SOURCES OF COMMUNICATION THAT HELP FACILITATE EFFECTIVE UNDERSTANDING OF DIABETES HEALTH-CARE: A CASE AT STANGER HOSPITAL'S DIABETES CLINIC

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ABSTRACT

Effective health communication is a core requirement to help facilitate effective understanding of disease and illness. This paper reports on a study conducted at Stanger Hospital's diabetes clinic in KwaZulu-Natal, South Africa to explore the sources of communication that assist patients in understanding diabetes as an illness. A qualitative case-study methodology was used consisting of in-depth interviews, observation, and documentation. Persuasive behaviour change communication in respect of diabetes care was analysed as it related to the relationship between the health-care professional (HCP) and the patient. The Elaboration Likelihood Model (ELM), which had been developed to understand how messages sent from the sender (HCP, media sources) could have either a positive or a negative impact (attitude change) on the receiver, was used to analyse and interpret the data obtained from patients. Results indicated that in order to facilitate effective health-care, literacy aspects were important in health-care and that HCPs needed to ensure that patients understood the different sources of communication.

Keywords: health communication; diabetes; patients; literacy; public health-care system; persuasive communication

INTRODUCTION

The severity of diabetes has been acknowledged in public health-care facilities in South Africa. However, this illness now adds to the financial burden of the country through the obligatory introduction of cost drivers like the availability of medication to treat diabetes and of specialist staff, and the need for basic medical care (Mooney and Gilson 2009, 858). The majority of South Africans make use of public health-care facilities to manage their diabetes, since major disparities exist with regard to medical aid access. According to Statistics South Africa, private health-care is accessed by 78 per cent of the white population, 35.8 per cent of Indian people, 15.9 per cent of coloured people, and 5.5 per cent of the black population who have medical aid cover (Statistics South Africa 2015, 17).

In the above context and for the purposes of this article, health communication relates to the relationship between the health-care professional (HCP) and the patient when illnesses are diagnosed and treated. For the purpose of this study, communication dynamics refer to HCP-patient interactions that occur during treatment sessions. Persuasive communication in HCP-patient interactions entails communication dynamics that can cause a patient to either converge or diverge effective understanding of diabetes as an illness and treatment adherence.

What is Health Communication?

Communication is a means of interaction that occurs between people. Northouse and Northouse (1998, 2–3) suggest that "communication is the process of sharing information using a set of common rules." This occurs through the use of language via spoken or written words. As human beings we communicate interactively with each other through the use of language. In the medical system, communication enables patients to interact with HCPs and to explain the symptoms of their illness verbally, which enables the HCPs to confirm the diagnosis and explain the management system for the disease (Marks et al. 2005, 273). Communication contributes to understanding and exploring the diagnosis of an illness and its management in the HCP-patient relationship.

Northouse and Northouse (1998, 3) explain that "health communication is concerned with the application of communication concepts and theories to transactions that occur among individuals on health-related issues." Interactive health communication is explained as a two-way flow of communication exchange that occurs in the HCP-patient relationship for health-care and treatment purposes (Berry 2007, 1–2). Communication thus forms a vital part of the HCP-patient relationship in the treatment and care of diabetes. According to Shillitoe (1988, 60), "one of the most commonly advanced explanations for poor control is that the patient has not been adequately taught how to achieve good control." The HCP needs to communicate with the patient to ensure that effective treatment occurs. With a disease such as diabetes, patients must become empowered and understand how to cope with the disease and adjust their lifestyles

accordingly. Medical providers are educated in biomedical disease diagnosis and treatment options, but they find it challenging to educate patients on how to cope and manage an illness. According to a study that Abdulhai et al. (2007, 4) conducted regarding HCP-patient interactions, diabetes patients indicated that major barriers to effective treatment included:

> the manner in which they were greeted by the doctors and nurses; poor attention and eye contact during encounters; interrupted consultation privacy; lack of encouraging the patients to ask questions or express their concerns; and lack of transfer of medical information.

It is therefore clear that, for patients to adhere to diabetes treatment, they need to be educated through effective communication.

LITERATURE REVIEW

Literacy and HCP-Patient Relationships

Effective health communication needs to occur between the HCP and the patient in order for diabetes information to be transferred during interactive diabetes treatment sessions. Anderson (1990, 68) states that:

> health-care provider-patient interactions are complex processes that involve preferences and beliefs that participants bring to the interaction, the degree of communicative skill the participants can draw on during the interaction and their reaction to the consultation.

Another key factor that HCPs need to cater for during interactive communication sessions is health literacy. Patients need to understand the language of communication in order to effectively process interactions regarding diabetes health-care. According to Parikh et al. (1996, 33), poor literacy is considered a social problem. Communication that is not properly understood can have negative implications for diabetes health-care and treatment adherence (Schillinger et al. 2003, 83).

Health communication dictates HCP-patient relationships and needs to be interactive for the effective delivery of health-care. Language may be a barrier because of cultural diversity in health-care settings. Language barriers were noted in many studies conducted on diabetes management in Pakistan, India, and other Asian countries (Netto et al. 2010, 252; Osman and Curzio 2012, 31). Rockhill (1987) clearly points out in this regard that "literacy is power" and that communication needs to be in simple, understandable language to which patients can relate.

Levels of education can impact on language barriers. This point is elaborated on by Karliner, Perez-Stable, and Gildengorin (2004, 182) who note that language differences affect effective understanding of patients' symptoms as well as treatment options followed to ensure effective health-care for patients. Hugman (2009, 51) emphasises the importance of education in the health-care environment. Levels of education can negatively affect the HCP-patient relationship in respect of openness. This is clearly

demonstrated in the South African public health-care system where many patients who access public health-care facilities are generally from disadvantaged socioeconomic backgrounds and have received little or no formal education. Illiteracy is high in South Africa, and this adds to the anxiety of patients with regard to communicating effectively with HCPs (Mayosi et al. 2009, 1).

Wynia and Osborn (2010, 102) analysed how health literacy contributed to effective communication in medical settings. They found that if patients did not understand the message that was communicated to them, their levels of understanding were reduced and the essence was lost. Communication aimed at educating patients about health-related matters must be clear and patient-centred for it to be effective.

A form of effective communication that HCPs can utilise to educate and communicate with patients is that of "cognitive therapy." With this kind of intervention, HCPs can assist patients to focus on positive aspects so as to counter negative feelings patients may experience during the early stages after diagnosis of the disease. Illness can cognitively affect patients, which can lead to more ill health because of added stress or anxiety. This technique can therefore assist and improve health in diabetic patients (Reynolds 1996, 17–18).
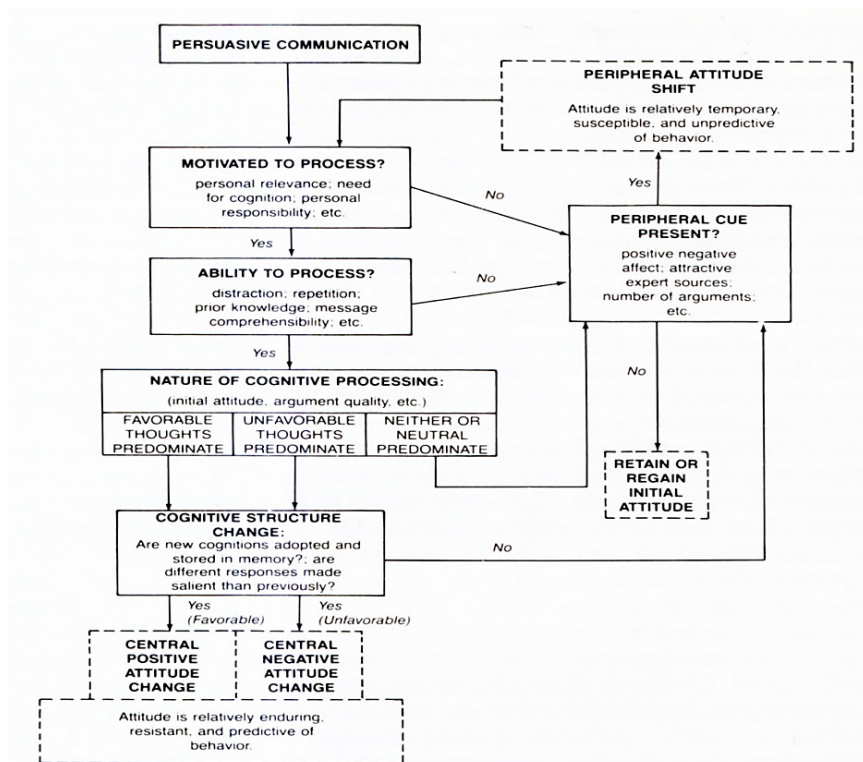

Figure 1:   The Elaboration Likelihood Model (ELM)

Source: Petty and Cacioppo (1981, 1986, 4)

The ELM is useful in explaining how patients alter their attitudes about their illness. Even though the theoretical framework of the ELM was developed from a socio-psychological perspective, it can be adapted to health communication since it is aimed at motivating and persuading patients to understand their illnesses effectively (Cottrell et al. 2015, 105–106). For the purposes of this article, the ELM was selected since the aspect of persuasive communication is at the core of contributing to effective communication in relation to patient care.

Research has indicated that health messages that are tailor-made to benefit individuals are far more effective in the health-care system compared to messages that are not part of the mental framework of the patient. A study conducted by Updegraff et al. (2007, 256) drew on the theoretical framework of the ELM to analyse "the effects of message quality and congruency on perceptions of tailored health communications." Findings from this study clearly indicate that if a message is specific for an individual and the individual sees the benefit, they will shift to elaboration likelihood and display a positive attitude change towards the cognitive message received. For effective health communication to occur, the HCP must address the concerns of the patient which, in this case, would be about being diagnosed with diabetes. If the HCP is effective in addressing the patient's concerns, he or she can enable the patient to mentally elaborate on the messages provided and thus adhere to diabetes medication. The ELM is structured towards enabling a flow of information for therapeutic benefit in the case of the individual who receives the persuasive communication from the counsellor (HCP).

Other useful concepts in the ELM refer to *cognitive processing* where patients experience either favourable, unfavourable, or neutral thoughts about the communication (information) provided (Petty and Cacioppo 1986, 4). *Cognitive structure change* refers to patients developing either a central positive attitude change or a central negative attitude change (Petty and Cacioppo 1986, 4). According to these researchers, *attitude* can be defined as general "evaluations" or assumptions that pre-existed cognitively in individuals about life in general; *influence* refers to "any change in these evaluations"; and *persuasion* refers specifically to "any change in attitudes that results from exposure to a communication." These concepts explain the tenets of the ELM and emphasise how effective communication can either favour positive or negative attitude change in patients. In the section below, various tenets of the ELM are discussed.

The Central and Peripheral Routes to Attitude Change

The ELM constitutes two main routes to attitude change—the central and the peripheral routes (see Table 1). Both routes hold different end solutions for the recipient of persuasive communication. Both routes either benefit or do not benefit long-term attitude change.

Table 1:   Summary of the differences between the central and peripheral routes to
attitude change

Central route to attitude change	Peripheral route to attitude change
• The topic (communication) is favourably processed.	• The topic (communication) is unfavourably processed ("attitude change is based on associations with positive or negative cues").
• Persuasive communication occurs when the patient is able to process the logic behind the arguments put forward through the communication.	• Persuasive communication is lost and attitude shifts back to the initial negative framework.
• Elaboration likelihood is high and is favoured in this route.	• Elaboration likelihood is low and is less favoured in this route.

Source: Petty and Brinol (2012, 232–235)

Motivation to Process the Communication

In order for communication to be persuasive, patients must thoughtfully consider that which is communicated to them. This implies that the communication must be of "personal relevance" to them in order for them to at least want to give some thought to changing or altering their attitudes positively for long-term adherence.

Patients must be motivated towards a need for cognition, a process that challenges them mentally to make an effort by thinking about and considering the communication received. Patients then need to see benefits and must want to alter their attitude positively (Petty and Wegener 1999, 43). In these instances, HCPs play a vital role since they need to be able to consider the patient and motivate them accordingly. Parry et al. (2006, 105) clearly illustrate that communication from the HCP's perspective is not always fully understood by the patient.

Ability to Process the Communication

In order for communication to be effective, it is not enough for a patient to be motivated to make sense of the communicated message. The patient should also be able to process and understand the communicated message for it to be effective in changing attitudes. Heesacker and Shanbhag (2002, 312) add that "several factors can alter a person's ability to think about the topic and message, such as individual experiences, intelligence, distraction, and message comprehensibility." The individual must be able to decode and understand the message provided by the HCP. The message must therefore be communicated in simple, understandable language to the recipient.

The Nature of Cognitive Processing

Cognitive processing ability differs from patient to patient. Patients must be able to understand the communication received and be persuaded by it in order for them to be able to debate and form or create cognitive arguments about the communication. This will then enable patients to create either more favourable thoughts or more unfavourable thoughts than before, and this choice will either create a positive attitude change or enable the patients to retain their initial attitude (Petty and Brinol 2012, 231). This means that the ELM posits that the patient must first be able to understand the message in an individual sense (interpersonally) in order to be able to actively engage with the topic and shift towards a positive attitude change.

Cognitive Structure Change

This tenet dictates that cognitive structural change must occur mentally in the patient in order for the change in attitude to be successful. If negative thoughts about the communication received are stored in the patient's memory, the patient will follow the peripheral attitude route and, in the context of this article, treatment for diabetes will be ineffective (Petty and Brinol 2012, 229).

Enduring Central Positive or Negative Attitude Change

A central positive attitude change results from a favourable understanding (by the patient) of the communication received from the HCP. Patients are effectively persuaded when favourable thoughts are stored in their memory, thus causing an attitude change to take place. Behavioural change is thus positively influenced in patients. Central negative attitude change occurs when the communication received cognitively creates negative thoughts in patients, and their attitude and behavioural change is unfavourable (Cottrell et al. 2015, 107). When attitude change is positive, health-care for the diabetic patient will be favourable compared to negative attitude change, which will affect the patient's health-care negatively.

Peripheral Route Processing

This route results in an unfavourable, negative attitude change in an individual, which is not in their best interest considering the health situation they are faced with. If patients are not motivated to see the benefit in the message the HCP communicates to them, they will retain their mental or cognitive state and develop a negative attitude towards the topic concerned (Petty and Brinol 2012, 231–233).

Peripheral Attitude Shift

This tenet explains what happens when patients experience a temporary attitude change that lasts for a short time. If patients are not persuaded by the message sent from the HCP, the impact is lost and they will retain their initial attitude. Patients will not benefit much in this case because the therapeutic benefit will be lost, since elaboration likelihood will be low and a peripheral attitude shift will occur (Heesacker and Shanbhag 2002, 317).

Retaining or Regaining Initial Attitude

This tenet explains what happens when no change occurs in the individual, and neither the central nor the peripheral route towards attitude change occurs. Individuals revert to their initial way of thinking. Patients see no benefit in altering their mental cognition in favour of the message provided. Behaviour change does not occur and patients go back to their initial way of thinking. According to Heesacker and Shanbhag (2002, 317), individuals are likely to retain their initial attitude because of reasons such as not being motivated enough by the HCP and thus being unable to see the benefit of their behaviour change. The inability to store positive thoughts from the message received in their mental cognition results in patients going back to their initial attitude/mindset.

METHODOLOGY

Case Study Research Design

According to Yin (2014, 4), a case study approach is used when one needs to conduct an in-depth analysis in order to understand a particular social phenomenon such as the analysis of communication dynamics at a specific clinic. Yin (2014, 17) indicates that a case study adds value to an overall study for the following reasons:

- It copes with a technically distinctive situation in which there are many more variables of interest than data points.
- It relies on multiple sources of evidence, with data needing to converge in a triangulated fashion.
- It benefits from the prior development of theoretical propositions to guide data collection and analysis.

Data Collection Methods

Multiple data collection methods—which included a semi-structured interview schedule and a non-participant observation schedule, and documentation evaluation—were used to collect data at the clinic.

Geographical Location of the Research Site: Stanger Hospital

The research was conducted at the Stanger Hospital's diabetes clinic. The hospital is located in central Stanger, an urban area surrounded by many rural areas. Stanger is a small but developed town with only one public hospital but many clinics in the surrounding areas.

Sampling Procedures

Purposive sampling was used to recruit patients for the study. Patients needed to fit certain inclusion criteria: population characteristics included being diabetic, receiving treatment, being 18 years or older, and speaking English. Neuman (2007, 142) indicates that purposive sampling needs to be used in a situation where the researcher has a specific purpose in mind and thus exercises judgment in selecting cases.

Data Analysis Method

Data analysis was done using the eight steps of Tesch (1990, as cited in Poggenpoel 1998, 343–344). These steps are: read and obtain a sense of the data; read and summarise the core focus of the data after reading a few interviews; create topics; develop codes; list and describe themes and topics accordingly; place the codes in alphabetical order; list categories; and start analysing. If there is a need, the researcher should re-code.

Validation of the Data: Triangulation Processes

According to Du Plooy (2009, 40), "the combination of two or more data collection methods, and reference to multiple sources of information to obtain data, is generally referred to as triangulation." In qualitative research, triangulation is used to ensure that data credibility is maintained.

Method triangulation, triangulation of sources, and theory/perspective triangulation were used to validate findings. In terms of method triangulation and triangulation of sources, three data collection methods were used to verify data, namely observation, in-depth interviews, and documentation. Data collected from the observations (journal notes) were cross-checked with the transcriptions (data collected from in-depth interviews with patients), and were finally verified against patient documentation (patient records) plus diabetes educational material to ensure that credible data were collected during the fieldwork process.

RESEARCH FINDINGS

Sources of Communication Consulted to Facilitate the Patients' Understanding of Diabetes

In summary, persuasive communication can either entail a positive or a negative attitude change in individual patients receiving health-care intervention for diabetes. In accordance with the ELM, patients at the diabetes clinic adopted a *process-oriented* approach after receiving communication relating to their illness from their HCPs. After communication, patients need to cognitively absorb the communication positively in order to work towards maintaining treatment adherence. However, if a negative attitude change occurs, patients follow the *central negative attitude change* route and will cognitively retain their initial negative attitude towards the illness. As a result, treatment adherence will be lost and patients will become negligent. At the diabetes clinic, HCPs used specific messages created specifically for diabetes health-care. These included informative brochures, pamphlets, magazines, and posters. Research indicates that tailor-made messages are more beneficial to individual health-care (Koh et al. 2013, 357; Updegraff et al. 2007, 256).

Individual patients see benefits in specific messages and thus elaboration likelihood is high and a positive attitude change occurs towards treatment adherence. HCPs have the ability to provide therapeutic communication to patients to ensure that effective health-care is achieved. Interactive health communication between HCPs and patients can ensure that a positive attitude change occurs in patients. ELM theory states that persuasive communication must be sent from the receiver, who, for the purpose of this study, is the HCP, to the patient. The patient must then be mentally challenged so that a positive attitude change can occur in order for treatment adherence to be maintained.

The findings showed that sources of communication emerged in two broad sub-themes, namely HCPs as a source of persuasive communication and the media as a source of persuasive communication. These sources facilitated patients' understanding of diabetes, which can be verified by the verbatim quotations presented below. Patients indicated that their major source of information on diabetes was the HCPs at the clinic who made use of interactive health communication sessions. Media sources such as television, radio, magazines, brochures, and books were also accessed by patients in order to further educate themselves on diabetes as an illness. However, Ria, Betty, Isaac, and Moses (code names were used for participants in the study) had received all their diabetes information from staff members (HCPs) at the clinic only, indicating that four of the 15 patients had built their knowledge about diabetes solely on what staff at the clinic had communicated.

HCPs as a Source of Persuasive Communication

Ria, Betty, Isaac, and Moses had received only persuasive communication from HCPs at the clinic, whereas Howard and MJ had sourced information on diabetes from both the HCPs at the clinic and the media.

> Ria: They teach us here at the clinic—I have no book on how … what I need to do, how to do it, like exercise and all, I learn from the clinic.
>
> Betty: I learn everything at the clinic only.
>
> Isaac: No, honestly, I have not read anything, not even the Internet; my major source of information is the clinic only.
>
> Moses: I only use the hospital material, no other material at all.

Howard and MJ had received their information on diabetes from both the HCPs at the clinic and the media:

> Howard: Doctor, nurses, clinic, brochures, and the pictures help.
>
> MJ: Internet, health sections in magazines, the staff at the clinic—new things you learn every day.

The Media as a Source of Persuasive Communication

Stefan, Kevin, Ruby, Mo, Sarah, Vivian, and Howard's major source of information on diabetes had been the media. The media educates patients on diabetes as an illness in general. Theoretically, information produced in the public domain in relation to diabetes is in line with diabetes education and treatment adherence measures as approved by the public health-care system. This information on the illness formed part of the documentation analysed and is available at public health-care facilities in the form of brochures, booklets, and magazines.

> Stefan: I read magazines, anything I read to learn more on diabetes.
>
> Kevin: I read magazines, watch television talk-shows about diabetes; the company I work for has a company doctor, so he helps me; he gives me pamphlets every month.
>
> Ruby: No, we read about diabetes, see television at our houses. It gives a lot of information about diabetes.
>
> Mo: Sometimes I listen to the radio, Ukozi FM—especially I call in the show and speak to the sister on the air.
>
> Sarah: Listening to the radio; the doctors speak on, well, every sickness, but you learn from listening to the radio.
>
> Vivian: I got a booklet for diabetes, plenty of information about exercise, how to control your diabetes, and I use the television and radio for sources of information.
>
> Harry: I mostly listen to the radio and watch the television screen.

Frans was the only patient who mentioned that he had no sources of information owing to the fear and denial he experienced in relation to accepting his diabetes diagnosis. He had been completely non-adherent and had thus refused to go to the clinic or to source the media for information. Frans decided to return to treatment after a sore developed on his leg. This was a first step towards sourcing information again. He explained this as follows:

> Frans: I don't have any sources really, because I have not been in a position to get into the nitty-gritty of everything. I changed my mind to get into everything now, because of the sore on my leg—it's a wake-up call for me. I will now source more information, because now I am prepared to change.

Priya made an interesting comment relating to her source of information. She was the only patient who indicated that she sourced her information from fellow diabetic patients she had met and befriended at the clinic:

> Priya: I get my information from everywhere. If I come to the hospital, or meet another diabetic patient, I ask about the illness and we speak; that is how I build up knowledge. If it is not my day to visit the clinic, I ask them questions and they help me.

The clinic encourages the role of support groups. Patients are encouraged to join and receive support from fellow diabetics in relation to coping with their illness. This is emphasised in the diabetic education material booklet which was analysed. The "Diabetes and You" booklet, which discusses Lindiwe's story, illustrates how she joined the Diabetes South Africa support group at the clinic (Diabetes South Africa 2000, 14).

Diabetes South Africa is a non-profit organisation that was founded in 1969 to assist and support patients diagnosed as diabetic. Diabetes South Africa interactively communicates with diabetes societies in aiming to educate and inform them on the illness. Interactive communication occurs in the form of support groups, informative literature (such as brochures, booklets, and comic books, among other forms of literature), and the use of HCPs to educate and update societies and diabetic patients on the illness and treatment options available. The question of support is emphasised by the association. The association's primary aim is to provide information and education on diabetes as an illness. The association emphasises education through communication to ensure effective patient care. Hence, literature is produced and disseminated for educational purposes.

Communication Resources

The researcher observed the different communication tools used by nurses at the clinic to educate patients on diabetes. For example, during sessions at the clinic the staff nurse referred to a brochure titled "Diabetes Education: Foot Care" when explaining to patients how diabetes affected the foot. The nurse would then explain foot care to

patients by showing them how to wash their feet and check their feet for any sores, and telling them what type of shoes to wear. The nurse also provided this educational material to patients so that they could further educate themselves about diabetes at home or in their free time.

The nurse provided the researcher with examples of the educational material used at the clinic. This material formed the sample for the documentation analysis. The material was available in both English and isiZulu, the latter being the predominant language in KwaZulu-Natal. These materials were provided by the national Department of Health to help educate clinic patients about diabetes as an illness.

The researcher was able to observe how the nurses used these booklets to educate patients. The clinic was a neat and colourful place and this contributed to the welcoming atmosphere. The clinic was an excellent source of information as posters had been put up throughout the building to educate patients on diabetes. The researcher noted in her journal how the nurses used posters and brochures and booklets to "show and tell" what diabetes as a disease entailed, what its side-effects were and how to take care of oneself as a diabetic patient.

The researcher was given permission to take a few photographs to show the communicative display at the clinic (see figures 2 to 5 below). Information on these displays formed part of the researcher's journal notes.

Sources of Communication Found at the Diabetes Clinic: Poster Communication

A brief description is given of the posters displayed at the clinic (photos of which are presented below).

Poster 1 (Figure 2) contains information on diabetes retinopathy and shows the different stages of eye deterioration in diabetes.

Poster 2 (Figure 3) is a collection of posters containing information on diabetes as an illness, including how to treat hypoglycaemia, and the different steps a patient needs to follow to treat the diabetes condition. It also provides information on the healthy diet that a diabetic patient needs to follow and the symptoms of diabetes. Other posters provide education on diabetes, such as where to inject insulin on the body and other general information on diabetes.

Poster 3 (Figure 4) provides information on how diabetics can maintain a healthy lifestyle by eating healthily and exercising.

Poster 4 (Figure 5) emphasises the severity of diabetes as an illness, since "diabetes kills one person every eight seconds." This poster indicates the reality of diabetes as a life-threatening illness that can kill if it goes untreated. It was observed that nurses used Poster 5 (Figure 6) when individual patients' eye tests were conducted at the clinic. Blindness is a harsh condition related to diabetes. The nurses ensured that they tested the eyes of diabetic patients since many patients could go blind from the disease. The

researcher included these photographs to indicate how communicative tools were used to show patients what diabetes as an illness entailed, its symptoms and complications.
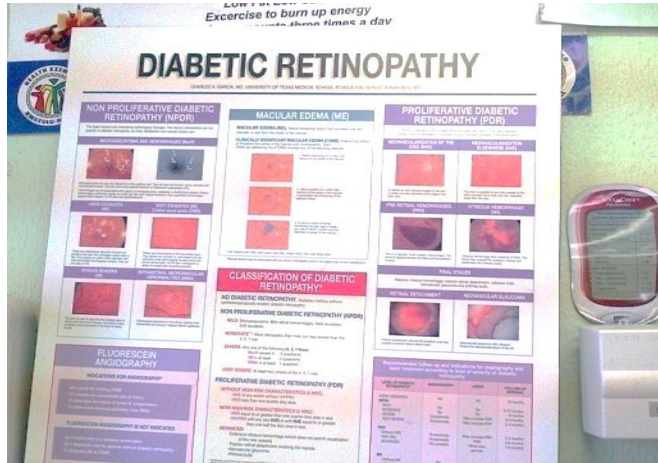

Figure 2:   Poster 1: Diabetic retinopathy
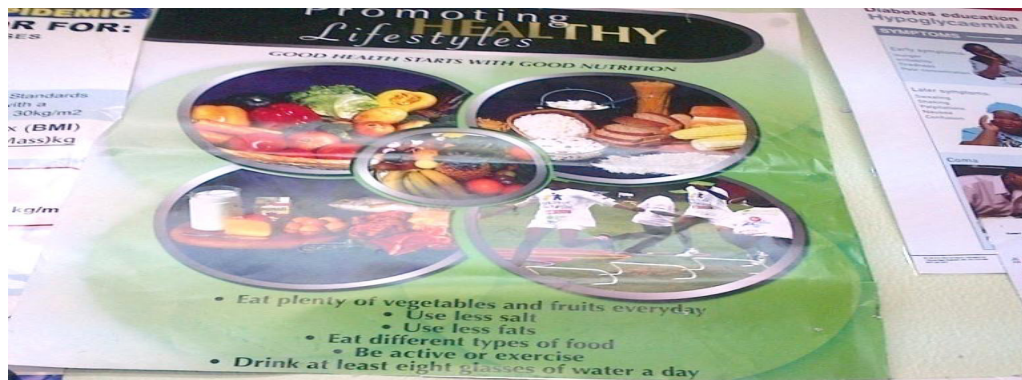

Figure 3:   Poster 2: Diabetes education

Figure 4:   Poster 3: Lifestyle changes—how to eat healthily

Figure 5:   Poster 4: The reality—deadly effects of diabetes

Figure 6:   Poster 5: Eye test sheet used to test diabetic patients' eyesight

Source: Photographs taken by author with the clinic's permission.

CONCLUSION

This paper aimed to address how literacy and persuasive communication affected effective communication at the diabetes clinic selected for the study. Different sources of communication such as HCPs, posters, brochures, booklets, as well as the media, emerged as sources that facilitated persuasive communication in relation to diabetes education and patient care at the clinic. The researcher found that interactive health communication was required between the HCP and the patient during the treatment and care of diabetes as an illness.

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