who further elaborates on this saying that the designer is advised to develop and study the 'pictorial language' that is appropriate to the community with whom he is working. Therefore, because visual literacy is something that is developed one should constantly keep this in mind when developing material and also constantly update the type of visual used ensuring that it draws from the cultural context in which it will be used.

2.7 Use of pictorial illustrations

The purpose of incorporating visuals in print materials is to enhance the effectiveness of health information material. In the following section the reasons given for the use of visuals in health communication print material will be discussed. Perspectives from three areas that are important in health communication will be considered. Firstly, the works of Doak, Doak & Roodt (1996) who work in the field of patient education will also be used, and the article by Houts, Doak, Doak & Loszalzo (2006) shall also be referred to as they conducted a study in which they examined how combining pictures with spoken or written text affect health communication by focusing on four key aspects of health communication, namely: attention, comprehension, recall and adherence.

Secondly, the work of De Jong & Schellens (1997) who take the Document Designers approach to effectiveness will be examined. Their condition for effectiveness draw largely from reader-focused evaluation- a strategy widely used in Document Design to test print material with the target audience. Their tests are based on certain criterion which is believed to enhance the effectiveness of print material if they are met. Thirdly, the work of PATH (2002)

which works extensively in developing countries on various development issues will also be referred to. Though these four works will form the basis of the following discussion, it will not only be limited to these works as illustrations from other works will also be used. This discussion will cover four important areas, namely: role of visuals in capturing attention, role of visuals in enhancing memory, emotional impact of visuals, role of visuals in instilling self-efficacy and role of visuals in facilitating comprehension.

2.7.1 Role of visuals in capturing attention

This is the first step in the reading process. People need to be able to pick up the print material, only then can they read it. Houts et al (2006: 175) report that pictures used in health education attract the attention of patients and motivate them to focus to the information. Furthermore, according to PATH (2002:77) if material is not attractive, many individuals exposed to it will not pay much attention to it. “A poster may go unnoticed if has been printed in a dull colour or if the illustrations are of poor quality or is irrelevant. They add that print materials achieve attractiveness through appropriate visuals, such as coloured and black and white illustrations and photographs” (PATH 2002: 77).

In addition, De Jong and Schellens (1997:404) state that selection is important in informative and instructional texts as the reader needs to be able to locate the parts of the documents that are relevant to their situation. This approach is usually adopted by the literate audiences. Moreover, Doak & Doak (1996:109) state that “visuals should be used on the cover to motivate the reader.” They add that “not only is the cover the face of the material but is should also tell the purpose at a glance, set the tone and mood for instruction, attract and hold attention long enough to get the reader into the material and that the style of artwork should lead to the readers’ recognition and identification with the subject” (Doak & Doak 1996:109).

Delp & Jones (1996) report on an experiment carried out among patients who had lacerations and had visited the Emergency Department. They evaluated the “effect of cartoon illustrations on patients’ comprehension of and compliance with Emergency Department release instructions” (Delp & Jones 1996:265). They had two versions of the instructions which they handed out to patients. One group received a text only version while the other group received a text plus cartoon illustrated version. Delp & Jones then conducted telephonic interviews three days later with the participants in the study. Their findings indicate that the use of cartoons enhanced interest of recipients and those who received the illustrated versions of the wound care instructions not only showed a higher rate of comprehension of the instructions but also had a higher compliance rate. These findings point to the value of visuals in attracting attention to health care instructional material and the resulting improvement in attending to the instructions and following through with what is required of one.

2.7.2 Role of visuals in enhancing memory

Another reason for the use of visuals is that they are memory enhancing. This contributes to the recall of information. Recall of information refers to the “process of retrieving individual words or picture elements from memory” (Houts 2006:178). They add that recall of information is not the same as understanding the information as no processing of the information takes place, one simply repeats what they have read or seen.

There are two ways in which recall can be examined, namely; free recall and cued recall. Houts et al (2006: 182) distinguish between the two types of recall in stating that “ in free recall subjects are asked to repeat what they read or heard without any cues or prompts” while in cued recall subjects ‘ read or hear

health information with an accompanying picture and later view[s] the same picture to help remember the information”. In health communication, recall of information is important as it makes it easier for the patient to follow self care instructions. Although there are not very many studies that focused on recall in health communication the following illustration indicates how recall is aided by the use of visuals.

Houts, Bachrach, Witmer, Tringali, Bucher, & Localio (1998: 85) conducted a study in which they tested the following hypothesis:

When information about managing cancer symptoms at home is presented orally with pictographs and the same pictographs are present during recall, memory will be greater than when the same information is presented orally without pictographs. We are also interested in the percent of the information recalled correctly – since, for the technique to be useful as correct, most, if not all, must be remembered (Houts et al 1998:85).

In order to test this hypothesis, 21 college students took part in the study. They had two versions of material - one group had a list of instructions and the other group had a list of instruction plus pictograms which were used during both the listening and recall tests. The results indicate that those who had pictograms to refer to while listening to the instructions and during the recall test outperformed those without any pictograms. The difference was very significant statistically and the findings clearly support the statement that pictograms can enhance recall of spoken medical instructions.

Houts, Witmer, Egeth, Loscalzo & Zabora (2001) conducted another study subsequent to this first one in which they tested 192 medical instructions among low literate readers. The results indicate that:

low literate people's immediate recall rates are similar too those of literate people (91% for low literacy subjects and 87% for junior college

students for matched sets of pictographs-using similar stick figures and the same scoring method) , increasing the number of pictographs to 236 yields an 85% immediate recall rate, and while there is some decrement with time, an average of 71% of the instructions were with the help of pictographs, recalled correctly after 4 weeks (Houts et al 2001: 239).

These findings are very significant for anyone developing health communication material for low literate audiences as they indicate that though the audience may not be able to read text, with the correct intervention, such as the use of visuals their cued recall of health care instructions will be greatly enhanced if the same visuals used during the teaching of the instruction are then made available to the low literate reader at a later date.

In another study conducted by Patel, Eismon and Arocha (1990) among low literate women in rural Kenya on the effects of pictures and texts on mothers' recall of instructions for preparing and administering the oral rehydration solution for children, the researchers used two versions of text with the same visuals. 40 respondents participated in the study whose results indicate that there was no difference in recall between the two text groups but that the mothers recalled more information from the pictures than from either of the text versions.

2.7.3 Emotional impact of visuals

The messages and the way they are communicated must be acceptable to those to whom they are directed. Houts et al (2006) argue that the addition of pictures to health education material may elicit different emotional responses from the audience. The response can either be positive which will lead to the desired behaviour or negative which will result in a decrease in the desired behaviour. They further state that "how people respond emotionally depends on both the nature of the picture and the audience's predisposition in responding to the picture content" (Houts et al 2006: 187). If the

communication materials contain something that offends, is not believable, or generates disagreement among the target audience, the message will be rejected (PATH 2002:77). Doak & Doak (1996:92) also add that “visuals carry memorable emotional messages far surpassing words”.

2.7.4 Role of visuals in instilling self-efficacy

Houts et al (2006:185) state that “adherence involves two steps: accepting the message as something the person should act on and then actually carrying out the recommended action”. According to PATH (2002:77) the “health education materials should indicate clearly what the target population is being asked to do as no matter how good communication materials are from a technical standpoint, it will be worthless if it fails to transmit a message that can be acted upon or carried out”. Instructional material seeks to educate on a particular topic and they expect certain action to be taken by the reader needs to not only understand what the new knowledge is but also what action they are expected to undertake. PATH (2002:77) add that “even those materials that create awareness should induce listeners or viewers at least to seek more information on a subject as this can move them to take steps leading to the required action or behaviour change”.

The target population should be able to identify with the materials and recognize that the message is directed towards them. To ensure that the target audience for the new materials becomes involved, it is necessary to make appropriate use of symbols, graphics, and language used by a particular population groups as using a familiar context makes it easier for readers to identify with the message (PATH 2002:77). Doak & Doak (1996:94) state that one should “use visuals to give a sense of realism by helping the patients see the action recommended”.

They add that “partitioning the action, task or procedure by using several “bite-size” images makes it seem easier to do and gives the patient the chance to experience a number of small successes in learning and understanding” (Doak & Doak 1996:96).

In a study conducted by Ngoh & Shepherd (1997) in rural Cameroon, in which they investigated the effects of providing culturally appropriate illustrated instructions on adherence to antibiotic regimen to 78 non-literate women, in two groups; experimental (oral instruction with visual aids) and control (oral instructions only), they found that the experimental group showed a significantly better understanding of how to take their medication and took more of their medication correctly. Based on their findings, Ngoh & Shepherd (1997:267) concluded that “abstract, technical or obscure visual aids have no meaning to the non-literate and unsophisticated people with whom many health professional work. The visuals must be simple, practical, and related to what the patients know and understand.” This will stimulate them to perform the desired action.

2.7.5 Role of visuals in facilitating comprehension

Houts et al (2006:178) define comprehension as “the process of interpreting the meaning of words or pictures to understand their collective meaning”. Some studies have been conducted to investigate whether the use of visuals can aid comprehension of health-care information documents.

Comprehension measures not only the clarity of the material content but also the way that content is presented. A complicated or unknown word may cause audience’s failure to understand the message. Problems may arise if the typeface is too small making it difficult for the audience to read, or too many ideas are being transmitted at once resulting in confusing the audience or

making them overlook the action they are supposed to perform. Materials should also accomplish strategic objectives (PATH 2002:77). Doak & Doak (1996:94) add that “when using visuals to enhance comprehension, one should concentrate on the main message, reduce the amount of reading in the text, provide visuals cues and interaction and provide motivation”.

Austin, Matlack, Dunn, Kesler & Brown (1995:317) report on a study they conducted in order “to determine whether the addition of illustrations to discharge instructions improves patient comprehension”. All the participants in the study were recruited after visiting the emergency department and being diagnosed with laceration and were then randomly assigned to either the experimental group or the control group. The experimental group received the material that contained both text and visuals while the control group received a text version only. The two texts were identical. Their findings indicate that the experimental group were 1.5 times more likely to score at or above the median in the comprehension test than the control group. In addition, they found that the illustrations benefited the patients who had high school education and below the most.

2.8 Challenges of using visuals for low literate audiences

Although visuals enhance communication for everyone, for low literate audiences the significance of visuals is even greater as it may be the only way that they can read and understand the health message (Doak 1996). Even though there are various arguments for the use of visuals to instruct low literate audiences, the desired effect is sometimes not achieved. This can be attributed to the fact that visual literacy needs to be acquired just like verbal literacy. Linney (1995:20) explains that “because pictures involve graphic or pictorial conventions, one has to go through a process of learning in order to understand them. Pictorial conventions relate to fundamental elements of all visual art -

line, space, scale, form, tone, texture and colour among others. If one has not learnt the common pictorial conventions, a picture simply appears as a meaningless collection of lines, shapes, tones and colours on a piece of paper". Hence, we should not assume that as long as we have visuals in the health information material they will communicate effectively to everyone.

Hugo & Skibbe (1991) carried out a study in South Africa to determine the ability of illiterate² patients to interpret instructional illustrations.

The results of the study indicate ability by illiterate patients to read and interpret instructional illustrations. A striking finding is the variation in visual literacy among the participants despite the low level of reading and writing skills of the group. The ability to identify product brand labels and abstract symbols correctly indicated advanced visual literacy skills. This may have been due to the participants' previous exposure to the particular products. Contrary to this, the participants' ability to interpret pictures that represent abstract knowledge concepts is marginally lower. This may have been caused by the low literacy level of the participants (Hugo Skibbe 1991:49).

The results of this study clearly indicate that a low level of reading and writing skills is not necessarily an indication of visual literacy. In addition, depending on what is being illustrated, the reader may readily understand it especially if familiar items are used.

Still, when communicating with low literate audiences then there is need to keep these visuals simple and clear so that they are easy to comprehend. Linney (1995:19) exemplifies "the problem faced in the developing countries by community-level workers when he states that there is a severe shortage of educational pictures which results in little or no exposure to educational pictures. Thus, the community does not have the opportunity to learn how to understand and interpret pictures".

² A literate person being one who has passed standard 3 and is able to read and write simple sentences according to the Medical Research Council 1988.

According to PATH (2002:2) there are many reasons illiterate and low literate people may have problems interpreting pictures. “While drawings and photos show three-dimensions reality in only two dimensions, low-literate individuals probably have not learned that perspective represents depth. Such visually illiterate people may not be able to tell the foreground from the backgrounds by the relative size and placement of objects. They do not realise that larger objects are in the “front” of the drawing or photo and those that are smaller and placed higher up are considered in the background” (PATH 2002: 2). Furthermore, “a picture with a detailed busy background makes it difficult for low literate audiences to understand the main message. They interpret pictures better when background details have been removed” (PATH 2002: 2).

In addition, there are other challenges that low literates will face when interpreting visuals. The use, for instance, of superimposed images will be difficult for low literates to interpret correctly. According to PATH (2002:2) “literate people have learned to understand depictions of objects that are superimposed on other objects; low literate people may not understand or may misinterpret pictures of groups of objects in which some parts are “hidden”. Furthermore, the use of symbols in print material developed for low literates should be done with care. “Symbols often mean different things in different cultures” (PATH 2002: 2).

Another challenge for the low literate reader is interpreting objects that are presented in the way that they do not appear in real life or objects that only presented in part. Zimmer and Zimmer (1978) reported that illiterates mostly interpret graphic diagrams as meaningless smudges of ink, by referring to the unnatural way of presenting parts of a body in diagrammatic drawings.

Hence, messages must be tailored to be developmentally appropriate for the audience (Hugo & Smit 1998:89).

According to McGuire (1989 as cited by Hugo & Smit 1998:87) it is still often assumed that different health education audiences in a multicultural environment have the same interpretation of a particular message". Moreover, Hugo & Smit (1998:87) add that 'the inappropriateness of many media messages for health education and health promotion has already been demonstrated in different studies over the last decade". In addition, Stokes (2002:13) argues that "although there are universal symbols or visual images that are globally understood visual literacy like verbal literacy is culturally specific".

There are reports that low literate audiences struggle to comprehend picture sequences since picture sequences are concerned with developments over time. The low literate person may not relate to this easily. Such a reader needs to know in which order the pictures are to be viewed. "The sequence from top left to bottom right while the most widespread is not the only possibility" (Hoffmann 2000:142). Moreover, "any differences that can be found are not based in the ability to read and write but in other differences between literate and illiterate people which are very frequently covariant but are not causally linked" (Hoffmann 2000:143). Besides, "a low literate person has generally had less opportunity to gain experience in interpreting pictorial illustrations because formal education through which these abilities are acquired is generally linked closely with acquisition of the ability to read and write" (Hoffmann 2000:143).

2.9 Guidelines for using visuals

Based on the body of literature, the guidelines for producing effective visuals for instructing low literate audiences can be summarised as follows:

Visuals	Effect
1. Use simple diagrams to explain complex concepts and use graphics and symbols that are familiar to audience unless their meanings are explained (Hugo 1996b).	This increases the effectiveness of the material as it enhances comprehension. The use of familiar graphics and symbols also draws on prior knowledge and facilitates learning as readers are able to link what they know to what is being communicated.
2. Use bite size images as this reduces the length of the message (Doak & Doak 1996:96).	This facilitates encoding and comprehension as low literate audiences cannot process a lot of information at the same time.
3. Limit content to most important messages (Zimmerman 1992:12).	This reduces the cognitive load and facilitates comprehension.
4. Avoid complex pictures of which the meaning is dependent on a particular sequence, for instance, left to right, or correct interpretation of a particular relationship, for example, causal, temporal, etc. (Colle & Glass, 1986; Hoffmann, 2000; Linney, 1995).	The low literate reader tends to focus on a specific detail and has not learnt the relationships between various components of a picture and may see these as separate things.
5. Avoid pictures reflecting western pictorial conventions of depth perspective, including linear perspective, occlusion, relative size, etc. (Arbuckle, 2004; Bradley, 1995; Linney, 1995; PATH, 2002).	These are principles that are learnt and therefore may pose serious challenges to low literate audience from other cultures that have not learnt these conventions.

6. Avoid the depiction of movement, such as a physical object travelling from one point to another, emission of light, steam, breath, sound, by making use of lines (Arbuckle 2004; Colle & Glass, 1986; Hoffmann, 2000; PATH, 2002).	Low literate audiences have not learnt this principle and may be confused by it.
7. Do not use pictures in unfamiliar art styles, for example cartoon-style drawings of people and objects, which both simplify and distort (Doak et al., 1996; Plimpton & Root, 1994).	Always draw on prior knowledge and give readers material that they can relate to otherwise they will misinterpret the message.
8. Do not use metaphoric symbols, such as a heart (love) because although they are representational, a transferred meaning is conveyed, which is often culture-dependent; (Linney, 1995; PATH 2002).	These conventions are fixed in a particular culture and may mean something different in another culture or not have a meaning at all hence reduces comprehension.
9. Illustrate objects, symbols and people that look familiar (Doak 1996:98; Zimmerman 1992:132; PATH 2002:36).	Drawing on prior knowledge enhances comprehension and familiar context makes it easier for readers to relate to the message.
10. Use culturally appropriate visuals (Zimmer & Zimmer 1978; Doak et al 1996; Hoffman 2000; Bradley, 1995:1; Tomaselli & Tomaselli, 1984;).	Culturally appropriate visuals enhance comprehension as the audience can relate to visuals.
11. Do not use abstract symbols of which the meanings are not transparent, but have been fixed by convention, for instance, road signs, arrows, ticks, crosses, mathematical symbols, circles and splashes of colour (to cue) (Colle & Glass, 1986; Doak et al., 1996; Kress & Van Leeuwen, 1996; PATH, 2002); as well as certain pictorial conventions used in the cartoon style, e.g. thought balloons and speech balloons (Colle & Glass, 1986;	These conventions are learnt when developing verbal literacy and therefore may not be known by the low literate audiences who have not been exposed to the formal education system.

Hoffmann, 2000; PATH, 2002).	
12. Use a minimum number of captions (1996b:173)	Reduce the text as much as possible and make visual self explanatory so that it is accessible to those who cannot read text at all.
13. Use colour realistically and choose life like colours (Hugo 1996b:173).	Makes it easier to identify the object illustrated.
14. Show whole person rather than some part of the body (Zimmerman 1992).	Enhances comprehension.
15. Use a visual on the cover to get attention and the visual should tell the reader the purpose of the booklet at a glance (Doak & et al1996)	Attracts readers to the material facilitates comprehension as indicates what the booklet is about.
16. Use familiar settings in the illustrations (Doak 1996).	Facilitates comprehension.
17. Avoid pictures with too much distracting detail in the background (Ausburn & Ausburn, 1983; Doak et al., 1996; Linney, 1995; NCI, 1994; PATH, 2002).	Facilitates comprehension
18. Leave lots of white spaces to reduce distraction (Doak 1996).	This allows the reader to focus on the message of the visual as opposed to trying to work out various elements which they may try to relate to one another and miss the message completely.

2.10 Comprehension

The main reason for reading is to understand a text. Hence, the effectiveness of any act of reading depends on the degree to which the meanings the author intended when writing the text can be matched by the reader. The higher the degree of similarity between the meanings intended by the writer and those reconstructed by the reader, the better the comprehension and therefore the

more successful the act of reading has been. This does not mean that the reader must be able to reproduce exactly and precisely every detail that the writer originally intended. If the reader captures the relevant gist, details and arguments of a text then one can say that the text has been understood.

Generally, people read in order to gain some knowledge and insight into a specific topic and then to apply this knowledge in certain situations where a skill is needed. In health information documents, the topic covered by the particular publication is usually evident from the title. Further reading of the text provides an opportunity for one to build on one's prior knowledge while clarifying any misconceptions that one may have on the topic. Health information documents play a crucial role in building on prior knowledge and clarifying any misconceptions. The use of visuals in these documents not only enhances their aesthetic value but for some readers this is the only medium through which they can gain knowledge. Visuals like words have their own levels of vocabulary. They range from simple representations of people to very abstract portrayal of concepts. In the following section the recognition of humans, recognition of objects and the comprehension of the basic message are discussed.

2.10.1 Recognition of humans

The recognition of humans despite the art form in which they are presented should not pose any challenges to readers despite their literacy levels. This may be attributed to the fact that one does not need any visual literacy to identify the image of a human being and label it as such. Not only should the recognition of an image of a human being not pose a challenge to readers, the assigning of a specific gender or role should also be fairly straightforward. Nonetheless, in health communication some roles may be confusing, for instance is the person portrayed a family member, or a friend who is simply providing support.

However, the illustration of body parts floating on their own may pose certain interpretational challenges to low literate audiences as some level of visual literacy will be required in that instance.

According to Dowse and Ehlers (2001) the use of simple, realistic visuals with limited content and using whole body images as reference for body parts should always be adopted. In visual 15, for instance, only the hands have been drawn without a body. However, because it is a simple line drawing, the illustration is fairly close to reality and may not pose any problems to readers.

2.10.2 Recognition of objects

Objects are classified into two main groups, the analogous objects and the abstract objects. The analogous objects are representations which are easily recognised by all readers as they represent images that are very close to the real object. As a result items that are used in everyday life pose fewer challenges to all readers due to the degree of familiarity. According to Hoffmann (2000: 140) “low literates only have problems recognizing unknown objects, and well-known objects depicted in a way that contradicts their experience”. However, the everyday life experiences of the particular audience are what must be portrayed particularly in education material. The interpretation of the meaning of abstract object demand some level of visual literacy. The more abstract an object is the more it placed a demand on the audience’s visual literacy. Usually these conventions are learnt through formal schooling or acquired through the reading of popular literature. For instance, speech balloons are widely used in comics therefore an exposure to comics will provide one the opportunity to learn what the speech balloon represents. Abstract objects in general cause serious interpretational problems to low literate audiences especially in instances where they have no prior knowledge of the particular convention.

2.10.3 Understanding of basic message of visual

Visuals generally incorporate various elements in order to convey a message. It is therefore not sufficient for a reader to simply be able to recognise the various elements of the visual. They must be able to relate the various elements together in order to obtain a message from these visuals. The ability to relate the various elements together determines whether or not the visual is then understood and thus the message.

2.11 Conclusion

This chapter discusses the various definitions of health literacy and the correlation between health and literacy. The literacy situation in South Africa is discussed as it highlights further the challenge faced by anyone trying to communicate health information to the general public. Furthermore, the readability of health materials is examined and the gap between the literacy level and the readability of the health information material highlighted as one of the key challenges for their producers and audience alike. In addition, the reading process is discussed and the differences between how literate and low literates read text and visual are highlighted. Further, the need for visual literacy is examined and the use of pictorial illustrations in health information documents discussed.

The use of pictorial illustrations is not the panacea to all the challenges faced by low literate audiences; however, the guidelines of how to use visuals in order to enhance comprehension among low literate readers indicate that they clearly do have some value. Since comprehension is the goal of any reading exercise, the three important factors, namely, recognition of humans, recognition of objects and understanding of basic the message that will contribute to the

comprehension of visuals in the health information documents are also examined. It is these three factors that will be form the basis of the evaluation of the *HIV and AIDS and Treatment* booklet.

CHAPTER 3

RESEARCH METHOD

In order to conduct this study certain methods and techniques were employed. “Research methodology refers to the methods, techniques and procedures that are employed in the process of implementing the research design or research plan as well as the underlying principles and assumptions that underlie their use” (Babbie & Mouton 2001: 647). In this chapter, the process followed in carrying out the study is presented. Specifically, it presents the research design, the respondents, instrumentation, procedure followed and material used. In addition, the issues of validity and reliability are discussed and the data analysis process followed is also presented. Finally, the ethical considerations that were taken in the course of collecting data are also presented.

3. 1 Research design

The purpose of this qualitative study is to establish whether the public information print material on HIV/AIDS is easily comprehensible to Adult Basic Education and Training students. Two qualitative research designs were selected for this study, evaluation research and case study. “Research design is a plan or structural framework of how you intend conducting the research process in order to solve the research problem” (Babbie & Mouton 2001: 647). The examination of the comprehension of the communication tool used in this HIV education campaign in order to establish whether or not the message is understood is part of an evaluation of the outcome of the intervention. Rossi and Freeman (1993:35) define evaluation research as “the systematic application of social research procedures for assessing the conceptualization, design, implementation, and utility of social intervention programmes”.

Case studies are a type of qualitative research in which the researcher “explores a single entity or phenomenon (‘the case’) bounded by time and activity (a program, event, process, institution, or social group) and collects detailed information by using a variety of data collection procedures during sustained period of time” (Creswell, 1994:12 in Leedy 1997:157). In this instance, the researcher focused on the visuals used in this HIV education booklet and tested their comprehensibility among a specific target audience.

3.2 Respondents

A non-probability convenient sample was used to select respondents. According to Terre Blanche & Durrheim, (1999:279) statistical theories of probability do not apply to non-random samples. This makes it impossible to know the degree of accuracy to which properties of the sample can describe properties of the population and since the research plays an active role in deciding who should and should not be in the sample, bias can easily be introduced. However, this method was chosen because there is no available sampling frame, the cost of probability sampling in terms of time and money is too high and this is an in-depth qualitative research (Terre Blanche & Durrheim 1999:279). Furthermore, the researcher chose to focus on ABET students and therefore already the respondents were clearly defined and non-ABET students were not included in the study.

Thirty students in the ABET Programme participated in this study. Of these twenty three were female and seven were male. Their ages ranged from 35 to 51 with a mean of 42.53. All the respondents were employed at the site where the study was conducted as this ABET course was in-house.

All the respondents had an African language as their first language with the majority being Sesotho speakers (20) and Sepedi (9) and IsiZulu speakers (1).

All the students approached for the study were either ABET level 1, 2, or 3 students.

This was to ensure that their literacy level was below Grade 9 so that they could fall in the category considered low literate. The respondents recruited for the study had just joined the ABET programme and as part of the recruitment into the ABET programme all applicants are tested for literacy and numeracy. One's performance on this test determines at what level one then commences the ABET programme. Level 1 is the lowest level and therefore the researcher did not retest the respondents but relied on this self reporting. In order to get the respondents at an appropriate time they were recruited for the study during the (ABET) sessions.

3.3 Instrumentation

Due to their low literacy levels and limited reading and writing skills, all the respondents were interviewed individually. The respondents chose which language they preferred to be interviewed in. An interpreter was used in instances where the respondents chose to speak a language not known to the researcher. While the respondents spoke, the researcher took down notes on a data sheet. In instances where the interpreter was used the interpreter listened and interpreted what was said. Such interviews took much longer than those conducted in English.

The interview schedule consisted of two parts. In the first section background information on the respondent was elicited and recorded on a Background Sheet. The questions asked the respondent's age, vocation, ABET level, and home language. Prior knowledge of the works of Soul City and the specific booklet were also asked. The researcher recorded the gender of the respondent. The second part consisted of two questions for each visual. These questions

asked the respondent to identify what is in the visual and the second question asked them to state the message of the visual.

3.4 Procedure

The researcher approached an ABET centre and relied on the facilitator to recruit respondents for the study. All interviews were conducted during the ABET classes. The students were excused from the class one at a time and then the interviews were conducted in a designated room at the respondents' place of work as the ABET classes were in-house. During the interview, only the respondent, the researcher and the interpreter were present. Participation in the study was voluntary.

The respondents were asked in which language they wanted to respond to the questions and once this had been established the session began. Though some of them opted for their home language, other respondents preferred English. However, during the course of the interview they would express certain words in their home language. The interpreter then translated these words for the researcher.

Each session began with the researcher introducing herself and the interpreter to the respondent and asking which language they preferred to be addressed in. The researcher then stated the purpose of the session and asked the respondent if they were willing to participate in the study. All respondents were informed that they could withdraw from the study at anytime. After giving their verbal consent for their participation in the study, the session then began. The researcher explained the need to take down notes during the session and sought the consent of the respondent for their responses to be written down.

Respondents were shown a booklet with all the text was blurred so that there was no chance that their responses were based on the text that accompanied the pictures. The respondents were then asked to say what was on the visuals. All interviews were conducted in seSotho, Sepedi, English or isiZulu depending on the language the respondents preferred.

The interviews in which the respondents chose to respond in English lasted approximately 20 minutes. However, where a home language was used and the interpreter had to interpret both the question for the benefit of the respondent and the response for the benefit of the researcher, then the session took longer usually lasting between 35 minutes and 45 minutes depending also on the pace at which the respondent answered to the questions asked.

3.5 Material

The Khomanani Campaign is based on a clear understanding of the priorities in HIV/AIDS Prevention and care and of the efficacy of mass communication (Johnson, Skenjana, Delany, Russell and Goldstein 2004). “It consists of 6 targeted campaigns addressing: youth prevention; support for orphans and vulnerable children; anti-discrimination and VCT; promoting awareness and treatment of TB and STIs; motivating health workers to improve the care of People living with AIDS and promoting the Government’s ARV roll-out programme” (Johnson, Skenjana, Delany, Russell and Goldstein 2004).

The booklet selected for this study is *HIV and AIDS and Treatment* (2004) which is part of series 7 of the Soul City initiatives. It was developed by Soul City in partnership with the Government within the framework of the Khomanani campaign. The booklet contains information on how the HIV virus is contracted, the various stages of the virus, how to take care and live healthily with the virus. It also includes information on lists of places where one can get help, and also

the types of government grants that are available. According to (Goldstein et al : n.d.) all Soul City materials including this one are developed through an interactive research process which involves research and key person interviews with the target audience and affected people.

According to Goldstein, Johnson & Scheepers (no date) who conducted an impact assessment of *HIV and AIDS and Treatment* the booklet was developed in order to deal with some of the health literacy issues and assisting in overcoming stigma. The aim of the partnership was to provide initial communications about ART through a booklet modified from a previous Soul City booklet but including new information about ART. This was complemented by a radio advertising campaign, and then later a television advertisement. The booklet was translated into the 11 official languages and 8.5 million were distributed to houses nationally. “An estimated 49.1% of the target population had read the booklet” (Goldstein, Johnson & Scheepers: n.d.).

The researcher chose the section that deals with living healthily with HIV/AIDS and gaining access to antiretroviral therapy. This choice was based on the fact that the government has adopted home-based care as one of the ways in which to assist the people who are already infected. According to the Department of Health (2000: 22) under Goal 8: “provide adequate treatment, care and support services in communities, one of the objectives is to develop and implement models of community/home-based care in all provinces”. In order to achieve this objective, the strategies adopted include:

- a) Develop appropriate home-based care implementation guidelines;
- b) Promote the establishment of intersectoral task teams at community level to develop community/home-based care; and
- c) Reduce stigma of HIV/AIDS in communities and develop Information Education and Communication materials targeted at communities. (DoH 2000:22)

In producing these print materials the government together with Non Governmental Organisations (such as Soul City and Lovelife) seek to provide the public with the necessary information around access to medication and healthy living habits which can prolong one's life despite the infection. The purpose of this booklet is clearly to educate the public on these issues.

The *HIV and AIDS and Treatment* is the first edition of this publication. The format is that of a 49-paged booklet comprising text and illustrations (coloured line drawings and photographs). Though the booklet is in English, it provides a translation of some of the difficult words in isiZulu, isiXhosa, seSotho, and Afrikaans in boxes on the side of the page. Nonetheless, language does not matter, as the visuals in the booklet are the focus of these discussions. The words were blurred so that respondents could base their responses purely on the visuals. Each page has a number of illustrations depending on the topic being discussed. The pictures are stand-alone and some are in a series though not necessarily describing a sequence of events. All pictures have an accompanying text which was blurred for the purposes of this study.

3.6 Validity and Reliability

According to Leedy (1997:32) "validity is concerned with the soundness, the effectiveness of the measuring instrument." He lists six types of validity namely, face validity, criterion validity, content validity, construct validity, internal validity and external validity. Content validity refers to "the accuracy with which an instrument measures the factors or situation under study" (Leedy 1997: 32). In this study content validity is achieved by eliciting responses from respondents that would indicate whether or not they understood the message portrayed in the visuals. It was not enough for them to simply list what they see as that does not indicate comprehension but to show that they can relate the various items portrayed in the visual in order to get a message from the visuals.

“Reliability refers to the likelihood that a given measurement procedure will yield the same description of a given phenomenon if that measurement is repeated” (Babbie & Mouton 2001:125). The researcher collected all the data using personal interviews. This eliminated the problem of inconsistency between data collectors. In addition, the data that was collected in another African language and the interpreter was used; a second person was given 10% of the African language versions and their interpretation to check for any discrepancies. The second interpreter found the interpretation to be accurate.

3.7 Data Analysis

This study is mainly qualitative therefore, the data was analysed qualitatively. However, some descriptive statistics were also obtained using the SPSS programme. An analytical framework was developed based on what is important for the comprehension of the visuals. The recognition of various elements was examined and the comprehension of the message assessed. To enable the researcher do this, the data was coded into three main categories namely, recognition of humans, recognition of objects and comprehension of the basic message of visual.

3.8 Ethics

Although the research was conducted among ABET learners in a specific centre, none of the students was obliged to participate in the study. The respondents’ right to anonymity and confidentiality were observed. None of the respondents was required to give their names or the department in which they work. Furthermore, though the topic here was on HIV, none of the respondents was asked what their HIV status is, nor were they required to provide such information at any time during the study as it was not directly relevant for this study. The informed consent of the respondents was sought. An explanation of what the research is about was provided, their direct permission to proceed

with the session was sought and the option to withdraw their participation at any stage in the process was also offered. The informed consent used is included in the appendix.

3.9 Conclusion

In this chapter, the research methods are discussed in detail. The research design which is qualitative is outlined. 30 ABET students were involved in the study and the data was collected using individual interviews and an interpreter was used where necessary. Additionally, the issues of validity and reliability are addressed. Finally, the ethical principles adopted in this research are discussed. In the next chapter the data collected shall be presented.

CHAPTER 4

PRESENTATION OF RESULTS

This chapter presents the results of the study conducted to investigate whether the *HIV and AIDS and Treatment* booklet by Soul City (2004) is easily comprehensible to Adult Basic Education and Training students. The results will be presented commencing with the demographic information of the respondents followed by results from each of the visuals. Thereafter, the key findings shall be presented under the following headings namely: Recognition of humans; Recognition of objects and finally Comprehension of basic message of visual.

This analytical scheme has been selected because the various visuals present various elements of these topics and the understanding of a single element is not sufficient for the comprehension of the message rather, the reader must draw the links between the various elements in order to obtain the message of the particular visual and ultimately of the booklet.

4.1 Demographic information

This was elicited from each respondent at the beginning of the interview after obtaining their informed consent to proceed with the interview. A background sheet was used to record this biographical information which included gender, age, home language and ABET level. Due to the use of purposive and convenient sampling, there were more female respondents than male respondents. This is mainly because at the ABET centre where the study was conducted, there were more female students than male students. Though not all the students participated in the study, the likelihood that the respondent was female was

higher. The pie chart below indicates the distribution by gender of the respondents.

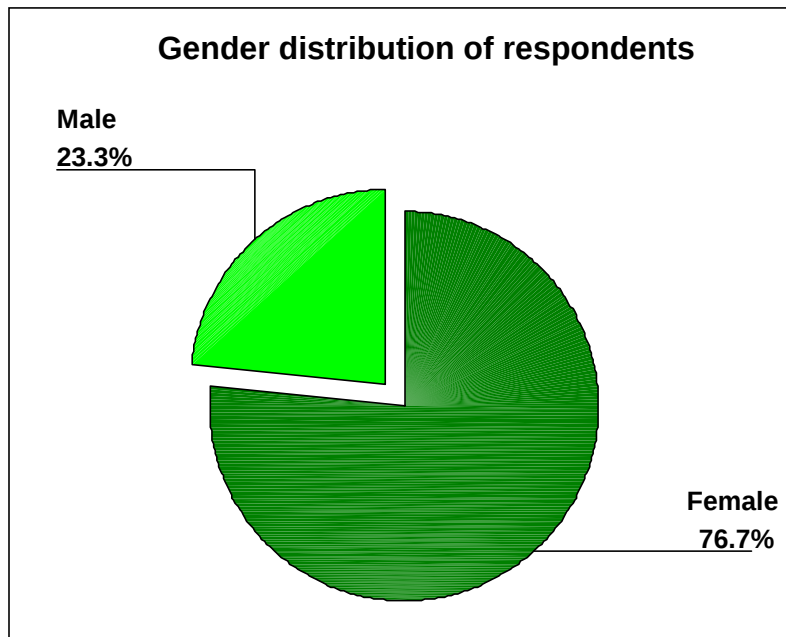


Figure 1: Gender distribution of respondents

The age of the respondents ranged from thirty five years to fifty one years with a mean of 42.53. The distribution is presented in the graph below.

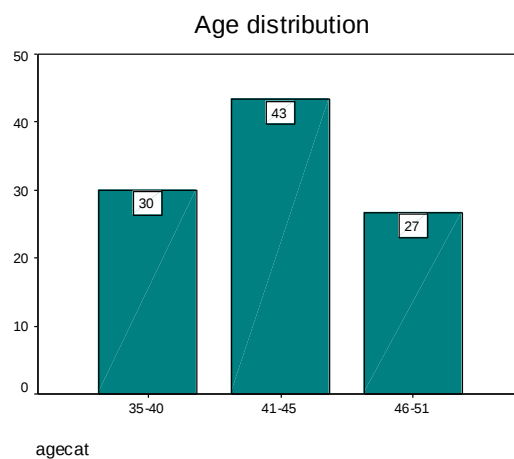


Figure 2: Age distribution of respondents

The respondents were from three different language groups. The dominance of Sesotho as the home language of most of the respondents may be due to the fact that the study was carried out in Pretoria and that this is a predominantly Sesotho speaking area. The distribution is presented in the graph below.

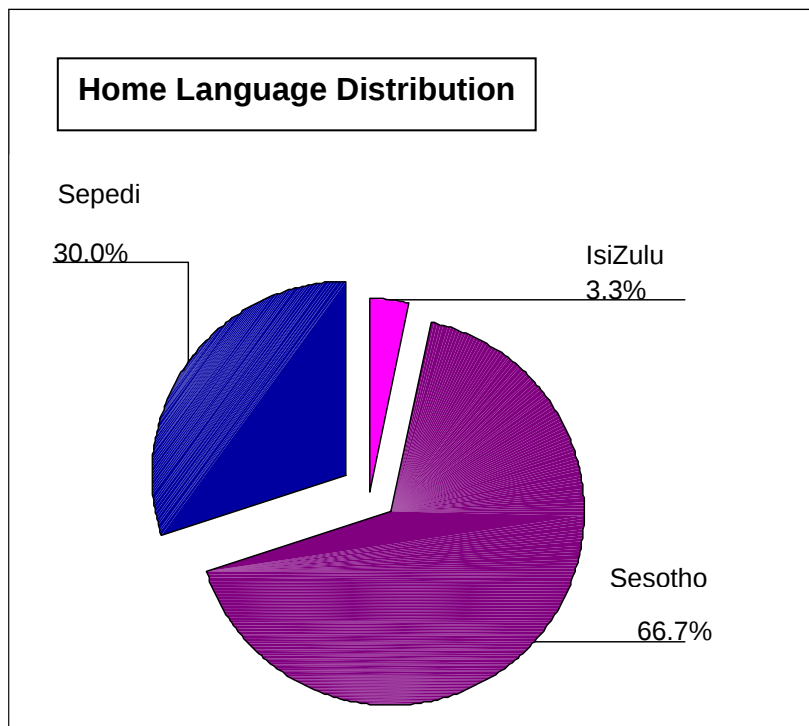


Figure 3: Home language distribution of respondents

When students join the ABET programme, they undergo testing to determine their literacy level. Based on their scores on the literacy and numeracy tests they are placed at a particular ABET level from level 1 to level 3. Furthermore, progression from one level to the next is determined by performance. 53% of respondents were at ABET level 1, 33% of respondents were at ABET level 2 and 13% of respondents were at ABET level 3.

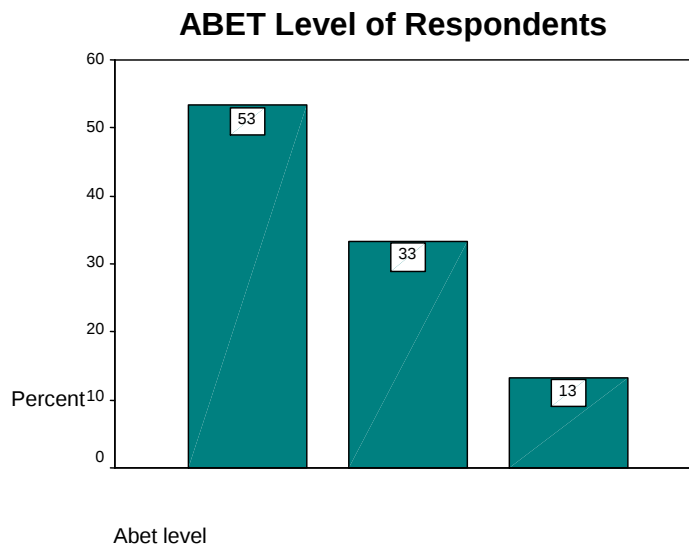


Figure 4: ABET level of respondents

4.3 Results per visual

In the following section analysis of the results per visual will be presented.

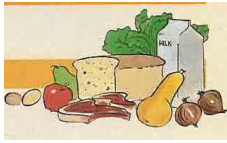
Although this study is qualitative, the frequency counts in percentage of correct responses will be highlighted to indicate how many of the respondents were able to correctly identify various elements in each visual.

Visual 1



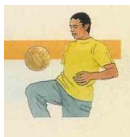
All the respondents could recognise the man in this visual and the various foods. Some respondents even named the man as Saul (this is the character's name on the Television series 'Soul City'). Despite recognising the man and identify the various foods in the visual, only 36.7% of the respondents could relate this visual to eating a balanced diet or eating healthily.

Visual 2



In this visual we see meat, butternut, onions, milk, bread apple, pear, eggs and spinach. Almost all respondents could list all the foods in this visual (96.7%). However, only 26.7% of the respondents could relate these foods to eating a balanced diet. In addition, they did not understand that the visual represents foods that should be consumed together and that the specific foods in the visual are a representation of the various food types. To them it was simply a visual of certain foods that they could name. Hence the message that one should eat a balanced diet from the different food groups in order to stay healthy was completely missed by most respondents.

Visual 3



Most of the respondents could identify the man playing with the ball. However, many of the respondents failed to draw the link between this man playing with the ball and exercising to keep healthy. Of those who did draw the link (40%), they used words such as he is playing with the ball to keep fit or to keep healthy.

Visual 4



Most of the respondents were able to identify the cigarette, ashtray and the prohibition cross in this visual. Some of the respondents however struggled to

draw the link between the three items. Though 90% of them could relate the cross to prohibiting smoking, the 10% who could not struggled with the cross that was on the ashtray with some saying “do not empty ashes in that particular ashtray”. Perhaps this can be attributed to the fact that in the generally used no smoking sign the cross goes right over the cigarette and in this instance it a small cross just over the ash tray. However, though a cross is an abstract sign that signifies prohibition in this instance the respondents did not struggle so much with its meaning perhaps as they were familiar with the sign of the red cross from their day to day lives. And also now being part of a formal education system they may have become more familiar with the cross from their classroom assessment activities.

Visual 5



Most respondents could recognise that in this visual a group of adults are seated having a discussion. However, only 16.7% of them could relate this to a support group which provides a forum for open discussion on HIV/AIDS without fear of stigma and a place to share experiences. Some respondents commented on the relaxed way in which they were sitting in some kind of a semi-circle, legs crossed and clearly listening to a speaker among them as they were all looking at one person. This response indicates that the respondents were perceptive of what is going on, however without the accompanying text it becomes very difficult for them to get to the intended message of this visual.

Visual 6



All the respondents identified the person in the visual as a doctor. Perhaps this was possible due to their prior knowledge of doctors wearing a white lab coat and carrying a stethoscope. In addition, the doctor reading over the notes attached to a clipboard is a familiar scene in the health sector. Nonetheless, only 15.7% of the respondents were able to relate this visual to seeking medical advice or attention from a doctor or medical practitioner. This can be attributed to the fact that low literate readers tend to interpret visuals literally and usually do not see any message beyond what is displayed explicitly.

Visual 7



All the respondents could identify the lady in this visual and even assign her the role of a nurse. This may be attributed to prior knowledge of the uniform that nurses wear with the red badge on the shoulders. Additionally, all the respondents recognised the man in the visual as a patient to whom the nurse is explaining how to take the medication contained in the medication bottles. Despite this interpretation, the respondents could not fully relate this to seeking medical attention from a qualified medical practitioners and receiving instructions on how to take one's medication. In other words, they interpreted the visual literally and did not see it as representation of what everyone needs to do but rather something that only the man in the visual can do.

Visual 8



Although in the previous visual the respondents were able to recognise the medication as such in this visual they struggled a lot with what was presented. Only 43.3% of the respondents where able to identify the medication as either antiretroviral or pills. I am unable to explain why many of the respondents struggled with this particular visual as medication is generally given either in medicine bottles or these medicine packets. The respondents who were unable to interpret this visual did not give any response either. They simply said I am not sure.

Visual 9



All the respondents identified all the foods in the visual. They listed them as bananas, orange, pineapple, cauliflower, carrot, onion, tomatoes, pear, and apple. Despite being able to list all the foods in this visual, only 46.7% of the respondents were able to state that this visual expresses the importance of fruits and vegetables as part of healthy eating.

Visual 10



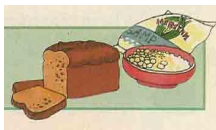
All respondents could identify all the foods in the visual. They listed them as chicken, eggs and beans. However, only 20% of respondents could relate this visual to the body-building function of proteins in the body.

Visual 11



Only 75% of respondents could identify both the sour milk (maas) and yoghurt in this visual. This may be because the packaging of the yoghurt in this visual is not similar to that used in South Africa. Though maas is packaged in a carton, yoghurt generally is packaged in round plastic tubs of varying sizes depending on the quantity of the yoghurt. At least 23.3% of all respondents could relate this visual to eating dairy products as part of a healthy diet.

Visual 12



All the respondents could identify these foods in this visual as brown bread and samp. However, only 16.7% could relate the eating of the carbohydrates to being part of a healthy diet and that they provide energy to the body.

Visual 13



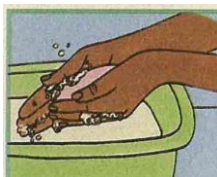
A number of respondents (56.7%) could identify all the foods in this visual. They listed them as butter, peanut butter, cooking oil or fish oil and nuts. In addition, many of them (83.8%) could not relate these oils as being part of a healthy diet or as important in the body as a source of energy.

Visual 14



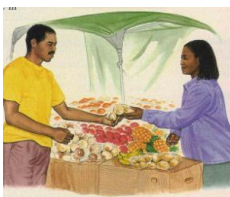
All the respondents could identify this as someone holding a hot pan. They attributed this to steam coming from the pan. However, only 56.7% of all respondents related this to cooking food properly, that is, there should be no uncooked pieces of meat.

Visual 15



56.7% of all respondents stated that this visual shows a person washing their hands with a piece of soap. For those who struggled with the visual they gave responses such as this is someone washing a piece of pink cloth. Only 33.3% of the respondents could relate this to practising good hygiene by washing one's hands particularly before handling food.

Visual 16



All the respondents were able to identify this as a food stall found either on the sidewalk or in the flea market. Here the food stall has fruits such as pineapple, bananas, and oranges and vegetables such as potatoes.

They were able to state that the woman is the vendor and the man is purchasing a bag of potatoes from the woman. This scenario is common in South Africa hence the respondents' prior knowledge could have assisted them in identifying what is going on in this visual. Despite this only 56.7% of the respondents were able to relate this visual to the buying of fresh fruits and vegetables at affordable prices.

Visual 17



All the respondents were able to identify this visual as portraying two women; one seated, the other standing holding medicine in her hand. The woman standing was referred to as the nurse with some of the respondents even calling her sister Bertina from her television character in the Soul City television series. Others simply referred to her as a nurse perhaps because of her uniform. All the respondents described the woman sitting down as a patient who is receiving an explanation from the nurse on how to take her medication. However, 3 respondents related this to antiretroviral therapy and said that because the nurse is wearing a red ribbon maybe she deals with AIDS patients. Despite this only 33.3% of the respondents saw this visual as expressing advice to HIV/AIDS patients to seek help from qualified medical practitioners when obtaining their antiretroviral therapy.

Visual 18



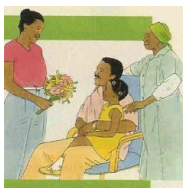
All the respondents were able to identify the two people in the visual and even assign roles to them. The lady standing was referred to as a nurse or a doctor while the man sitting in the wheelchair was referred to as a patient. The respondents who referred to this lady as a doctor were asked why they thought so and they said because she had a stethoscope. Though they saw the man in the wheelchair as a patient few related the visual to HIV/AIDS with most respondents describing the man as either disabled or not able to walk. However, they all agreed that he was sick and was therefore receiving his medication. Only 20% of respondents related this visual to patients seeking medical attention from qualified medical practitioners when one feels ill.

Visual 19



All the respondents could identify the telephone handset. Only 30% related it to calling the toll-free line for assistance or information.

Visual 20



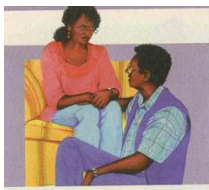
All the respondents could identify a man holding a girl and a woman presenting him with flowers and another woman holding the man. They even assigned roles such as father, child, wife and domestic worker. However, only 40% of respondents could relate this visual to a recommendation on giving support to a patient.

Visual 21



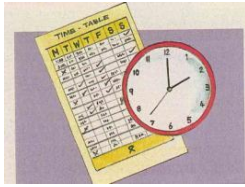
All the respondents could identify a man and a woman having a discussion. The roles that they assigned these people are that the woman is a doctor and the man a patient. Once again the uniform worn may have contributed to this response. Despite this only 30% said that health workers can provide individual consultation and can address individual concerns.

Visual 22



All thirty respondents could identify a man and a woman talking. They stated that they seem to be having a serious discussion because they are looking at each other closely. Also that what they are discussing must be something emotional due to their body language with the man's hand on the woman's lap with the woman holding onto his hand. Only 30% saw this visual as offering advice on how to gain emotional support when sick.

Visual 23



Almost all respondents (96.7%) identified a clock and a timetable and a black AIDS ribbon in this visual. Despite this, only 23.3% of respondents said that the visual provides advice on managing the taking of one's antiretroviral therapy or medication.

Visual 24



All the respondents identified a clock, a woman, holding a glass of water and medicine, and two men in the background. They could say that this is a visual of a woman taking pills and that it is two o'clock but there was no connection between the taking of the medication and the use of the wall clock to indicate what time the medicines must be taken regularly. In addition, the two men in the background also made it confusing for the respondents to interpret the visual as they were unsure what their role is in this particular visual. Some simply stated that they are two men watching the woman taking her medication; others said they were talking about her. Therefore, 70% of respondents stated that the medication should be taken at two o'clock. None of the respondents stated that the visual advises patients to take their medication at the prescribed time.

Visual 25



All the respondents were able to identify this as a bottle of wine, glass of wine and a red cross. 86.7% of the respondents related this visual to not drinking if one is taking medication or is sick. These responses may be attributed to prior knowledge of the respondents about under what circumstances one should not consume alcohol. Only 43.3% said that the visual expresses a discouragement and can be related to HIV/AIDS.

Visual 26



All the respondents could identify a man and a woman naked in bed. However, only 53.3% of respondents explicitly stated that there are condoms. 63.3% of respondents said that the visual gives advice on the practising safe sex. The difference between the percentage of respondents who explicitly identified condoms and those who interpreted the message of this visual correctly may be attributed to the fact that these respondents may have seen the condom, not explicitly named it as such, but could, by looking at the entire visual, decipher its message.

Visual 27



All the respondents could identify two women in this visual. They assigned the role of a patient to the one and the role of a nurse to the other. However, only 43.3% of them were able to relate this visual to having an individual consultation with a nurse in order to obtain personalised information.

Visual 28



In this visual all respondents could identify the two men, a doctor and a patient. However, only 56.7% of them were able to relate this visual to having an individual consultation with a nurse in order to obtain personalised information. The increase in number of respondents able to relate the visual to its meaning may be because they had been exposed to a similar visual previously and may have had some time to think about what it may mean.

Visual 29



All respondents were able to name this visual as representing a packet of medicine. Nonetheless, only 3 of the respondents were able to name them as antiretroviral treatment and maybe because they were able to read the label on the packaging. At least 66.7% said that the visual represented obtaining the correct medication for one's illness; however, the accompanying text to this visual talks about the availability of antiretroviral therapy. Hence, low literate audiences will miss the message of this visual completely.

Visual 30



All thirty respondents could identify two women, one holding a booklet and showing the other one something in the booklet. 43.3% of the respondents could relate this visual to the message; read books to get information on HIV/AIDS and share this with your friends and family.

4.4 Key findings

The subsequent discussion of the findings shall be covered under the following subheadings:

- Recognition of humans
- Recognition of objects
- Understanding of basic message of visual

4.4.1 Recognition of Humans

The recognition of humans in the visuals was fairly easy for all respondents. There were nine instances in which the respondents had to identify a human in a visual. Not only were they able to do so but they were also able to ascribe a role to some of them, for instance, in visual 7 they identified the two people in the visual as a patient and a nurse. This may be because of the familiarity with the health care environment and the knowledge that that is the type of uniform a nurse would wear as opposed to, for instance, a doctor in visual 6 to whom the role of a doctor was ascribed due to his white lab coat and stethoscope.

In addition, most of the respondents reported that they were familiar with Soul City material, the television series in particular. The same characters used in the television series are portrayed in the booklet and perhaps this could have contributed to easy recognition of humans and the ability to assign a particular

role to some of the characters in the booklet. For instance, the nurse in visual 17 was referred to as sister Bertina by more than half the respondents and the man in the visual 1 was referred to as Saul.

4.4.2 Recognition of objects

The recognition of objects did not pose serious challenges to the respondents particularly in instances where there were only a few items in the visual to identify. Furthermore, it would appear that the more familiar an object was the easier it was to identify. Hence, the recognition of an object such as a ball, a cigarette, an ashtray, a hot pan, a telephone was much easier than visuals that had a collection of items some of which may be unknown or may have been presented in a packaging that is not familiar to the reader. For instance, in visual 11 the yogurt is portrayed in a carton whereas in South Africa yoghurt is generally packaged in a round plastic tub. The table below presents a summary of the findings in percentage of accurate responses on recognition of objects in descending order. The more complex a visual was or the more varied the objects in the visual were the more difficult it was for the respondents to identify the objects.

Item recognised	Percentage
Recognises the ball	100
Recognises the cigarette and ashtray	100
Recognises bananas, orange, pineapple, cauliflower, carrot, onion, tomatoes., pear, apple	100
Identify someone holding a hot pan	100
Identifies food stall with fruits such as pineapple, bananas, oranges and vegetables.	100

Identifies medication in white bottle	100
A telephone	100
Identifies the bunch of flowers and the chair	100
A booklet	100
Identifies bread, egg, vegetables, apples and water	96.7
Identifies the clipboard and notes	96.7
Recognizes the medication	96.7
Identifies these as diary products (yoghurt, sour milk)	96.7
Identifies these foods as brown bread, samp, pap	96.7
Identifies the clock and the time table	96.7
Identifies the various food types (milk, bread, butternut, eggs, meat, onion, spinach)	76.7
Identifies these foods as proteins (eggs, chicken, beans)	66.7
Identify these foods as butter, peanut butter, oil and nuts	56.7
Identifies the condoms	53.3
Identifies the medication as either antiretroviral or pills	43.3

Table 1: Recognition of objects

Visual 26 present a man and a woman naked in bed and the condom is superimposed on this image. The comprehension of this visual may be hampered by the number of items presented in the visuals at the same time the man and woman are not attending to the packet of condoms that is superimposed on to the main visual, hence a low literate reader may see this as not really part of the message. In addition, the packaging of the condom is not the one that is readily available in South Africa; hence prior knowledge to assist with recognition of the object may have been greatly reduced. Previous studies also indicate that visuals need to be simple and at the same time not contain too much information.

The label on the packaging of the medication in visual 29 makes it easy for a literate person to identify these drugs as antiretroviral therapy. However, for the low literate who cannot read these words the visual simply presents medication in its usual packaging. This may explain the low response rate for visual 29.

4.4.3 Comprehension of the basic message

In general, the respondents could identify the booklet as a Soul City publication; they had all been exposed to other works by Soul City such as the television series and the radio programme. This made it easy for them to recognise some of the characters. They were aware that the booklet was about HIV/AIDS although in conducting the interviews the researcher did not prompt them to this fact. Though the respondents were able to identify individual objects or humans and even assign roles to them in each visual, they did not make connections between the various elements within each visual. Furthermore, they did not link one visual to the next. Rather they saw each visual as a standalone. This reading of each visual separately and not drawing any links between the various visuals meant that they did not get the meaning of the whole section of the booklet selected on the availability of antiretroviral therapy and how to live healthily when one has HIV/AIDS. The table below presented the findings per visual for the comprehension of the message in sequential order.

Comprehension of message	<i>Percentage of correct answer</i>
Relates this pictures to eating a balanced diet or eating healthy	16.7
Relates this picture to eating a balanced diet or eating healthy	20
States that one should stop smoking and relating this to living healthy	100
Interprets this sitting arrangement as a set up of a group discussion	100
Relates this to the need to get proper medical advice from	16.7

a qualified medical practitioner	
Medical practitioner giving a patient their medication and explaining to the patient how to take the medication	46.4
Relates this to the availability of different types of medication (different colours and sizes)	20
Pictures expresses importance of fruits and vegetables as part of healthy eating	46.7
Picture expresses advice on eating proteins are part of a healthy diet	20
State that carbohydrates are part of a healthy diet	16.7
Oils are part of healthy diet	33.3
Relates this to cooking food properly (well heated through)	56.7
Relates this to proper hygiene especially before handling food	33.3
Identifies a man purchasing potatoes from a woman at a food stall and relates this to purchasing fresh fruits and vegetables	56.7
The nurse explains how to the patient how to take their medication and encourages the patient (place hand on his shoulder)	46.7
Call the toll free line for assistance/information	23.3
Relates this picture to receiving support from family and friends	40
Relates this to taking medications at the prescribed time and keeping records	90
Relates the clock and the medication to taking one's medication at the correct time	70
Relates this to not drinking if one is taking medication	86.7
Relates this to using condoms if HIV+ or to practice safe sex	73.3
Individual consultation with the nurse provides personalised information	43.3
Individual consultation with the doctor nurse provides personalised information	56.7
Relates this to ensuring one gets the correct medication	66.7
Relating the booklet and two women to sharing information on HIV/AIDS	43.3

Table 2: Comprehension of the basic message of the visual

The results further indicate that the more complex a visual is, the more the respondents struggled with its interpretation. In addition, the findings indicate that a visual in itself cannot always convey the full message to one who has not learnt to read visuals. The understanding of visuals requires some acquisition of visual literacy. Furthermore, the assumption that those who cannot read text can get the same information from visuals does not always hold in all instances. It depends a lot on what the readers' prior knowledge of the subject area, the ability to interpret the message contained in the visual and the ability to interpret the particular pictorial convention such as the use of abstract symbols which requires the knowledge of the meaning of the particular abstract symbol.

In visual 1, for instance, the plate of food represents the eating of a balanced diet that is a pillar of healthy eating. The recognition of the various foods will not pose a problem to low literate or literate audiences. However, drawing this meaning from the visual will be difficult for the low literate audiences. Likewise, in visuals 9-13 the recognition of the various foods represented will not cause identification problems to the low literate audiences but the interpretation of the meanings of these visuals will.

The use of visuals in the booklet is to convey certain information. The themes of these visuals include; Take care of your mind and body; Eat healthy food; Starting anti-retroviral treatment; and How to make ART work for you. Thus, the visuals carry some instructional message on how to do these things successfully. Hence, the interpretation of the visuals should not be based simply on the "familiar scenes or facts of life, but rather as prescriptions of what they should do or refrain from doing." (Carstens et al 2006: 227). This is very difficult particularly for a low literate audience as this advice is not always explicit. In some instances, for example, in visual 25 the prohibition cross is on

the bottle of wine and that makes it easy to recognise the advice that one should not drink alcohol. Similarly, in visual 4 the prohibition cross on the ashtray indicates that one should not smoke. However, in all the other visuals there is no explicit modality marker. This then leaves the reader to his own devices to try and decipher the advice or recommendation within the visual. For low literates this is a daunting task as they tend to read visuals literally.

4.5 Conclusion

The findings clearly indicate that it is useful to use visuals in communicating health messages to low literate audiences. These findings further indicate that the identification of humans and analogous objects does not pose a challenge to low literate readers. However, the use of abstract objects may create interpretation problems to the low literate reader. In the next chapter an interpretation of the findings is presented.

CHAPTER 5

INTERPRETATION OF RESULTS

This chapter offers an analysis and interpretation of the results of the study conducted to investigate whether the *HIV and AIDS and Treatment* booklet by *Soul City (2004)* is easily comprehensible to Adult Basic Education and Training students. All thirty visuals tested in this study are provided below together with their intended meaning and a possible interpretation difficulty that may face low literate audiences is provided for each visual. The analysis and interpretation of the key findings are presented under three headings namely: Recognition of humans; Recognition of objects and finally Comprehension of basic message of text.

5.1 Intended message and possible difficulty

For each of the visuals below the elements in the visual are listed and then its intended meaning presented and possible difficulty for the low literate reader provided. Due to overlaps in the possible reasons for the difficulty experienced by the low literate readers in the identification and interpretation of the visuals these are discussed together in the subsequent section.

Visual 1



What do you see in this picture?

This is an illustration of a man seated at a table eating a meal consisting of bread, eggs, vegetables and an apple. He also has a jug of water and a glass. In the visual the man is saying something.

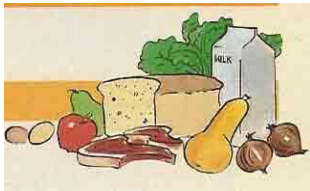
Intended meaning

Advice is given to HIV positive people that one should always eat a balanced diet and drink plenty of water.

Possible difficulty for low literates

The speech balloon and the open mouth indicate that the man is talking; the plate of food and jug of water typifies eating healthily.

Visual 2



What do you see in this picture?

In this picture we see meat, butternut, onions, milk, bread apple, pear, eggs and spinach.

Intended message

Advice is given that one should eat a balanced diet from the different food groups in order to stay healthy.

Possible difficulty for low literates

The packet of milk may be misinterpreted because in South Africa milk is mainly sold in bottles and where it is sold in cartons, the carton is a slightly different shape. It may also be difficult for the low literate reader to see this visual as a recommendation for healthy eating.

Visual 3



What do you see in this picture?

This is a picture of a man playing with a ball. He is bouncing the ball off his knee while standing on one foot.

Intended message

It is important to exercise as it helps keep one fit and healthy.

Possible difficulty for low literates

The low literate reader may be unable to see the playing with the ball as a form of exercise and relate exercising to staying healthy especially when one has HIV.

Visual 4



What do you see in this picture?

A cigarette still burning, an ashtray and the red cross

What is the intended meaning?

One should not smoke when one has HIV.

Possible difficulty for low literates

The low literate reader may not be able to extend the red cross to the whole visuals and may see the use of an ashtray as prohibited.

Visual 5



What do you see in this picture?

A group of adults seated having a discussion.

What is the intended message?

It is important to talk about HIV and AIDS.

Possible difficulties for low literates

The low literate reader may have a problem relating the sitting in a circle to having a discussion within the context of a support group.

Visual 6



What do you see in this picture?

A doctor holding a clipboard while reading something.

What is the intended message?

Seek proper medical attention from a qualified medical practitioner such as from a doctor.

Possible difficulties for low literates

The low literate readers may be unable to relate this visual to seeking medical attention from a doctor or medical practitioner who has the necessary equipment and medical history of the patient.

Visual 7



What do you see in this picture?

A nurse and a patient and bottles of medication; the nurse is explaining to the patient how he should take his medication.

What is the intended message?

It is important to get one's medication from a qualified nurse or a medical practitioner and to listen carefully to the dosage instructions.

Possible difficulties for low literates

The low literate reader may have some difficulty relating this visual to its general recommendation.

Visual 8



What do you see in this picture?

Different types of medication; the pink ones in the bottle, the green ones on the surface and two other medicine packets.

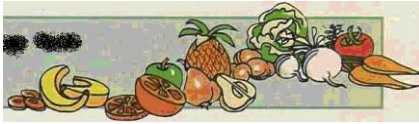
What is the intended message?

There are different types of antiretroviral tablets available for the treatment of HIV and AIDS.

Possible difficulties for low literates

The low literate reader may be unable to draw the connection between the different colours and sizes as a representation of the different kinds of antiretroviral treatment tablets.

Visual 9



What do you see in this picture?

Bananas, orange, pineapple, cauliflower, carrot, onion, tomatoes, pear and an apple.

What is the intended message?

Fruits and vegetables are an important food group because they help fight sickness.

Possible difficulties for low literates

The low literate reader may be unable to see that the visual expresses the importance of fruits and vegetables as part of healthy eating.

Visual 10



What do you see in this picture?

Chicken, beans, and eggs.

What is the intended message?

Eat proteins as they are body-building foods and are a necessary part of eating healthily.

Possible difficulties for low literates

The low literate reader may be unable to point out the advice expressed in this visual.

Visual 11



What do you see in this picture?

Carton of yogurt and a carton of sour milk.

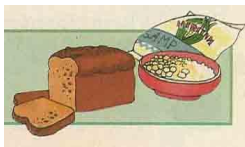
What is the intended message?

Milk products are a good source of protein and calcium.

Possible difficulties for low literates

Relating this visual to its recommendation on eating dairy products as a part of a healthy lifestyle may pose a challenge to the low literate reader.

Visual 12



What do you see in this picture?

Brown bread and samp.

What is the intended message?

Eat carbohydrates in order to get energy from your food.

Possible difficulties for low literates

Identifying this visual's recommendation on eating carbohydrates as an essential source of energy may be a challenge to the low literate readers.

Visual 13



What do you see in this picture?

Butter, peanut butter, cooking oil and nuts.

What is the intended message?

Fats are an important source of energy.

Possible difficulties for low literates

Identifying this visual's recommendation on eating carbohydrates as an essential source of energy may be a challenge to the low literate readers.

Visual 14



What do you see in this picture?

Someone holding a frying pan with steam coming from the top.

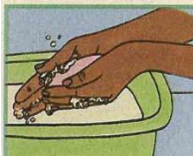
What is the intended message?

When cooking, boil food properly until it is heated through.

Possible difficulties for low literates

Relating the picture to heating/cooking food as there is no food in the picture and seeing this as a recommendation to prepare food adequately may pose a challenge to the low literate reader.

Visual 15



What do you see in this picture?

Person washing their hands with soap in a basin.

What is the intended message?

Always wash your hands before handling food as this is a good hygiene practice.

Possible difficulties for low literates

For the low literate reader, the washing of hands in this visual may pose a challenge as the pink object may not be correctly identified as soap and identifying this as a recommendation to practise good hygiene may also be difficult for them.

Visual 16



What do you see in this picture?

A food stall with fruits such as pineapple, bananas, and oranges and vegetables such as potatoes and a woman giving the man a packet of potatoes.

What is the intended message?

Buy fresh fruits and vegetables from your local vendor.

Possible difficulties for low literates

Identifying that this visual expresses advice on where to get fresh fruit and vegetables may pose a challenge to the low literate readers.

Visual 17**What do you see in this picture?**

Two women, one seated the other standing holding medicine in her hand; a nurse talking to a patient about antiretroviral therapy.

What is the intended message?

Discuss your antiretroviral therapy with the nurse or medical practitioner as the nurse is compassionate and will listen to you.

Possible difficulties for low literates

Identifying the speech balloon as an indication that the two people are discussing something and relating the AIDS ribbon on the nurse's lapel as an indication that they are discussing HIV medication.

Visual 18



What do you see in this picture?

A man in a wheelchair receiving his antiretroviral therapy from a doctor.

What is the intended message?

Speak to your doctor before you start the antiretroviral therapy. They are understanding and supportive.

Possible difficulties for low literates

The low literate reader may not readily identify the open mouths as an indication that they are talking to one another or that the patient is in the wheelchair indicating that he is unable to walk properly and the skin lesions show that he is very ill, hence needing medication.

Visual 19



What do you see in this picture?

A telephone.

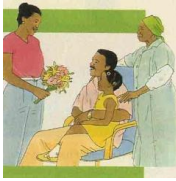
What is the intended message?

Use the telephone to get information on HIV and AIDS.

Possible difficulties for low literates

Drawing a relationship between telephone and access to information may pose a challenge to the low literate reader.

Visual 20



What do you see in this picture?

A man holding a girl and a woman presenting him with flowers while another woman places her hand on the man's arm.

What is the intended message?

The family should provide love and support to the patient as people should not be afraid to touch those with HIV.

Possible difficulties for low literates

For the low literate readers, it may be difficult to see the relationship between giving flowers and showing love and support as this is a specific cultural practice that may not be known to all in South Africa and even other parts of Africa.

Visual 21



What do you see in this picture?

A man and a woman discussing. The woman is a doctor and the man a patient.

What is the intended message?

Seek individual medical advice from the doctor or a qualified medical practitioner.

Possible difficulties for low literates

The low literate reader may not readily identify this as a doctor and a patient having a discussion as their sitting positions with knees almost touching is not the usual way in which such discussions are had. This visual presents an over familiarity between the patient and the doctor.

Visual 22**What do you see in this picture?**

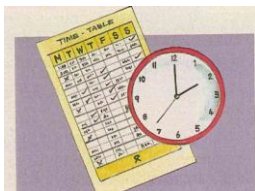
A man and a woman talking.

What is the intended message?

Discuss your condition with a friend or a companion.

Possible difficulties for low literates

The low literate reader may have some difficulty relating this picture to getting emotional support from someone close to you when HIV positive.

Visual 23

What do you see in this picture?

A clock, a timetable and a black AIDS ribbon.

What is the intended message?

One should keep a record of when one takes one's antiretroviral therapy as it will assist one manage one's treatment better. .

Possible difficulties for low literates

It may be difficult for the low literate reader to identify that the clock and chart indicate some kind of a record on when medication is taken.

Visual 24**What do you see in this picture?**

A clock, a woman holding a glass of water and medicine, and two men in the background.

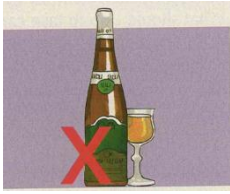
What is the intended message?

Take your medication at the prescribed time.

Possible difficulties for low literates

The low literate reader may not relate the clock to the taking of medication at a specific time as prescribed. In addition, it is unclear what the role of the men in the background is and this may confuse some of the readers.

Visual 25



What do you see in this picture?

Bottle of wine, glass of wine with a red cross.

What is the intended message?

One should not drink alcohol if one is HIV positive.

Possible difficulties for low literates

The low literate reader may not be able to identify that this is a recommendation to all who are HIV positive and the red cross on the bottle and not on the glass may also be construed as 'do not drink wine from the bottle'. The meaning of the red cross as a prohibition marker may also be missed.

Visual 26



What do you see in this picture?

A man and a woman naked in bed and condoms on the side.

What is the intended message?

Practice safe sex by using condoms especially if one or both partners have HIV.

Possible difficulties for low literates

The condoms are superimposed on the picture and may not be seen as part of the main picture and this could pose an interpretation problem to low literate readers.

Visual 27



What do you see in this picture?

Two women, one is a patient the other is nurse.

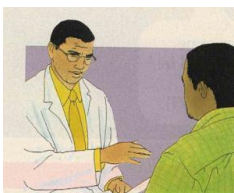
What is the intended message?

Seek medical attention from a medical practitioner.

Possible difficulties for low literates

The low literate reader may not see this as a generic advice to seek medical attention from a medical practitioner.

Visual 28



What do you see in this picture?

Two men, a doctor and a patient.

What is the intended message?

Seek medical attention from a medical practitioner.

Possible difficulties for low literates

The low literate reader may not see this as a generic advice to seek medical attention from a medical practitioner.

Visual 29



What do you see in this picture?

Packet of medicine and a bottle of medicine.

What is the intended message?

Antiretroviral treatment is now available and comes in different packaging.

Possible difficulties for low literates

The low literate reader may have difficulty seeing this as information on the availability of the antiretroviral treatment.

Visual 30



What do you see in this picture?

Two women, one holding a booklet and showing the other one something in the booklet.

What is the intended message?

Read books to get information on HIV and AIDS and share this with your friends and family.

Possible difficulties for low literates

The low literate reader may not see this as a recommendation to obtain more information on HIV and AIDS by reading books and discussing this with family and friends.

5.2 Discussion

The subsequent discussion provides possible reasons for the difficulties encountered by the low literate respondents in interpreting these visuals.

5.2.1 Recognition of humans

The recognition of human was the simplest for most of the respondents. This is perhaps due to the iconic nature of the visuals. There is also very little visual literacy required in the interpretation of such a visuals. The only challenge may be ascribing the correct role to the person portrayed in the visual. The use of familiar characters from Soul City's television series further assisted many of these respondents in identifying the people portrayed in these visuals and ascribing to them the correct role. This is evident in the manner in which some of the respondents even provided the characters on-screen names in their responses. According to Doak et al (1996:110) "using familiar characters in a familiar setting can help people talk about the real problems in their own lives and community". This approach adopted by Soul City clearly aids to draw links between its various media advocacy projects while at the same time providing a strong branding tool and will probably go a long way in getting people discussing the topic of HIV.

5.2.2 Recognition of objects

There was a slight difference in the recognition of the analogous objects and abstract objects. Analogous objects in particular tended to yield 100% correct responses. Sinatra (1986:5) in defining visual literacy says that “it is the active reconstruction of past visual experience with incoming visual messages to obtain meaning”. The ease with which these respondents were able to identify these analogous objects may be attributed to their visual literacy and the analogous visuals depicting the objects.

However, in instances where the visuals depicted an object in a manner which is not familiar in the South African context such as the carton of milk in v2 and the carton of yoghurt in v11, the number of correct responses was lower. PATH (2002:68) recommends that illustrations used should be realistic and should be portrayed as they occur in day-to-day life. Additionally, Hoffmann (2000:140) states that “low literates only have problems recognizing unknown objects, and well-known objects depicted in a way that contradicts their experience”. Furthermore, Doak et al (1996:98) and Zimmerman (1992:132) recommend that one should illustrate objects, symbols and people that look familiar to the readers.

In addition, the manner in which an object is depicted also seems to have an impact on the readers’ ability to identify the object correctly. For instance, the manner in which the condom is depicted in v26 may have contributed to its relatively low recognition as it is superimposed on the main visual of the man and woman in bed. PATH (2002:2) state that “literate people have learned to understand depictions of objects that are superimposed on other objects; low literate people may not understand or may misinterpret pictures or groups of

objects in which some parts are 'hidden'." Therefore, this strategy needs to be avoided when communicating with low literate audiences.

Furthermore, the value of cueing as a strategy to draw attention to the important or different aspects of a visual cannot be underestimated. Doak et al. (1996) say that "colour is compelling in its ability to attract and hold attention and therefore is a very appropriate way to give emphasis to key points and can therefore be used to highlight, to differentiate, to clarify, to help focus the eyes and to be realistic". Nonetheless, it should not be assumed that this strategy will work automatically. Hence, care needs to be taken when applying this strategy as it does not always work with all readers. In v8, for instance, various types of tablets that are part of the antiretroviral therapy are presented and colour and size are used to draw a distinction between these various tablets. However, the responses of the respondents indicate that many of them did not see these differences. For literate audiences, it will be easier to recognise that these tablets are different sizes and colours and therefore they must be a cocktail of tablets. Since, this is an indication that visual literacy needs to be developed by readers in order to be able to make such distinctions, the use of such cueing strategies when communicating with low literate readers should be limited.

The recognition of abstract objects, such as the prohibition cross and the speech balloon, and their meaning pose certain challenges to the low literate respondents though the level of abstraction contributed to the ease with which the abstract object was recognised. The use of the cross as a prohibition marker was easily understood by the respondents. Most of the respondents were able to clearly state that it means do not smoke (v4) and do not drink (v25). This may be attributed to their exposure to red cross in previous environments such as no smoking signs in most public places. Hugo & Skibbe (1991:49) reports that "low literate readers may have the ability to read and interpret

instructional illustrations as they have developed some visual literacy skills” as indicated in his study by their ability to identify product brand labels and abstract symbols correctly.

The use of speech balloons in v1 and v17 may also have contributed to the difficulty that the respondents had in obtaining the meaning of these visuals. It is recommended that the use of abstract symbols whose meanings are not transparent but have been fixed by convention such as mathematical symbols as well as certain pictorial conventions used in the cartoon style such as speech balloons be avoided (Colle & Glass 1986; Hoffmann 2000; PATH 2002; Doak et al 1996). This is because these are conventions that need to be learnt and low literate readers may not have learnt these conventions as their exposure to formal schooling may be limited. Additionally, based on their findings, Ngoh & Shepherd (1997:267) propose that “abstract, technical or obscure visual aids have no meaning to the non-literate and unsophisticated people with whom many health professional work. The visuals must be simple, practical, and related to what the patients know and understand”.

5.2.3 Comprehension of the basic message contained in the visuals

The purpose of any communication activity is for the sender to transmit a message to the receiver using a channel. In this instance, Soul City seeks to communicate to the public information about living healthily with HIV/AIDS. The channel selected is the print medium. Both text and visuals have been used in this booklet. In order for one to say that the communication activity has been effective, the target readers need to understand the message that is being communicated to them. One of the uses of the visuals in this booklet is to communicate to the low literate public, who may be unable to read the text, the same message as contained in the text. Doak et al (1996:110) state that the

“important reason for using a picture for health education purposes is because people remember stories better than a set of facts”. In this booklet the series of visuals present information on how to live healthily with HIV. The use of the AIDS ribbon helps to reinforce the message and further highlight the fact that these visuals relate to HIV.

The difficulties experienced by these low literate readers in obtaining the message from these visuals may in part be attributed to their relatively low visual literacy. Doak et al (1996:93) argue that “when such poor readers examine visuals not only do their eyes wander about the page without finding the central focus of the visuals, but they also tend to skip over principal features and their eyes may focus on one detail”. This can be seen in a complex visual such as v26 in which the respondents tended to focus on the two adults in bed and the superimposed condom was not always referred to in the response.

In addition, the National Cancer Institute (1994) states that “low literates tend to think in concrete/immediate terms rather than in abstract/futuristic terms”. This may have contributed to the lack of relating the individual elements of the visuals to their overall meaning. Moreover, the respondents usually saw the person depicted in the visuals as performing the action at that particular time and did not relate it to the overall advice of the visual. For instance, in v1 the man is seen as eating a meal consisting of various foods, yet there is no relation drawn between this action and advice to eat a balanced diet regularly. Besides, “low literate audiences tend to interpret information literally” (National Cancer Institute 1994). For instance, v3 is seen merely as a boy /man playing with a ball with very few respondents able to relate this to exercising regularly.

The use of clear visuals with concise information is also necessary in assisting low literate audiences obtain the message from the visual. If a visual has too

many things presented at the same time the low literate readers will not be able to focus on the important element. They will also not know how to draw a link between the various elements presented. For example, in v24 there are various elements presented here. There is the lady holding a glass of water in the one hand and tablets in another hand, there is a table with two bottles of medicine, there is also a clock on the wall and two men standing behind the lady. This is a relatively busy picture with many things going on at the same time. This complex relationship between the clock and the taking of the medication and the two men behind the lady make it difficult for the low literate readers to understand the message of this visual. It is better to avoid pictures with too much distracting detail in the background (Auburn & Ausburn 1983; Doak et al 1996; Linney 1995; NCI 1994 and PATH 2002).

Consequently, in order for one to say that this material has been understood by the readers, the readers not only need to be able to identify the various elements of the visuals, they further needed to understand the visual in and of itself and further see it as one that typifies the sort of behaviour that they should adopt. This is crucial when dealing with a chronic illness such as AIDS. According to Carstens et al (2006:228) “the ultimate interpretation requires a full understanding of the range of analogous and abstract elements, as well as correct assessment of this knowledge in the context of the story of HIV”. The message of refraining from doing something was easily communicated with the use of the cross and therefore became an explicit message. Conversely, the message of a positive action that needs to be taken such as become part of a support group, seek medical attention for qualified medical practitioners, call the toll free number to obtain additional information, read books in order to obtain more information on HIV/AIDS and eat these specific food types from the various food groups in order to have a balanced diet, were very difficult for many of the respondents to work out.

5.3 Conclusion

The value of visuals as a way to communicate with low literate audiences in the health communication context cannot be underestimated. The results clearly indicate that low literate readers stand to gain from visuals. However, a visual in itself may not necessarily be an effective communication tool. The results indicate that concrete representations of humans and analogous objects are easily understood by the low literate readers as discussed in the body of literature. Moreover, the familiarity of the object and its representation in a manner in which it occurs in the lived experience of the readers aids in encoding the visuals which leads to relatively high levels of comprehension.

Nevertheless, the incorporation of abstract objects in print material targeted at low literate audiences needs to be done with much care. The level of abstraction determines the ease with which the message is understood by the low literate reader. The use of the cross in these visuals, for instance, though an abstract element whose meaning is fixed by convention, is a fairly widely used prohibition marker and therefore may be easily learnt by the low literate readers. On the other hand, the speech balloon whose meaning has been fixed by convention and is used widely in comic strips and comic books, hence the opportunity for a low literate reader to gain exposure to the speech balloon is fairly limited and therefore this will hinder the low literate reader's ability to learn what it means. Given this scenario, it would be better to avoid the use of the speech balloons and other more abstract elements in material developed for low literate readers as they demand a higher level of visual literacy.

Although the findings on the comprehension of the basic message of the visual were varied from one visual to the next, the results indicate that when people's

lived experiences are presented to them in a simple and concrete manner they will be able to identify the message. As comprehension is crucial in any health education activity, it is important for people who seek to communicate to the low literate readers to keep their information as clear as possible and use visuals in such a manner that they do not hinder understanding.

The educational value of this *HIV and AIDS and Treatment* can also be evaluated by examining its presentation. The presentation of information on living healthily with HIV is in the form of a story. A reader then feels like something is being narrated to them and this enhances learning since the material does not sound as if one is talking down at the reader. Furthermore, this booklet by Soul City introduces the use of anti retroviral treatment and its availability in the public health sector to all patients who meet the criterion for their use in a conversational manner. The information is presented in a non threatening manner which makes it easier for the reader to receive and accept. This lessens any anxiety that one may have about the access to anti retroviral drugs hence encouraging a reader who may be in need of such treatment to actually pursue the subject further.

Though this study examines comprehension of the *HIV and AIDS and Treatment* booklet among ABET learners, none of them is required to disclose their HIV status. Hence it is difficult to measure or comment on the level of behaviour change that the learners may exhibit after reading this section of the booklet as it specifically addresses issues of living positively with HIV. However, based on the format and the tone of the booklet it clearly encourages any reader who is living with HIV to adopt a healthy lifestyle and further to seek medical attention and advice so that they may access the anti retroviral therapy. Hence, the booklet is not purely informational but rather it is instructional- requiring a reader to perform certain actions where appropriate after reading. In addition,

since people tend to take action on the basis of their level of knowledge of a particular subject this booklet not only creates awareness about HIV but it takes a further step in expecting readers to take certain actions such as seeking medical attention from qualified medical practitioners. Therefore, on the basis of the conversational style used in this booklet and its tone it can be expected that not only will the readers relate to the message but they will also take appropriate action in instance where they need to.

The following chapter will provide a conclusion to the study and offer some recommendations on how to enhance the health information documents in order to make them more accessible to the readers.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

This study set out to examine the comprehensibility of HIV and AIDS and Treatment booklet among Adult Basic Education and Training learners. It sought to answer two key questions: How effective are visual presentations as communication tools on HIV/AIDS? And are there differences in the ways in which humans and objects are recognized and interpreted in the print material? To a large extent, the results have indicated that visuals do have a communicative value particularly to low literate audiences who rely on them to obtain meaning from print material. However, the visuals need to be selected carefully as the degree to which the readers will understand them are not only dependent on the visuals themselves but also on the readability of the visual and the visual literacy level of the readers.

The reading process was followed in the course of this study. A stimulus was presented to the respondents. They all recognised the material as a document from Soul City. This familiarity with the author probably gave it credibility and they were willing to read it. The respondents were then required to decode the information that is portrayed in the pictures. For many of them recognition of humans and objects was not a major problem. In fact, the more familiar the object was the easier it was for them to recognise it. However, encoding the basic message of the visual posed the biggest challenge to these low literate readers particularly in instances where the visuals were more complex, contained various elements and presented unfamiliar items. Although the respondents were able to explain what they saw in the visuals and what

message they obtained from the visuals, there were gaps between what the visual presented and what the respondent provided as the message of the visual. This not only highlights the problem that low literate audiences face when they try to encode the message from visuals but also the role of visual literacy in one's ability to do so with greater precision.

Nonetheless, this study indicates that the incorporation of visuals in health information documents has some value for the low literate audiences as they were able to decipher some of the messages contained in the booklet. Not only do the visuals improve the readability of this material but they also create an opportunity for the readers to further develop their visual literacy.

Particularly, the study indicates that in general, low literate audiences do not have a problem with the recognition of humans. Even in instances where only a body part was portrayed, such as in visual 14 and visual 15, it was relatively easy for the respondents to recognise the visuals as that of hands. Perhaps this can be attributed to the fact that the hands in these visuals were drawn in a very realistic manner and the case may not always be the same in instances where internal body organs are portrayed in isolation. Furthermore, the approach adopted by Soul City of using the same characters in their television, radio and print material may have contributed to the ease with which the respondents ascribed roles to the people portrayed in this booklet as some of the respondents even used the on-screen names of the characters when stating what they saw in the visuals. This is an example of how low literate audiences can draw on their prior knowledge when reading new material.

The study further shows that recognition of analogous objects was also fairly easy for this group of respondents. However, as the representation of the objects become more complex or were not presented in a familiar manner, the

recognition decreased, for instance, in visuals 26 the condoms are superimposed on the rest of the visuals and the packaging is different from the common one that is freely distributed by the government. In addition, the anti-retroviral drugs in visuals 29 are presented in a white box which is marked as such but for those who cannot read the markings they could not list these medicines as ARV. Therefore, when communicating with low literate audiences it is important to use familiar graphics and symbols as this draws on their prior knowledge and facilitates learning as the readers are able to draw the link between what is in front of them in print and their real life experiences.

The study, in addition, indicates that the use of abstract symbols in and of itself is not a problem. However, the particular symbol used should be one that is easy to understand. For instance, the use of the cross in these visuals as a prohibition marker was readily understood by the respondents. Though this ease with which they understood it in this instance may be attributed to a number of things including the fact that being students they are now familiar with the cross or x as a sign that something is incorrect. Moreover, their prior knowledge of the commonly used no smoking sign in various public buildings and places may have contributed to this knowledge as well. The same cannot be said for the speech balloon which is also an abstract object.

6.2 Recommendations

The use of visuals in such health information documents should be such that the reader who relies on the visuals obtains exactly the same information as the reader who relies on prose. Linney (1995:23) recommends that the “designer develop and study the ‘pictorial language’ that is appropriate to the community with whom he is working”.

Furthermore, the design of such material should be audience-centred. Zimmer & Zimmer (1978:39) recommend that communicators should start with the message and then ask “what is the best way to reach the people I want to reach with the information I want them to have”. This will ensure that one does not simply go about designing health communication material but will focus on who the end user is and in cases where the public is the target, it is necessary to have some information on whom that public is. If the group is mixed, rather peg the material to the lowest level of the group as opposed to the highest level of the group as this will ensure that all the readers are catered for. In addition, Doak et al (2004:19) recommend that “a patient-centred approach should be used to explain the purpose and benefits of the piece. The document designer should make use of behavioural objectives to guide what information is ultimately included in the brochure”.

The use of visuals in health communication material is crucial in communicating with those who cannot read text. However, Zimmer & Zimmer (1978:37) say that “what and how people communicate is also determined by their environment, their culture and the societies in which they live’. To this Bradley (1995:11) adds that “the assumption of universality should be examined carefully, however, particularly when diagrams are being used”. Hence, in designing these visuals a relationship of redundancy should be achieved. Redundancy is the repetition or paraphrasing of key ideas. However, in instances where it is not possible to portray visually what is expressed in prose, the use of different visuals and verbal content can be employed in order to help the reader comprehend the same idea.

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APPENDIX A: INFORMED CONSENT

Dear Respondent

INFORMED CONSENT: USE OF RESEARCH DATA ON COMPREHENSION OF VISUALS USED IN HIV EDUCATION MATERIAL

I am a Master's student of the University of Witwatersrand, Graduate School of Public and Development Management, collecting information on Comprehension of HIV education material. All the information that will be gathered in this interview schedule will be treated as anonymous and confidential. This interview schedule is designed to collect data for the purpose of analysing the comprehension of the visuals used in the *HIV and AIDS and Treatment* booklet produced by Soul City.

This study is of particular importance for all people involved in the development of health care materials as it will assist in identifying the challenges faced by readers when using this material. In order to plan and design appropriate HIV care communications it is important for us to gain insight into the needs of the community in terms of language and presentation formats and your input can make a valuable contribution.

The procedure will be as follows:

- You (the respondents) will be requested to participate in an interview on the above topic but you will not be asked to give your name.
- I (the researcher) will write down all the information that you discuss in the interview. I will then look at all the details you have discussed and analyse them.

- I will write a research report for my Masters degree based on the outcomes of the research.

You are not at any risk, as the survey is anonymous and you will not be required to disclose your HIV status. You can decide if you want to take part in these discussions or not, and you can withdraw your input at any time during the research process, in which case the data provided by yourself will be destroyed.

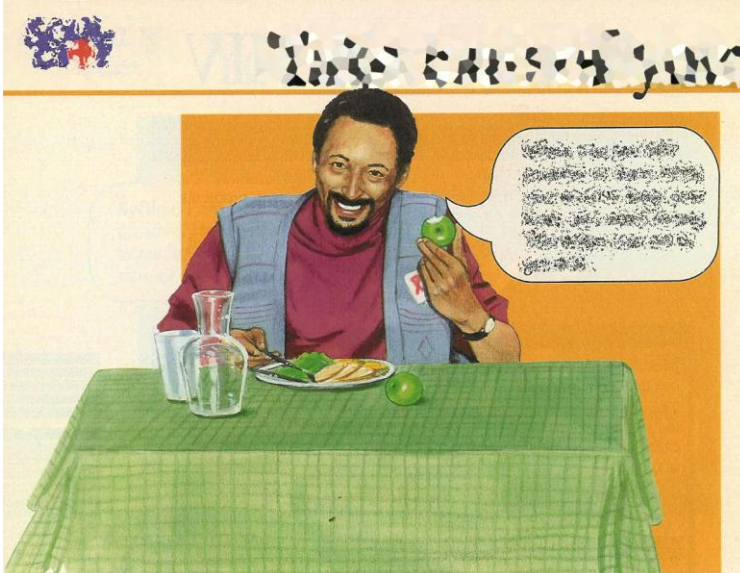
Yours sincerely

LILIAN GANGLA BIRIR

STATEMENT OF INFORMED CONSENT

I hereby give my consent that my responses in the individual interview may be used for the purposes outlined above. (Stated verbally by respondent).

APPENDIX B: MATERIAL PRESENTED TO RESPONDENTS

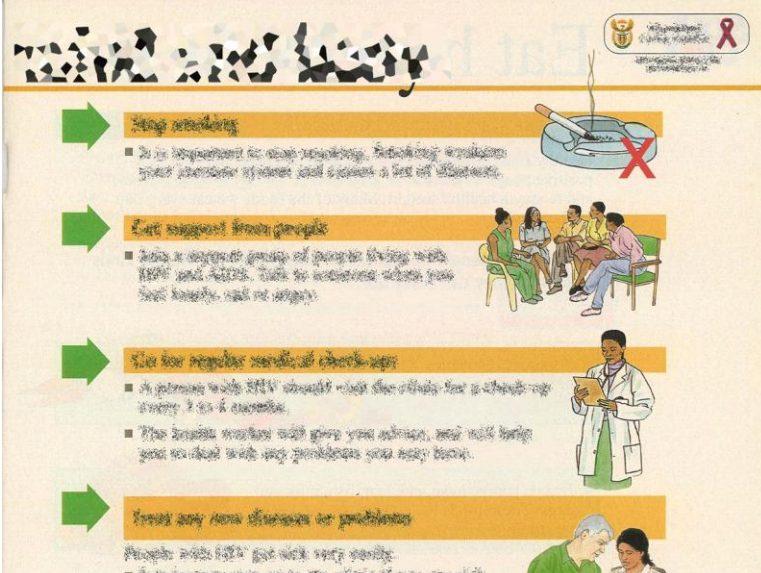


Health and Nutrition

- It is important to eat healthy food. Eating healthy food helps your body stay strong and healthy. A diet of different foods is best.
- It is important to eat healthy food. Eating healthy food helps your body stay strong and healthy. A diet of different foods is best.

Exercise

- It is important to exercise. Exercise helps your body stay strong and healthy. A diet of different foods is best.



Health and Nutrition

- It is important to eat healthy food. Eating healthy food helps your body stay strong and healthy. A diet of different foods is best.
- It is important to eat healthy food. Eating healthy food helps your body stay strong and healthy. A diet of different foods is best.

Exercise

- It is important to exercise. Exercise helps your body stay strong and healthy. A diet of different foods is best.



1. The first part of the text discusses the importance of maintaining accurate records of all transactions, including sales, purchases, and expenses. It emphasizes that proper record-keeping is essential for determining the correct amount of tax liability.





A simple illustration of a loaf of brown bread with two slices cut out, and a red bowl filled with cereal and milk. A small decorative card with a floral pattern is tucked behind the bowl.

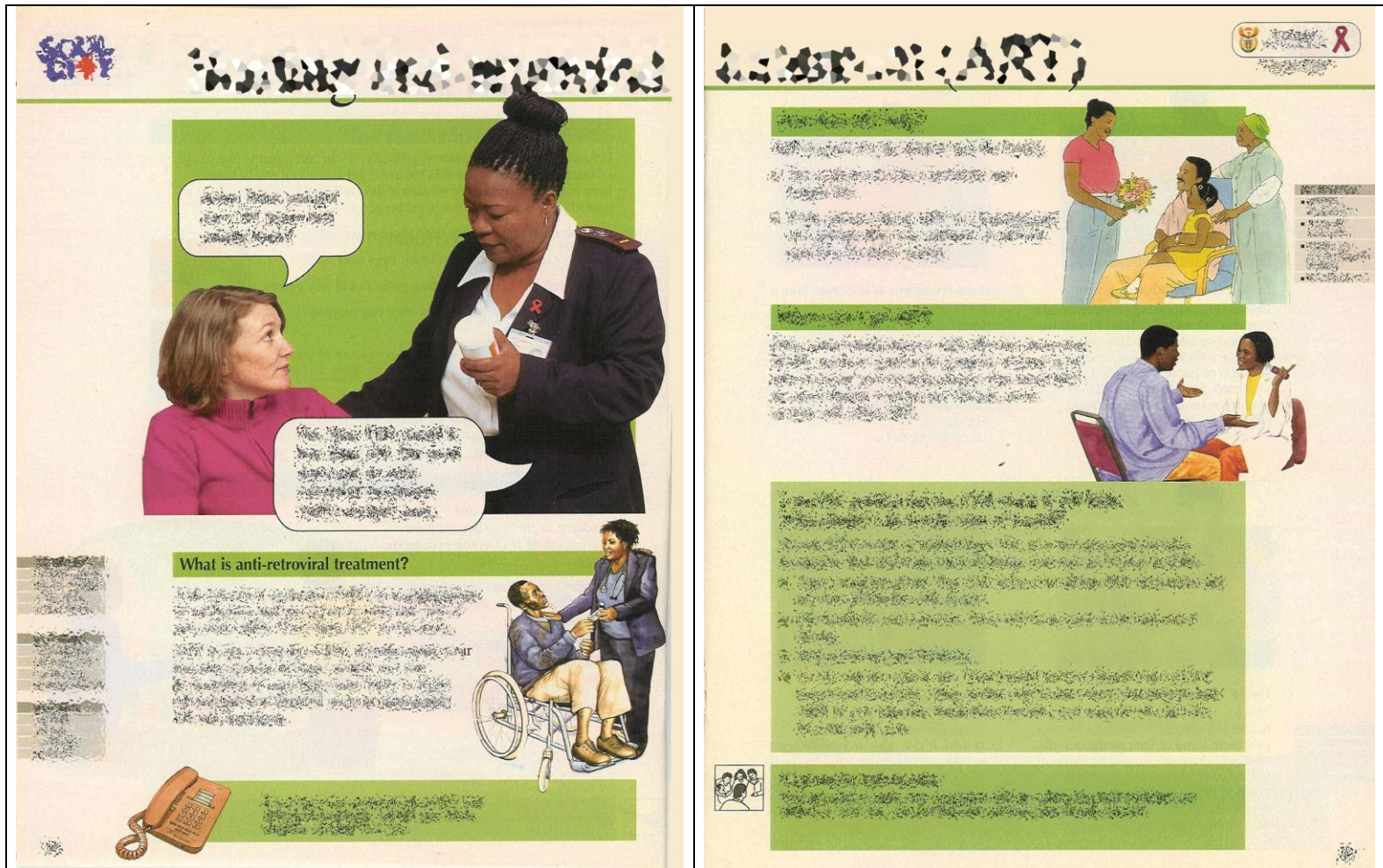
- c. Check mine and check on said there is no pink inside
- d. Do not use cracked eggs. Check eggs very well.
- e. Wait 10-15 min. food is boiling point on both way points
- f. Wash your hands before and after you prepare hot and food.



• Paraphrase your own words and
offer your own evidence in
your writing.



Source: *Journal of the American Medical Association*, 1974, 228:1000-1001.



How to Manage HIV

Have a treatment partner

Having your own taking medicines, make sure that at least one person knows you are about to take ART. This person could be a friend or family member. Ask them to help you to remember how to take your medicines every day. Also to help you if you have problems. Most people do so.

Take treatment at the same time every day

Each day you forget certain your medicines, you reduce the ART strength. After a while, the medicines will not work for you. It's a very bad thing when you don't take your medicines. There is no treatment before. Think and help you to remember to take your medicines.

Do not share your medicines

There are the other people in your household who need medicines. If you give them some of your medicines, the ART will not work for you or for them. It makes ART in your body weaker if you don't take the right dose. For every if you take the medicines properly the last time, it will not work for you.

Stop drinking alcohol before starting ART

Alcohol makes your immune system. It also can make you forget to take your medicines.

• **Medicine**
 • **Water**
 • **Alcohol**

How to Manage HIV

Always use condoms when you have sex

ART may make you strong, but it does not cure HIV. Even if you feel strong, you will have HIV in your body. You can still catch a person who is HIV negative. You can also spread HIV to your body if you have unprotected sex with another HIV-positive person. There are treatment drugs and help you.

Have regular check-ups

You should have regular check-ups at the clinic. There the health worker will be able to check how your treatment is working. It's so the health worker can help you to check well.

Get your health worker if you are feeling any other treatment

This medicine makes, my medicine you get from a doctor and health worker. Use the ART as you take them when you take ART. The medicines may not work. It is very bad for you. It is important that you know the correct number of the medicines you are taking. If you do not have them, you can not take them. This can make you to stop the health worker.

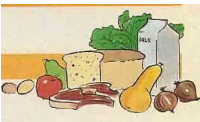
Read about the medicine things you can do on pages 12 to 15

• **Get health book**
 • **Read**
 • **Stop smoking and drinking**
 • **Get support**

Appendix C: Background Sheet

Interviewer			
Interpreter			
Date		Time	
Age			
Gender			
ABET LEVEL			
Home Language			
Preferred language for interview			
Informed consent given			

Appendix D: Data Sheet

Respondent Number:	
Visual 1  What do you see in this visual? What is the message of this visual?	
Visual 2  What do you see in this visual? What is the message of this visual?	
Visual 3  What do you see in this visual? What is the message of this visual?	

Visual 4



What do you see in this visual?

What is the message of this visual?

Visual 5



What do you see in this visual?

What is the message of this visual?

Visual 6



What do you see in this visual?

What is the message of this visual?

Visual 7



What do you see in this visual?

What is the message of this visual?

Visual 8



What do you see in this visual?

What is the message of this visual?

Visual 9



What do you see in this visual?

What is the message of this visual?

Visual 10



What do you see in this visual?

What is the message of this visual?

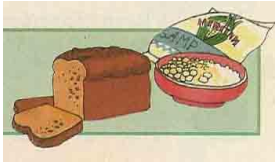
Visual 11



What do you see in this visual?

What is the message of this visual?

Visual 12



What do you see in this visual?

What is the message of this visual?

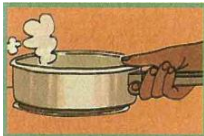
Visual 13



What is the message of this visual?

What do you see in this visual?

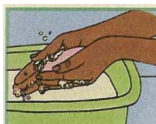
Visual 14



What is the message of this visual?

What do you see in this visual?

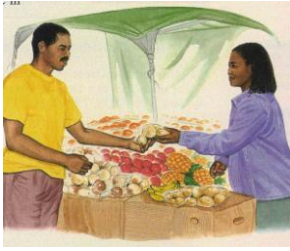
Visual 15



What is the message of this visual?

What do you see in this visual?

Visual 16



What is the message of this visual?

What is the message of this visual?

Visual 17



What do you see in this visual?

What is the message of this visual?

Visual 18



What do you see in this visual?

What is the message of this visual?

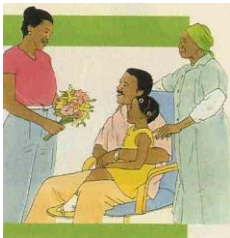
Visual 19



What do you see in this visual?

What is the message of this visual?

Visual 20



What is the message of this visual?

What do you see in this visual?

Visual 21



What is the message of this visual?

What do you see in this visual?

Visual 22



What is the message of this visual?

What is the message of this visual?

Visual 23



What do you see in this visual?

What is the message of this visual?

Visual 24



What is the message of this visual?

What do you see in this visual?

Visual 25



What do you see in this visual?

What is the message of this visual?

Visual 26



What do you see in this visual?

What is the message of this visual?

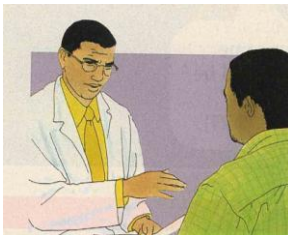
Visual 27



What do you see in this visual?

What is the message of this visual?

Visual 28



What do you see in this visual?

What is the message of this visual?

Visual 29



What do you see in this visual?

What is the message of this visual?

Visual 30



What do you see in this visual?

What is the message of this visual?