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DEPARTMENT OF DEVELOPMENT STUDIES

EFFECTIVENESS OF PODCASTING IN WATER, SANITATION AND HYGIENE (WASH) EDUCATION: A CASE OF BINDURA TOWN

BY

MARTHA MUNYORO

REG NUMBER R133747W

SUPERVISOR: DR.JEPHIAS MATUNHU

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Supervision Acknowledgement Form

The undersigned certify that they have read and recommended to the Midlands State University for acceptance, as a dissertation entitled, "Effectiveness of Podcasting in Water, Sanitation and Hygiene (WASH) Education. A Case of Bindura Town".

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(Signature of student)   Date

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(Signature of Supervisor)   Date

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(Signature of the Chairperson)   Date

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(Signature of the Examiner (s)   Date

Declaration

I **Martha Munyoro** hereby solemnly declare that this research report is my own work, unless where otherwise acknowledged. It is being submitted for the Bachelor of Arts in Development Studies Honours Degree in the Midlands State University. It has not been submitted before for any degree of examination in any other university.

Signature:……………………………   Date………………….

Dedication

To my husband Lawrence thank you for believing in me. You gave me the strength and never gave up on me. Your unwavering support kept me going my love. I could lean on you anytime. My three boys Kupakwashe, Kunashe and Desmond, you have been my pillars of strength throughout. To my parents Mr and Mrs Munyoro, Mr and Mrs Katsi you encouraged me till the end, I appreciate it. To the almighty God, you have been so faithful and remained a true friend. I will always lift your name up high.

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To my, Mom and Dad your wish has been finally fulfilled. My siblings Melody, Marshall and Melisa I owe it to you. My husband Lawrence children Kupakwashe Jay, Kunashe Eli and Desmond Tee you will soon enjoy the benefits of my sleepless nights. To family and friends thank you for your support and encouragement.

Last but not least special thanks to my classmates, I could not have reached this far without your support and help may the good Lord bless you all.

Glory to the most high whose love endures forever!

Abstract

The world particularly developing countries such as Zimbabwe have continued to experience recurrent water and sanitation related diseases outbreaks despite efforts by various governments and Non-Governmental Organisations (NGOs) to educate community. In Bindura, in 2015 Practical Action Southern Africa has used podcasting technology to raise WASH awareness and improve the relationship between residence and municipality with the aim of reducing the burden of diarrhoeal diseases. This study seeks to assess the effectiveness of podcasting in raising WASH related awareness in Bindura with the aim of reducing the burden of diarrhoeal diseases. The project assesses WASH behaviour practise and knowledge at project inception and at project end. Focus Group Discussions and key informant interviews were used to collect information on WASH behaviour change as a result of hygiene session through podcasting. It was observed that after six months of WASH education on various topics through the use of podcasting, health clubs members could now articulate how to prevent ailments and how to deal with them in the event they occur. Most of the club members were also now practicing improved waste management. Messages received through podcasting helped to improve hygiene practices at individual and home level. Signs of hygiene practice were seen around the home surroundings, bathrooms, kitchens and gardens. Health club members together with family members now wash their hands before engaging in any activity for example before eating and after visiting the toilet. Washing of hands using soap has now become a habit to many. Participants are no longer using the traditional method of washing hands in one dish. Use of jugs, soap and running water is now in useIn conclusion therefore, it is evident that podcasting improves WASH behaviour practise. Municipality and stakeholder need to support community effort to obtain WASH knowledge.

KEY TERMS

Podcasting, water, sanitation, hygiene, Bindura

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List of Abbreviations and Acronyms

AIDS……………………….. Acquired Immune Deficiency Syndrome

CHC…………………………Community Health Club

IEC………………………….Information Education Communication

WASH………………………Water Sanitation and Hygiene

PHHE………………………..Participatory Health and Hygiene Education

MDGs……………………….Millenium Development Goals

ORS…………………………Oral Rehydration Solution

WHO………………………..World Health Organisation

NGOs……………………….Non Government Organisations

SDGs………………………..Sustainable Development Goals.

UN………………………….United Nations

UNICEF…………………… United Nations International Children's Emergency Fund

WHO………………………. World Health Organisation

ZINWA……………………..Zimbabwe National Water Authority

<center>**Chapter One:**</center>

<center>**THE PROBLEM AND ITS SETTING**</center>

1.1.   Introduction

The main purpose of this chapter is to highlight the problems that have led to the study. The chapter also highlights the study objectives, assumption, and ethical consideration and gives an overview of the study structure.

1.2.   Background to the Study

Worldwide 780 million people lack access to improved drinking-water while 2.5 billion lack improved sanitation (Prüss-Ustün et al., 2014, Schmidt, 2014). The consequence has been increase in diarrhoea diseases especially in developing countries such as Zimbabwe. Lack of access to safe water and adequate sanitation is also regarded as the roots of world poverty and they are both a symptom and a cause of poverty. Furthermore the burden of disease showed that "approximately 3.1% of deaths (1.7 million) are attributed to unsafe water, sanitation and hygiene. Thus nearly 1.7 billion cases of diarrhoeal disease every year worldwide (WHO, 2010). Diarrhoeal disease continue to be the second leading cause of death and malnutrition in children under five years old killing around 760 000 under five each years (WHO, 2010). Over 99.8% of all the deaths attributable to these factors occur in developing countries and 90% are deaths (Unicef, 2010). The burden of illness for children under five years of age that arises from diarrhoeal diseases linked to inadequate water, sanitation and hygiene is up to 240 times higher in Africa than in high income Nations (Prüss-Ustün et al., 2014). It is estimated that 90% of all cases of diarrhoeal can be attributed to three major causes: inadequate sanitation, poor hygiene and unclean water (WHO, 2002).

A considerable body of literature has established the relationship between improved water, sanitation and hygiene in the home and the reduction of infectious diseases (Scott, 1996, Scott et al., 2008). The prevalence of diarrheal diseases and the unconscionably high child mortality rates, which are directly or indirectly linked to contaminated water and food sources, can only be reduced through larger and more effective investments in preventive and WASH promotional

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measures to reduce and eliminate the causes for the illnesses. For example, promoting hand washing with soap can reduce the risk of diarrhoeal by 42–48% and has been shown to effectively reduce pathogens of faecal origin on hands (Greene et al., 2012, Burton et al., 2011).

Raising awareness about these issues can lead to improved public health and reduction in the burden of diarrhoeal diseases. Water, Sanitation and Hygiene education ensures that optimal use is made of the water, sanitation and hygiene enabling facilities. It has been observed that facilities are frequently not used in an effective and sustainable manner unless WASH education is carried out. Access to hardware combined with an enabling environment and WASH awareness assist in the prevention or mitigation WASH related diseases.

The study area Bindura Town have also been experiencing serious WASH related challenges that can both be attributed to technical challenges and lack of WASH awareness. Like many urban areas in Zimbabwe, Bindura was hit by cholera outbreak in 2008/2009 which claimed 4 people out of 374 cases recorded. The town has also been battling with increasing pressures from urban growth, economic constraints and institutional reforms (http://263chat.com/2015/07/bindura-on-course-with-the-wash-project/). Several years of infrastructure deterioration in Bindura town has resulted in increased sewer and water pipe bursts, loss of treated water, and sewage spillage at every corner of the town, environmental pollution and diarrheal diseases outbreaks (SLB 2014). This deterioration of service provision has resulted in increased unwillingness to pay service charges by most residents in many small towns such as Bindura (STWP Baseline report 2015).

Because of the above challenges Practical Action, Bindura municipality, working with UNICEF and other organisations embarked on Bindura town rehabilitation project which consisted of hardware and software components. The software component focussed on engaging the citizens explaining their roles, responsibilities and rights to demand access to water, sanitation and environmental hygiene services from the Local Authority as enshrined in the constitution of Zimbabwe and associated legislation. The hardware component focused on the rehabilitation of municipality water and waste water infrastructure. The software approach used various awareness raising approaches including health clubs and podcasting.

1.3.   Statement of the Problem

Various forms of communication education have been used over past three decades to educate on WASH and service delivery; it is of concern that some of them have not been effective. For example, various Non-Governmental Organisations (NGOs) have supplied information, education and communication (IEC) material freely but it has been noted that much of this literature goes unread even by able readers because people do not have the time and high level of interest it takes to interpret them. Practical Action Southern Africa has between 2014 – 2015 using podcasting technology to raise WASH awareness and improve the relationship between residence and municipality with the aim of reducing the burden of diarrhoeal diseases. This study seeks to assess the effectiveness of podcasting in raising WASH related awareness in Bindura with the aim of reducing the burden of diarrhoeal diseases.

1.4.   Theoretical Framework

Various theories can be used in the communication of health education. This study used the Health Belief Model (HBM) to assess the hygienic knowledge and practices of people living in Bindura Town. The HBM is a psychological model that attempts to explain and predict healthy behaviour. HBM was developed by Becker (1974) from the work of Rosenstock (1966). This model can be used as a form to assess or influence individual behavioural change. The HBM is based on the theory that a person's willingness to change health-related behaviour is primarily due to perceived susceptibility, perceived severity, and perceived benefits, as described below:

- Perceived susceptibility describes the attitude that people will not change their behaviour unless they believe they are at risk. A person will only use soap to wash his /her hands if he/she believes that a negative condition like diarrhoea can be avoided.

- Perceived severity refers to the probability that a person will change his/her health-related behaviour to avoid the consequences of a behaviour which depends on how serious that person considers this consequence to be. For example, if a person expects, as recommended, that using soap when washing hands will prevent diarrhoea, then such a person will react to such recommendation positively and adopt its practice.

- Perceived benefits relates to the difficulty of convincing a person to change behaviour when they perceive no personal advantage in changing. If people believe that they can use soap comfortably and with confidence, they will have no problem doing that, provided that they can afford to buy the soap.

1.5. Research Objectives

1.5.1. Broad Objective

The main objective of the study was to determine the effectiveness of podcasting technology in raising WASH awareness and related behaviour change among residents in Bindura Town.

1.5.2. Specific objectives

1. To assess the effectiveness of podcasting as a media for changing WASH behaviour practise among community members.
2. To explore other barriers affecting effectiveness of podcasting technique.
3. To assess the various WASH education techniques that are being used in Bindura

1.6. Research Questions

1. What techniques are being used to promote WASH education in Bindura?
2. What are the strength and weakness of Podcasting in relation to other WASH promotion approaches/techniques that have been used lately?
3. How has podcasting assisted in bringing hygiene behaviour change among residents in Bindura?

1.7. Significance of the Study

Past researches have clearly demonstrated that good hygiene practise, access to clean water and improved sanitation method reduce the incidence of diarrhoeal diseases such as typhoid. Regardless of this seeming consciousness, hygiene promotion is still regularly given far less importance than traditional water supply and sanitation activities in emergency and other development settings. The study will inform NGOs, municipality and government on the

effectiveness of podcasting in WASH education. A review of the various WASH information communication techniques should assist in determining a most effective method of disseminating WASH information. This would ultimately contribute towards the reduction of the burden of diarrhoeal diseases. To the community the benefit will be improved WASH information. It will also give the researcher the platform to develop her research skills. To the local authority, findings will assist in determining the most effective method of improving dialoague between the community and residents with the aim of improving service delivery. To researchers, the study will serve as reference material for their studies.

1.8. Assumption

- The participants to be encompassed in the sample will be corporative and give evidence that is not biased
- The participant sample are a representative of the population
- The health sector including NGO's and municipality will accept advice on ways of enhancing hygiene promotion

1.9. Limitations of the Study

Reluctance by the community health club and key informants to disclose confidential information was a major limitation. Time and financial resources for carrying out the research were limited resulting in some important variables not being given due attention.

1.10. Delimitations

The study was carried out in Bindura where the project is being implemented by Practical Action in 12 wards. Bindura town has a population of 46,275 (ZimStats, 2012). The study focused on WASH education using podcasting as a dissemination tool. The project came up with 12 CHCs with a total of 624 members. The study is going to make a sample from these members, who are going to be participants in the study.

1.11. Ethical Considerations

The researcher asked for the participants consent before carrying out the research. The researcher also observed various research values when carrying out this study. Loyalty, honesty and safety

of the participants were highly assured. Confidentiality and anonymity was guaranteed to all the participants.

1.12. Structure of Dissertation

The research study is organised into five chapters as following

Chapter 1: The Problem and its Setting

Chapter 2: Literature Review

Chapter 3: Research Methodology

Chapter 4: Data Analysis, Presentation and Discussion

Chapter 5: Conclusions and Recommendations

1.13. Chapter Summary

This section looked at problem statement, objectives of the research as well as the research background. Furthermore expectations made in the research, research questions, delimitations and limitations of the study have also been articulated in this chapter. In addition acronyms and abbreviations used in the WASH sector have been given. The next chapter will look at the literature review.

Chapter Two

LITERATURE REVIEW

2.1. Introduction

This chapter looks at some works that have been published or written before on the subject area. This assisted the researcher to have an understanding of the subject area and to be able to identify any new developments that have arisen. Saunders and Lewis (2000) outlined that going through the works of other scholars will afford the foundation on which one's research is built. This chapter reviews various communication mediums that can be used during WASH education programmes.

2.1 Theoretical review

2.2. Communication

Keyton (2011) in Lunenburg (2010.1) defines communication "as the process of transmitting information and common understanding from one person to another". It takes place between either one person or another or between an individual and a group or between two groups. Communication facilitates creation of awareness, acceptance and action at individual, group and inter-group level. Messages can be transmitted through a variety of channels, such as traditional mass media (television, radio, and newspapers), the internet and social media (websites, Facebook, LinkedIn Twitter); small media (brochures, posters, fliers) and group interactions (workshops, community forums). The process whether one way or two way always involves a sender and a receiver regardless of the number of people concerned. It can either be one way or two way communication. In WASH the main sender is the health practitioner or facilitator and the receiver is the intended audience who is normally a community member (Scott et al., 2008).

2.2.1 One-way communication

This is a linear type of communication in which information flows from the source to the receiver (Grunig and Grunig, 1992). There is no input (feedback) from the receiver. It is commonly used in advertising; the message is designed to persuade the receiver to take action prescribed by the sender. The model is best used by organizations when the message is simple

and needs to be communicated quickly, for example, the date and time of a public meeting. There is no opportunity to clear up misunderstanding and meaning is controlled by the receiver. In WASH example of one way media can be the use Information, Education and Communication (IEC) materials.

2.2.2 Two-way communication

In this type of communication, information flows from the source to the receiver and back from the receiver to the source (Ahlswede, 1973). The addition of feedback allows the sender to find out how the message is being received and so it can be monitored and adapted to better suit the receiver's needs.

2.3. Communication in WASH

Messages in WASH education can be defined in much the same way as communication has generally been defined: a transactional process. The main difference in communicating health is that the focus is not a general one but one specific to health information. Neuhauser and Kreps (2003) summarizes the addition of 'health' to the definition of communication as a 'resource' that allows health messages to be used in the education and avoidance of ill health. This broad definition incorporates the fact that health communication can take place at many levels and embodies a holistic approach to health promotion.

Effective communication is the backbone of health promotion and disease prevention (Kiger, 2004). The effectiveness of this planned process comes to fruition when the audience has achieved, acted on or responded to a message disseminated. In a WASH project, health communication focuses mostly focus on hygiene practise, water usage, sanitation, waste management and disease prevention.

Studies have also noted that most WASH program have not managed to bring the expected behaviour change despite the large amount of resources allocated. WASH programs have been supplying IEC material and erratic billboard which not facilitated the expected improvement in hygiene practise. It is unfortunate that most of this literature goes unread even by able readers because people do not have the time and high level of interest it takes to decipher them.

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2.4.   WASH education

Water, Sanitation and Hygiene (WASH) refers to a combination of technical (hardware) and human development (software) components that are necessary to produce a healthy community and to develop or support appropriate health and hygiene behaviours (Fewtrell et al.,2007; 2005). According to World Vision (2009), WASH programme approaches the world's challenges for safe water, improved sanitation, and good hygiene in an integrated manner to optimize the positive health and economic impacts. Performance of a WASH program can be measured in terms of the expected outcomes, e.g. the increased percentage of household members having access to and effectively using sanitary latrines, or the increased percentage of child caregivers washing hands properly after handling children's excreta.

On the other hand, the term "hygiene" has been defined as the practice of keeping oneself and one's surroundings clean in order to prevent illness or the spread of disease (Boot and Cairncross, 1993). Hygiene promotion is an umbrella term used to cover a range of strategies which aim to improve people's hygiene behaviour and so prevent the spread of water and sanitation related diseases. Smith et al. (2006) defines health teaching as not limited to the dissemination of health-related information but also "fostering the motivation, skills and confidence necessary to take action to improve health", as well as "the communication of information concerning the underlying social, economic and environmental conditions impacting on health, as well as individual risk factors and risk behaviours, and use of the health care system". Health promotion is concerned with improving health by seeking to influence lifestyles, health services and, above all, environments.

According to Carr and Strauss (2001) and Brown et al. (2012) the main areas of concern in a WASH education programs are:
- the appropriate use and maintenance of sanitation facilities;
- the safe disposal of faeces;
- hand-washing after defecation and prior to food preparation;
- clean water use and storage; and
- the control of flies and other insect vectors.

2.5. Determinants of choosing a WASH education communication media

The choice of communication methods depend on numerous variables, including the human and financial resources available, the time and budget, and the size of the community (Lengel and Daft, 1989, Pieter van Donk et al., 2008). An understanding of the factors that influence hygiene behaviours will also help in identifying the resources, the key individuals in the home and community, and the important beliefs that should be taken into account in selecting a WASH education material. This will help to ensure that the content of the WASH education material education is relevant to the community. A good communication material should:

- Attract attention – people should be drawn to it
- Be understood by the target audience – concentrate on visual aids and simple verbal language
- Be acceptable to the recipient – positive messages are more likely to be effective than 'do not' language
- Be accurate – the correct information is vital
- Be feasible – the participants must be able to act upon the information.

Good WASH education content should: result in improved health, be affordable, require a minimum of effort and time to put into practice, be realistic, be culturally acceptable, meet a felt need and be easy to understand. One of the most important characteristics of effective health education is that it builds on concepts, ideas, and practices that people already have. Most communities already have beliefs about cleanliness, diarrhoea, and hygiene. An effective media should facilitate convincing people of the correctness of the germ theory of disease in order to get them to use latrines and practise good hygiene

2.6. WASH education communication media

A variety of communication methods can be used for WASH education and among them are; community dramas, games, songs, group discussion, home visits, mass campaigns, radio/TV, posters, logos on t-shirts, etc. The following paragraphs discuss some of the common communication media in a WASH programme.

2.6.1 Posters

Posters are printed materials that are displayed in public places such as markets, schools, medical centres, places of worship, water collection points and public latrine where they can be noticed by the maximum number of people. The advantages of posters and other printed material are that they can portray simple messages to a large audience and are relatively cheap to produce (Scott et al., 2008). A poster speaks for itself without the presence of the author. They are normally produced in consultation with the community and can be pre-tested locally to ensure they given out correct message. Ideally, the main content of the information will be displayed pictorially, and supported with a few simple words. Images should be realistic and true to scale, with clear depiction of the chosen action.

Studies have also reported that posters are said to be less likely to change behaviours on their own. The other weakness is that once a poster is printed it will be difficult to make corrections or adaptions; it is therefore less flexible when compared to a presentation that can be modified any time. Preparing a poster tends to take just much time. Because, posters generally require reduced content which however get to the point, selecting what has to be included or omitted is not always easy.

Other challenges associated with printed material are that:
- content information may be overload
- core message not clear; desired behaviours not emphasized
- too many long words and complex sentences
- technical language or jargon, or both
- uninviting tone
- inappropriate for target audience either in culture or language
- organization of content not clarified with titles and subtitles
- print too small
- illustrations do not fit the message

2.6.2 Drama

A drama is a powerful way to disseminate information to the target groups as people are more likely to remember how well they were entertained, and the messages they learnt. A simple story

with exaggerated characters and plenty of audience participation is ideal. If the theatre is flexible and there are minimal props needed, the drama can be taken to the people, allowing spontaneity and adaptation to a particular setting (Wurzbach, 2002, Neuhauser and Kreps, 2003).Though there are examples of effective health education programs that use drama, there is still a need for further evidence of a demonstrated, consistent impact. The challenge remains to find evaluation procedures that are sensitive enough to measure the subtle shifts in viewers' attitudes. To date, health education through theatre has primarily been centred on HIV/AIDS, though it is important to expand and address other personal, social, and community health issues. Alike stories, dramas make us look at our own behaviour, attitudes, beliefs and values in the light of what we are told or shown. Dramas are less common in WASH education projects because there preparations may incur time and money thus sometimes making it difficult to prepare repeatedly.

2.6.3 Community Health clubs

Community Health Clubs are voluntary, community-based organisations (CBOs) formed to provide a forum for information and good practice relating to improving family health (Wurzbach, 2002, Mara, Waterkeyn, 2006). They aim to create a common unity of understanding and shared perceptions of disease, within an area. Cultural values within many indigenous societies in Africa predispose individuals to seek group cohesion (Mutswairo, 1996, Waterkeyn, 2006, Ncube, 2013). The aim is not to teach new methods but to explore reasons behind current practice, and the session could be followed up with a participatory exercise such as the 'Three pile sort' to discuss 'good' practices. Such discussions may be particularly useful within a target group, for example mothers of young children.

2.6.4 Radio and television

Radio and television broadcasts may well be the most effective method of reaching a large number of people. When designing a message to broadcast, it is important to consider how information will be interpreted by a particular audience (Griffith et al., 1994, Baran, 2009). Adequate research is critical in avoiding cultural taboos, and ensuring that the intended meaning is conveyed. The broadcast should be entertaining, clear and brief. It should catch people's attention and leaves a memorable message, perhaps by using a slogan or jingle. A mix of voices is preferable, perhaps in the form of a short drama or interview. Some basic market research can

help to determine the best times of day to broadcast, to reach the widest audience. Television and radio broadcasts are more likely to be effective in urban areas, due to the limited number of people who can afford to own a television or radio in many rural areas.

In developing countries, many rural villages do not have access to electricity or television, but battery operated radios are commonplace. Consequently, its ability to reach people in a diverse range of settings has made radio a prime medium for educational initiatives, and various health topics have been addressed through radio programming throughout the developing world. Radio-disseminated health messages have been found to be more cost-effective than television, as radio can reach people in their homes, cars, or at work. van Dijk (1985) demonstrated that people who listen to the radio have a surprisingly accurate ability to recall details of broadcasts from months earlier; in this way, the study findings support the potential of radio to disseminate educational messages that significantly affect listeners. These mass media have their own weakness which includes; limited rural coverage, requires access to electricity, requires substantial financial support and difficult to tailor messages to specific audiences (Nwaerondu and Thompson, 1987).

2.6.5 Songs

People sing to express ideas and feelings, such as love and sadness, to tell story of a famous person, commemorate religious days etc. Songs are also an effective method of promoting hygiene behaviour change (Contzen and Mosler, 2012). In WASH education, various songs have been sung on the following issues:

- The village without safe water
- The malnourished child who got well with the proper food to eat
- The village girl who went to school to become a health extension worker
- The house where no flies and mosquitoes breed

2.6.6 Podcasting

Podcast is a new technology for delivering audio files to listeners. The term "podcasting" originates from the Apple Computer Corporation's iPod, which is a portable digital audio player that allows user to download music from their computer directly to the device for later listening. The term "podcasting" is a blend of the words "iPod" and "broadcasting" (Harris and Park,

2008). A podcast is thus a form of digital media that consists of an episodic series of audio, video or digital radio (Campbell, 2005, King and Gura, 2007).

Braun (2007) definition of podcast, in the first chapter of her book about podcasting, is short and simple as "*„regularly produced audio and video files that are available for subscription and that can be automatically downloaded to a computer and / or portable audio and video device.“* Geoghegan and Klass (2005) describe podcast simply as: "*audio content available on the Internet that can be automatically delivered to our computer or MP3 player.*" Figure 1 shows some of the podcasting devise that have been used by Practical Action to disserminate information during various project implementation.

Voice cable

MP3 player

Speaker

Figure 1: Podcasting devices

Source: Practical Action, (2007)

In a podcast, the message is transferred straight to the hearer. This can be done either verbally or through visuals. Podcasts are appropriate and time-efficient form of communication as you can listen to podcasts while you do other things at work or at home, or during your commute. Podcasts cut costs as they are delivered digitally thus eliminate many costs associated with other forms of communication including postage, printing, and paper. They can also reduce meeting costs and e-mail storage costs.

They are easy to archive and updating them is quick and easy. Podcasts are portable as it can be used on personal media player such as an iPod. The technology is reusable and support interpersonal education session. The technique also has weakness for example; training is essential for proper use of materials by health workers and if not presented by health worker and the technique might not influence behaviour change in the absence of a health facilitator to interpret.

2.7 Podcasting by Practical Action context

Podcasting is a technology associated with the Internet and is effectively complimented by an MP3 player to act as an effective media for recording and replaying voice and picture messages. The technology is particularly useful as it can be applied in voice based information and knowledge sharing, especially in communities with low levels of literacy. The devices can record and replay any voice file (Figure 2).

Photo by: Martha Munyoro

Figure 2: Recording podcasting messages

Source: field data 2016

Photo by: Martha Munyoro

Figure 3: Practical Action staff facilitating a podcasting training workshop in Bindura

This could be a question and answer session or a five minute explanation issues such as hand washing, diarrhoeal disease etc. Practical Action has been using podcasting to reach the last mile with relevant demand-led knowledge content of its three niche areas namely agriculture, WASH and energy (Figure 3). Podcasting has been used in CHCs because of the following reasons:

- Once recorded, CHCs members have the benefit of repeating a podcast and this helps in learning as repetition is known to gradually increase retention.
- The use of local people when recording and local leaders ensures that the knowledge resources reside within communities and CHCs and other people can access whenever the knowledge they need it.
- Experts on WASH collaborate on the development of knowledge content
- Knowledge content resides with the communities and is available on demand
- Knowledge content is in local voices and language
- Content ownership shifts from experts to communities

In its project Practical Action has established knowledge hub, which provide meeting places for sector forums and experts to update and develop new content. Various knowledge content

covering a number of development areas have been recorded. Once developed, content will be digitised, packaged in various languages and disseminated through use of podcasts.

2.8 WASH education approaches

Various approaches have been established lately which have been using some of the above communication media to disseminate WASH education. Among them to be discussion in the following paragraphs is the Community Health Club approach (CHC), Community Led Sanitation, Participatory Hygiene and Sanitation Transformation (PHAST) and the Participatory Rural Appraisal.

2.8.1 Community Health Club (CHC)

People are not forced to join CHCs they are voluntary in nature. They aim to create a common unity of understanding and shared perceptions of disease, within an area. Cultural values within many indigenous societies in Africa influence individuals to seek group cohesion (Mutswairo, 1996). In Zimbabwe, health clubs were initiated in 1994 by Africa AHEAD (Waterkeyn, 2006). The approach is based on regular meetings, facilitated by health extension workers who have been trained in participatory health promotion activities. It is open to anyone and encourages members to practise what they have learned at home through homework assignments and home visits for monitoring. Key reasons for the success of CHCs are that they are sociable, competitive and involve increasing respect for others. The approach has also proven to increase learning, raise social status and create opportunities for income-generating activities due to improved health. Furthermore, it does not require literacy and has the potential to strengthen the position of women within the family and the community. It has resulted in a reduced workload for health extension workers and provides an important institutional link between members and government.

Social pressure and group conformity are, in this model, seen as more potent change agents than is the mere appeal to individual rationale through cognitive learning, although the latter is also recognised as being important. (Waterkeyn, 2006). By adjusting norms and values this health promotion strategy generates a culture of healthiness. Continuous buttressing of key messages, bolstered by group consensus, Community Health Clubs can improve self- belief efficacy

allowing participants to effectively test prevailing traditional practices that undermine good health (Waterkeyn, 2006). Thus positive behaviour change in hygiene is reasonably predictable if a person is an active member in a dynamic Community Health Club.

2.8.2 Participatory Hygiene and Sanitation Transformation

Participatory hygiene and sanitation transformation (PHAST) is the main methodology of hygiene promotion for many organisations. Through participatory activities, communities are empowered to develop and carry out their own plans to improve their situation. PHAST uses local languages, situations and perceptions in seven steps (Promoters'Guide, Dumba et al., 2013). Each step has between one and four activities, enabling groups to improve their community planning on sanitation and hygiene (Waterkeyn and Cairncross, 2005). PHAST requires skilled and experienced facilitators as well as in-depth training of community workers (Waterkeyn and Cairncross, 2005, Kar et al., 2008). Although this is time intensive, community workers can become lasting assets to a programme and the community. It is important that PHAST has the full support of a community before being implemented.

2.8.3 Community-led total sanitation (CLTS)

Community-led total sanitation (CLTS) is a 'no hardware subsidy' approach to rural sanitation that helps communities to recognise the problem of open defecation and take action to become 'open defecation free' (ODF) (Robinson, 2006, Ijjasz, 2006). It uses activities such as community mapping, walks and the use of the local equivalent of the word 'shit' – to generate disgust about open defecation, with the aim of 'triggering' a community into action. While its focus is on eliminating open defecation, it can also have an impact on other hygiene behaviours. CLTS encourages people to change their behaviour without telling them exactly how. Because it does not rely on hardware subsidies or service delivery from external agencies, it ensures community members can take action in line with what is affordable and locally available and appropriate (Waterkeyn, 2006). It also has potential to empower community leaders and address other development issues, both in the target community and others.

2.9 Indicators for effectiveness of WASH education awareness

In the area of communicable disease prevention and control, the health impact of campaigns is usually measured in the form of a reduction in mortality or morbidity (Harvey et al., 2002).

Many health communication campaigns may aim to change behaviour or raise awareness and thus use knowledge, attitude and behaviour surveys as a means of evaluation. Short-term outcome measures such as message recall and recognition, attitudinal correlates of targeted behaviour, social norms, intentions to change, and behaviour change, are often chosen as they are predictive of longer term behaviour changes as outlined by theories of behaviour change such as the Theory of Planned Behaviour.

2.10 Chapter Summary

This chapter have reviewed what communication is and various methods of communicating WASH information in a communication. It has spelt out the advantages and disadvantages of the various communication media in WASH. This will assist during result discussion in chapter four.

Chapter Three

RESEARCH METHODOLOGY

3.1. Introduction

This chapter described the methods used to conduct the study. The basic assumptions about the research methodology and methods are reviewed and justified here with the support of relevant literature. Research methodology includes research design, data collection instruments, sampling design as well as analysis procedures.

3.2. Study Area

Bindura is the provincial capital town of the province of Mashonaland Central Province, Zimbabwe. It is located in the Mazowe Valley about 88 km north-east of Harare (Figure 4) . The town lies in geographical agricultural region (2b) characterized by 850mm rainfall, 19.4 °C temperature and has an area of 28,347 km2. The town is situated at 17.3° S, 31.33° E at 1118m above sea level. Administratively, Bindura Town is organized into 12 wards. The population of Bindura according to ZIMSTAT (2012) was 46,275. The town abstracts its raw water from Mazowe a perennial river which runs around Bindura and when Mazowe River levels are low, water from Mwenje Dam is realized.

Figure 4: Location of Bindura town

(Source: Bindura Baseline Report (UNICEF 2015)

3.3 Research Methodology

The study conducted a qualitative research method in order to determine WASH practise among participants after knowledge dissemination through the use of podcasting. The data was collected using a range of methods namely: observation, individual interviews, focus group discussions, desk review and questionnaires. A total of 6 Focused Group Discussions were conducted in the 6 wards in Bindura during the baseline period and 6 more were conducted at project ends with health club members. Five key interviews were conducted with key stakeholders namely; Bindura Town Council Health officer, Practical Action project officer, three nurses and one ward councillors as key informants. For the CHCs the researcher used the non-probability sampling and purposive sampling while for key informants, convenience sampling was used. An extensive literature review relating to the effectiveness of podcasting in WASH activities was carried out. Furthermore the cross sectional study adopted a qualitative paradigm to collect data from 15 key informants and 12 focus groups. As advised by Saunders, Lewis and Thornhill (2009), a qualitative method namely in-depth interview was used to collect data because they helped to understand the meaning behind the behaviour of residents on WASH activities.

3.4 Population

The study population consists of all the members of the CHCs from all the 12 wards in Bindura. The total population of CHCs members is 624. Bindura Town council workers including the ward councillors and Practical Action workers were the key informant for the study area. This will therefore make an estimated population of 629. Hitch (2001) defines a population as a set of all measurements of the interest to the researcher while Higson and Smith (1999) define a population as a set of elements that the research focuses upon and which the results tested by the sample should be generalized. Thus employees of Bindura town council, the community and ward councillors are estimated for the specifications of the population.

3.5 Sampling procedure

Sampling is a process of picking out a few individuals from the larger group and therefore creating the sample population (Kumar 2011). Cooper and Schindler (2006), point out that the advantage for involving the process of sampling is that, the researcher can draw conclusions about the whole population, where sampling is about the process of selecting elements to observe. Therefore in this research, the sample included CHC members, Bindura Town Council workers, Practical Action staff and ward councillors. The study used 3 different types of sampling namely non probability, purposive and convenience sampling techniques respectively. These sampling techniques are discussed below.

3.5.1 Non probability sampling

Non-probability sampling designs are used when the number of elements in a population is either unknown or cannot be individually identified (Fink 2003). In such situations the selection of elements is dependent upon other considerations. For the purpose of this research non probability sampling was used by the researcher because the study focus on an in-depthstudy on a smaller number of participants to allow - development of more complex insights. Furthermore the researcher had to study a larger group from CHCs in the wards. The total number of CHCs from all wards is 624 .In those particular groups the researcher managed to have a deep understanding on the majority's views pertaining to the research topic. Fifteen (15) people from six CHCs were identified for purposive sampling. This involved studying people who are not representative of a

wider population, but who are worth studying precisely because they represent exceptional, critical or intense examples of the particular phenomenon the researcher is interested in.

3.5.2 Purposive sampling

Purposive sampling was used to select the participants of this research. Schutt (2009) states that purposive sampling is also a non-probability sampling procedure in which the participants who are relevant in this research were chosen. Purposive sampling can be Judgmental sampling or Quota sampling. Judgmental sampling is where the researcher uses judgment to select population members who are good prospects for accurate information. Quota sampling is when the researcher finds and interviews a prescribed number of people in each of several categories. The study employed the judgemental sampling in selecting 15 CHC members from six CHCs in a population of 12 CHCs with 624 members.

3.5.3 Convenience sampling

The sample was selected primarily on the basis of what the researcher was able to access and was applied on qualitative data collection. Whilst this is often a default approach in small-scale pieces of research since this dissertation may rely on existing contacts and the group or phenomenon under study is generally difficult to access but the researcher was able to establish a sufficient degree of contact and trust with particular participants to conduct a viable project.

This sampling method assisted the researcher to get the inaccessible information through use of pre-existing and viable established new contacts that are the Bindura Town Council Health Officer, Practical Action Project Officer, one Nurse, three CHCs facilitators and three Ward Councillors.

3.6 Qualitative research

Qualitative research is advantageous in that it allows an understanding of community perspective and practise as a result of hygiene promotion through podcasting. Rubin and Rubin (2011) suggest three essential principles of qualitative research design: it must be flexible, iterative and continuous. These principles have been adopted in this research.

- **Flexibility** - This allows the researcher to be responsive to the new avenues of inquiry the investigation opens such as effectiveness of podcasting in hygiene promotion. Qualitative

research is based on a firm methodology, but the methods and techniques can vary and are selected on the basis of their value for providing information in the specific context of the investigation - it allows the researcher to shift direction and follow leads (Neuman, 1997).

•   **Iterative design** - Qualitative research is non-linear, "more of a spiral, moving slowly upward but not directly. With each cycle or repetition, a researcher collects new data and gains new insights" (Neuman, 1997).

•   **Continuous design** - Flexibility and continuous design work closely together. Ideas emerged in the first stages of data collection of this research that led to the use of other techniques. Similarly, interviews with unexpected groups of people or individuals about issues that were not originally known, but which were relevant to the overall purpose of the research occurred in several of the case studies. This occurred particularly with regards previously unknown incidences of specific hygiene practices (Rubin and Rubin, 2011)

3.7. Data Collection procedure

Before commencing the research, the researcher sought permission from the Municipality of Bindura. Research data was collected using multiple strategy technique. Both primary and secondary data was collected for analysis. An interview schedule was designed and used.

-       **Interview schedule**

Semi-structured in-depth interviews with open-ended questions were used to gather data from 30 participants. According to Saunders et al. (2009), the use of in-depth interview helps to collect a rich and detailed set of data about a phenomenon. Reviewed literature on podcasting, an interview guide was developed in order to explore the effectiveness of podcasting in WASH projects. In order to ensure content validity, two researchers with experience in the field were requested to check the questions on the interview guide. Furthermore, the interview guide was pre-tested with 5 community health club members to establish if the questions were clearly formulated. The feedback given by the two researchers and pilot testing participants resulted in minor modifications on the interview guide.

Before the interview was carried, the researchers clearly explained the purpose of the study and

assured the respondents about confidentiality, anonymity, voluntary participation and the fact that anybody was at liberty to terminate the interview at any stage of the interview. After a respondent had agreed, the interview would start whilst also tape recording the interview. The tape recording of the interview enabled the researchers to get the actual information that participants were providing. The other advantage of tape recording was that the interview proceeded without distraction as what normally happens when the interviewer is transcribing the responses during the interview (Surujlal and Maseko, 2011). As advised by Surujlal and Maseko (2011), the interviewer used the non-evaluative stance to avoid any influence on the responses provided by the participants. The idea of having interviews at their homesteads was advantageous because the participants felt comfortable and this helped as the participants could openly express their perceptions and were also free to raise issues to do with podcasting. The close ended questions helped to capture specific and guided responses while the open ended questions allowed the researcher to express themself where there was need. Where it was not clear, the questions were interpreted in Shona as the target group was conversant with the language.

Questionnaires were also used and were administered to 50 participants. The advantages of using semi structured interviews were that they were suitable for illiterates, clarification of questions was possible and they allowed the researcher to capture non-verbal cues (Hox and Boeije, 2005). The major disadvantages were that they were time consuming and allowed a limited number to be interviewed. Saunders et al. (1997) state that structured or closed questionnaires are used because of the following reasons:

- It gets the opinion of the participants as compared to observation which assumes;
- It enhances compatibility of answers making it easier to show relationships between participants;
- Closed questions may clarify meaning of a question to participants by the availability of answers; and
- It is easy for interviewers and participants to complete

On the other hand a questionnaire as a research instrument has some weaknesses. Open ended

questions can generate large amounts of data that can take a long time to process and to analyse (Saunders et al., 1997). Follow ups were made on time for immediate feedback. The researcher has also solved this problem by piloting the questions on a small group of friends. The participants were also given adequate time to complete the questionnaires.

transcribed verbatim by the researcher.

Questionnaires administered face to face were used to collect information related to hygiene practise after podcasting among CHCs members. These were also compared to results of the same questionnaires administered during

Field visits and observations were done to get some data which could not be gathered through other methods mentioned. Their advantage was that the researcher had direct contact with the situation and permitted tests on reliability of responses to questionnaires. For example, literature indicates that evaluation of handwashing practices should best be observed (Scott et al., 2008, Burton et al., 2011). Observations were also actively employed on the selected households to verify some of the responses that were given. Key elements that were observed at households were the toilet facilities, hand washing facilities, sanitation and hygiene. The spot checks were made on structural elements around the homesteads to determine hand washing behaviours particularly use of soap during hand-washing. The key indicators used to determine hand-washing behaviour among participants were; dedicated hand washing station, use of soap and run to waste method.

3.8 Key informant interviews

Key Informant Interviews (KII) were carried out to solicit information from the staff using interviewer administered questionnaire (Annex 11). The researcher took notes during the interviews and was solely responsible for data analysis. In depth interviews were conducted with the Bindura Municipality Environmental Health Officer, Practical Action project staff, wards councillor and nurses.

The interview technique offered the following advantages:
- The data secured was detailed;

- It allowed for probing to acquire full understanding of responses to ensure correct interpretations;
- The interviewer clarified doubts and ensured that the questions were being properly understood by repeating or rephrasing the questions; and
- The process of data gathering is fast as immediate responses are received for questions asked.

The interviews have their demerits as follows:
- The presence of the interviewer defeats anonymity which might be preferred in some instances as the subject was susceptible to give socially acceptable answers. More so, interviews are costly in time.

3.9. Focused Group Discussion (FGD)

FGD is a commonly used practice because of its strength of suitability, economic advantage, high face validity, and speedy results (Boateng, 2012).The FGD provided feedback regarding factors that contribute to the acceptance of podcasting and its effectiveness in WASH education. Participants were given the opportunity to explain their attitudes pertaining to hygiene knowledge and practice beyond what was elicited through the questions. They were encouraged to answer the questions from a personal perspective. Themes during the focus group discussion were sanitation, refuse removal, personal hygiene and knowledge of hygiene-related diseases, water source and hand washing.

Six focus group discussions were conducted with health club in the six wards in Bindura to get more information on improvements noted in their livelihoods as a result of WASH education through podcasting. Each group discussion had an average of 15 people. Their major advantages were that facilitation helped in the discussion of taboo subjects and group dynamics helped in focusing on the most important topics and it was fairly easy to access the extent to which there was a consistent and shared view (Krueger and Casey, 2002). The disadvantages were that conflicts arose among participants, and the facilitator had to manage them through giving everyone a chance to say their views.

During the FGD, WASH practices were also assessed using a mix of questions. Participants were asked to recall why they had used soap either today or yesterday. Also, participants were asked where the youngest child had last gone to the bathroom and where faeces had been disposed of if he/she had not gone in the toilet. The answers were later aligned into households that did and did not practice safe faeces disposal. Toilets were observed for any presence of faecal matter on the floor or walls. Lastly, water storage practices were assessed to observe whether or not containers were covered.

3.10 Secondary Data

To complement primary data from the field survey, interviews and field observations, secondary data was acquired from existing literature. A number of key documents were studied to get an in-depth understanding of the WASH service delivery situation globally, in Zimbabwe and specifically in Bindura. Desk interviews of the Bindura municipality official records formed an important component of the study for it provided up to date information on the existing situation of in Bindura. This exercise was considered important as it also helped to polish up data collection instruments before embarking on field work.

3.11 Data Analysis

On the other hand, descriptive data was analysed qualitatively by comparing and grouping rather categorizing participants opinions. Nonetheless, all information was linked to field observations during the time of data collection. Digital data such as photographs were also used to bring out some aspects of the WASH program. Graphical displays were done on demographic data.

3.12 Chapter Summary

This chapter described the methods that were used to carry out the study. Ethical concerns that were considered during the study were highlighted. Qualitative research method was used to explore the effectiveness of podcasting in WASH education. Data was organised according to categories in order to facilitate the analysis. Several principles of ethics were taken into consideration in the study in order to safeguard the identity of participants and to acknowledge the work of other authors.

<div align="center">**Chapter Four**</div>

<div align="center">**DATA ANALYSIS, PRESENTATION AND ASSUMPTIONS**</div>

4.1. Introduction

This chapter presents, interpret and analyse results obtained during the study. Pie charts were used to illustrate demographic data obtained. The chapter also discuss the findings in relation to podcasting as method for promoting hygiene behaviour.

4.2. Biographical data

4.2.1. Sex of participants at baseline and follow up

Among the total participants the researcher noticed that there were more women than men in the CHCs. Reasons cited for the low participation of males in WASH education activities such as health clubs were that sanitation matters are generally perceived as feministic in Zimbabwe and many other African countries. Usually, women fetch water for household usage, make food for the family, clean and wash clothes and dishes and therefore their involvement in large numbers is justifiable as lack of water and sanitation affects them more. WASH matters if not corrected distresses women more as they seem not to have a choice but to spend most of their time in search of water for household use. Another reason is that most of males are at work during the day when health clubs conducts their sessions and hence could not participate in podcasting educational sessions. Thus it can be assumed that the podcasting session benefited women most.

4.2.2. Participants and age

Figure 5 shows the age range for participants during the study. The majority of the participants in the study (37%) were between the ages of 19 and 30 years. Health clubs appealed mostly to young women aged 19 to 30 years. Reason being that this range of women are young and energetic and are also the ones who carry out most of the domestic odd jobs. Participants between 31 and 45 years of age comprised 23% while 15% were above the age of 45 years.
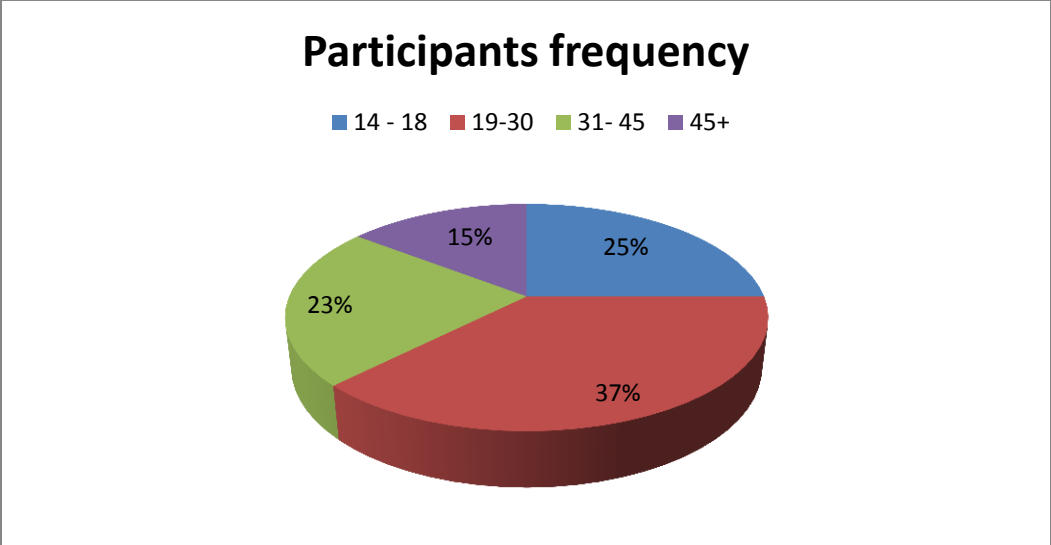
Figure 5: Age range of participants

(Source: Field data 2016)

4.2.3 Participants and level of education

The results in Figure 6 depicts that the highest proportion of participants had attained secondary (61%) level education, followed by 15% (tertiary), 15% primary while 3% had post-graduate qualifications. Participants with postgraduate qualification were the key interview informant. Among the health club members interviewed during the focused group discussion, 6% had not attained any education and those were mainly the elderly. Observation during the study period however noted that there was no correlation between levels of education and hygiene behaviour in the study area as young people still in secondary level and some professions were noted dropping litter and discarding waste. Young mothers assumed to be educated were also guilty of dumping diapers and rubbish in storm drainages and open spaces. The researcher also observed that some of the uneducated participants were practising good hygiene at their household.
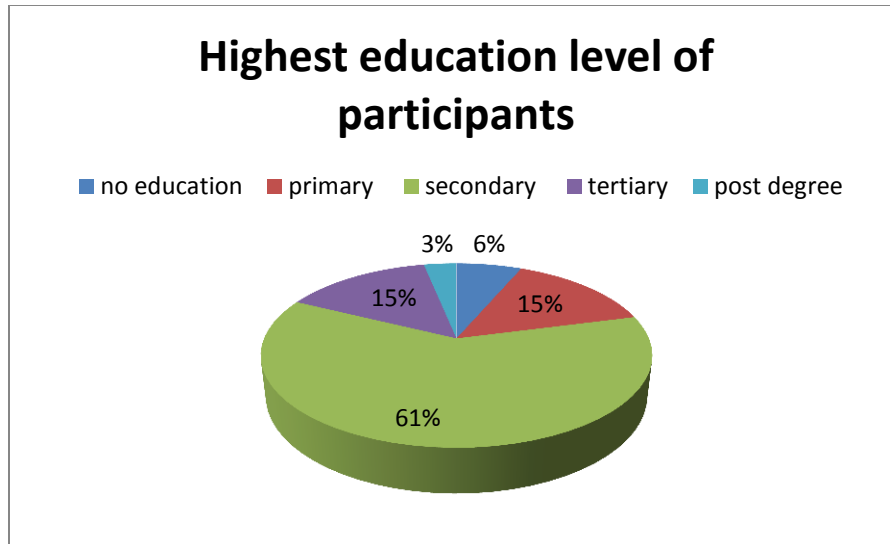
Figure 6: Level of education of participants

(Source: Field data 2016)

4.3 Methods of WASH education

This section shows responds by health club members on how participants have been acquiring information on WASH. The results showed that podcasting was not common among the residents during the baseline period thou it later emerged to be the most common among the participants after 6 months of project implementation.

An in-depth interview with municipality WASH focal person highlighted that an average of 15 health sessions on various topics including disease signs ,symptoms and prevention were conducted by each of the 6 CHCs interviewed during the study. A total of 54 community health facilitators were trained on podcasting message generation and recording. These were facilitating the cascading of health information in health clubs.

"*I used to receive most WASH information at church, but some of the words were considered taboo and they could not be said out for example faeces. With the podcast messages they call a spade a spade, no word is sacred*" Participant C.

In participant C`s case it was noted that since there is no face to face interactions there are no reservations on the message being communicated. The results also noted an abrupt increase of community members receiving health information through CHCs (Figure 7 &8). It can be

suggested that podcasting message was the key driver for hygiene behaviour change discussed in the following paragraphs.

Photo by: Innocent Rangeti

Figure 7: Community Health Club facilitators trained on podcasting

Photo by: Innocent Rangeti

Figure 8: Utsanana Health Club conducting a health session through podcasting

Source: Field source 2016

4.4 Personal hygiene

Participants were asked how they practiced personal hygiene. In this study, personal hygiene included bathing regularly, keeping hair and clothes clean, trimming fingernails and brushing teeth. People who do not bath regularly are more susceptible to fungal infections, such as fungal toenail infections. A lack of oral hygiene can cause a fungal infection known as oral thrush. On the other hand, people who do not wash their hands can pass infections to others. The results showed that many people are conscious about their personal hygiene. Brushing teeth, combing hair, bathing, washing clothes and trimming nails has become a habit to many.

Participant A stated: *"I am now aware that I should brush my teeth and bath before I start doing any household work in the morning".* Participant B said *"I am now knowledgeable my children are always smart I make sure they bath with soap before they go to school"* One respondent said, *"smartness is next to Godliness, I now enjoy keeping my self-clean, I bath two times a day,*

morning and evenings".

After analysing the responses from the participants the researcher noticed that awareness is very important. Podcasts messages were clear and well-articulated. As a result participants were able to understand and put into practice the knowledge they had acquired. This really shows effective knowledge transfer from the podcasts to the recipients.

4.5 Knowledge of hygiene-related diseases

Throughout the six months of podcasting sessions on WASH education, participants were educated on signs and symptoms, transmission, cure and prevention and control of communicable diseases. The following diseases were covered by podcasting sessions: diarrhoea, malaria, bilharzia, worms, tuberculosis, dysentery and HIV/AIDS. During the baseline and at project end, a survey was conducted to determine level of knowledge of diseases by the participants. Level of knowledge was rated using three aspects namely, signs and symptoms, transmission and prevention.

There was a significant increase in participants who were able to name the causes and preventions of diarrhoea. The increase was attributed to the podcasting sessions on these topics.

In wards some participants said, "*…diseases like diarrhoea can result from staying in dirt areas or by eating contaminated food or drinking dirty water*" Participant C. Participant D stated that "*People maintain good hygiene in order to prevent the outbreak of diseases like typhoid and cholera*".

This was different from the non-club members who were also interviewed at household level. Most of these participants were not aware of the importance of keeping themselves and surroundings clean. For example, some residents could not even name one hygiene-related disease while some could not establish the relationship between hygienic practices, cause, transmission and prevention of hygiene-related diseases.

From the findings, it is clear that people who had undergone podcasting sessions on certain diseases showed an in-depth knowledge related to cause, symptoms and prevention of

communicable diseases. Content ownership has shifted from experts to communities who have now embraced the knowledge.

4.6 Hand washing

During baseline, it was noted that most participants were still washing their hands in the same dish. This method is unhygienic and spread diseases. From the participants responses from questionnaires obtained at baseline, one of the participant stated: *"We put water in a small dish and wash our hands. Adults share the same dish and sometimes we use soap whereas sometimes we just use water"*Participant E. Other participants stated they also use the shared water method, but with a liquid detergent to wash their hands.

Having gained knowledge during podcasting sessions, the outdated dish method has been completely taken over by the pouring method of hand washing in the CHCs where water is poured over each person's hands in turn and is then thrown away to avoid cross infection. Many of the participants from health clubs showed correct hand washing practices compared to only few who were still missing the important steps. This was a significant rise over the six months and this could be attributed to a podcasting session on handwashing.

4.7 Storing and transporting water

Water challenges are also being experienced in Bindura urban. The study checked to see how various homes have been storing and transporting their water. Baseline results and results at project end after podcasting was used. The realisation was that there was a significant difference in how health club members stored and transport their water as compared to the baseline period. Most containers at households visited during the baseline period were not covered and did not have covers.

Participant F said: *"I am now knowledgable I know the dangers of keeping my water buckets clean and closed,by so doing I will protect my children from drinking dirty water which can cause them to have diarrhoea"*

There was a change after 6 months as club members could now articulate and demonstrates the

importance of using covered containers when transporting. Spot observations at health club households noted that container had a close fitting lid to protect it from contaminated dust.

4.8 Home hygiene

Home hygiene was emphasised during podcasting sessions in health clubs. It was observed that most households now have rubbish bins or pits, compost resulting in nutrition gardens at their homes (Figure 9). They now also have clean latrines/toiles, clean yards/surroundings and they now use clean and protected water.

Photo by: Innocent Rangeti

Figure 9: Household clearing a dumpsite and digging a refuse pit
Source: Field source 2016

4.9 Waste management

The CHCs are also participating is for participating in clean-up campaigns with the aim to prevent diseases in the community as shown Figure 10. & 12 in compares the waste management

practise among health club members at baseline (Figure 11) . Participants from Bindura Town were asked how they disposed of their domestic waste. Before the intervention most people used to throw their rubbish anywhere and especially in open spaces.

Photo by: Innocent Rangeti

Figure 10: Community health club conducting a clean-up campaign at Progress shopping centre

Source: Field source 2016

The researcher discovered through observation and interaction with the community that the CHC members, Council and Practical Action the NGO implementing the project in Bindura have rehabilitated most open spaces at shopping centres which had turned into dumpsite.

Figure 11: Chipadze shopping centre before clean-up campaign

(Source: Field data 2016)

Photo by: Innocent Rangeti

Figure 12: Chipadze Shopping centre after the clean-up campaign

(Source: Field data 2016)

Participants are now conscious on how they manage their waste. Participant G stated: "*After cleaning my house and the yard I put rubbish in a plastic bag for collection by the municipality*". A health club member said "I put the waste in plastic bags and leave it in front of the yard, where it is collected by the refuse removal contractors once a week". By contrast, this was different as during the baseline when another respondent that "the town council does not provide us with plastic bags to store rubbish. I therefore resort to dumping my rubbish across the road." Some participants stated that they because the municipality did not give them plastic bags time they resorted to dumping the waste in open spaces.

These findings support the study by Eugenia Bodzo (2016), which state/indicate that Chitungwiza Town Council is also involved in clean-up campaign through collection of waste during or after clean-up campaigns facilitated by NGOs. The results are similar to those from the study done in Uganda where Kampala City Council provided the trucks to carry the garbage to the official city's dumpsites (Tukahirwa, Mol & Oosterveer, 2010). The Council is also active in PHHE through working and training of Community Health Promoters (CHPs), who cascade the

health and hygiene education down to the community. The council spread the awareness to the community through print media, air waves and social media]

4.10 Chapter Summary

This section presented the outcomes from the qualitative data gathering approaches used to collect information for the evaluation of the research. It was discovered that podcasting is an effective method for disseminating WASH education information in a health club. Podcasting messages made enhancements in awareness on the signs and symptoms of diseases, how they are spread, cured and methods of prevention. Podcasting messages have also enhanced knowledge on how to handle waste. Health club members and other households who have received WASH messages through podcasting are showing signs of improvement in terms of hygiene when compared to previous before the sessions came into play.

Chapter Five

CONCLUSION AND RECOMMENDATION

5.1. Introduction

This chapter is a summative analysis of the key issues raised in the preceding chapters. It also gives some conclusion and discussion related to the project main objective which was to determine the effectiveness of podcasting in hygiene promotion.

5.2. Conclusions

The study came up with the conclusions below:

i.   Messages received through podcasting helped to improve hygiene practices at individual and home level. Signs of hygiene practice were seen around the home surroundings, bathrooms, kitchens and gardens. Health club members together with family members now wash their hands before engaging in any activity for example before eating and after visiting the toilet. Washing of hands using soap has now become a habit to many. Participants are no longer using the traditional method of washing hands in one dish. Use of jugs, soap and running water is now in use. The research distinguished noteworthy developments of conduct likened to the period when there were no podcasting sessions in health clubs.

ii. Females between 19 and 30 years bracket and belonged to the secondary school education levels are more actively involved in health club activities.

iii. Podcasting WASH information has enhanced people's knowledge on various WASH related diseases such as malaria, cholera, typhoid, dysentery just to mention a few. Community members are now able to detect the signs of these diseases before they happen as well as the methods of prevention.

5.2 Recommendations

This study thus recommends the following:

i.   Health education programs should be inclusiveness of all ages. The programmes should be innovative and motivate the old aged to also participate in health clubs

ii. Research should also be conducted to determine the effectiveness of podcasting in school going children and men

iii. Health clubs should also engage other key stakeholders such as the Environmental

Management Agency in order to get more podcasting knowledge that will improve hygiene practise.

iv.   Use of alternative energy sources like solar will be crucial since power-cuts in most urban areas to support charging of audio devices is a problem

v.   Cost of equipment has an impact on sustainability

5.3 Chapter summary

The purpose of the study was to explore and describe the knowledge of hygiene that community health club possess and the practices of hygiene they observe after undergoing WASH education through podcasting in health clubs.The study revealed that WASH knowledge improved among residents in Bindura after accessing information through podcasting messages.

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ANNEX

Annex 1

FOCUS GROUP DISCUSSION GUIDE

1. Health club membership by sex and age

Age group	Male	Female
14 – 18		
19 – 30		
31 – 45		
Over 45 yrs		

2. Level of education

A. No education	
B. Primary	
C. Secondary	
D. Tertiary	
E. Post graduate	

3. Methods of WASH education

A. Television	
B. Radio	
C. Church	
D. Podcasting	
E. IEC Material	

F. Others _____(specify)

4. Personal Hygiene

How do practise personal health	
1. Trimming nails	
2. Cleaning cloth	
3. Bathing	
4. Combing hair	
5. Brushing teeth	

6. Nominate any communicable disease below, tell us its symptoms, signs and treatment method

A. Malaria	
B. Bilharzia	
C. Tuberculosis	
D. HIV/AIDS	
E. Dysentery	
F. Worm	

Baseline- Before podcasting   End of project-after podcasting session

7. Handwashing practise

7.1. What critical times do you wash your hands?

A. After visiting the toilet	
B. After changing diapper or cleaning baby's bottom	
C. Before food preparation	
D. Before eating	

7.2. How do you wash your hands?

Record and observe correct steps

A. Wets hands
B. Lathers with soap
C. Rubs hands, wrists, palms and in between fingers
D. Rubs for at least 10 seconds
E. Cleans dirt under finger nails
F. Air dries hands or uses a clean cloth
G. Use of sufficient water (1 cup or more)

7.3. What do you use to wash your hands?

A. Water only	
B. Water and soap	
C. Water and ash	

7.4. How do you usually dry your hands?

A. Use my clothes	
B. Drying towel	
C. Drip drying	

8. HOME HYGIENE OBSERVATION

A. Handwashing facility with soap	
B. Latrine cleanliness	

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C. Clean yard		
D. Protected water source		
E. Bin/rubbish pit		
F. Nutrition garden		

9. Waste management practise at household level

A. Composting	
B. Bins	
C. Waste dumping	
D. Refuse pit	

Annex 11

KEY INFORMANT INTERVIEW

1. What is the water sanitation and hygiene situation in Bindura Town including at school, home and community level?
2. What form of hygiene promotion method has been used in Bindura Town?
3. How effective have been these WASH promotion communication media?
4. How many health clubs are in Bindura?
5. How relevant are podcasting messages in WASH education to the community?
6. What is the general membership attending podcasting health session in health clubs?
7. How frequent has the podcasting sessions been conducted in Bindura?
8. What benefits has Bindura Town realise out of the use of podcasting in WASH education?
9. What perceptions and attitudes have been changed by the use of podcasting in WASH education?
10. Do you think podcasting is an effective method of disseminating WASH information to the community?
11. Do you think podcasting is a sustainable method of improving WASH information dissemination?
12. How do you think male participation and old age participation in health clubs can be improved?