PATIENT SATISFACTION WITH PHYSIOTHERAPY SERVICES FOR LOW BACK PAIN AT SELECTED HOSPITALS IN KENYA

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Thesis submitted in fulfillment of the requirements for the degree of

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in the Faculty of Community and Health Sciences in the Department of Physiotherapy at the University of the Western Cape.

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NOVEMBER 2005
Declaration

I declare that “Patient satisfaction with physiotherapy services for low back pain at selected hospitals in Kenya” is my own work and that all the sources used or quoted have been indicated and acknowledged by means of complete references.

Signed…………………………………………………………………………………..

Date……………………………………………………………………………………..
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ABSTRACT

Patient satisfaction is one of the indicators of the quality of care being given to the users of a service. It can also be used as benchmarks for ensuring the delivery of quality physiotherapy services in health facilities. Physiotherapists have been involved in treatment of persons suffering from low back pain (LBP) for decades. Treatment approaches are varied, but all have the common goals of pain relief, rehabilitation, and prevention of recurrence of LBP. The purpose of this study was to investigate the satisfaction of LBP sufferers with the physiotherapy services they receive. The study was carried out in selected public hospitals in Nairobi and the Central Province (C.P.) in Kenya. A cross-sectional study design utilising both qualitative and quantitative research methods was chosen. For the quantitative component of the study a self-administered four point Likert Scale questionnaire was administered to collect information on patient satisfaction, using a convenient sample of 201 back pain sufferers. This was followed by face-to-face interviews with nine of the subjects for the qualitative component in order to solicit in-depth responses on aspects such as quality of life before and after physiotherapy intervention for their LBP in relation to patient satisfaction. Interviews were tape-recorded and transcribed verbatim. Descriptive and inferential statistical data analyses were carried out on the quantitative data using the Spearman correlation coefficient at $p = 0.01$. The interviews were analysed under categories and themes. Ethical considerations pertaining to confidentiality of information, anonymity of participants, voluntary participation and their right to withdrawal from the study were upheld. The results demonstrated that patients were generally satisfied with the physiotherapy service for LBP and they rated their level of satisfaction as high. The domains in which subjects were tested for satisfaction were physiotherapist-patient interaction, professionalism of service, the treatment environment and compliance with treatment. These domains were significantly associated with patient satisfaction at $p$ value $< 0.01$. The participants in the
study reported that the physiotherapy they received for their LBP had a beneficial effect on their quality of life. Although the survey results indicated that patients were satisfied with physiotherapy service for LBP, it is **recommended** that patient satisfaction surveys be an ongoing process. The feedback from the patients should be considered to further improve the services based on their comments. Based on the results of the study the physiotherapy departments of the selected hospitals should be encouraged to market their services. Health promotion initiatives for healthy backs and marketing of the role of the physiotherapist in the management of back pain should be undertaken by the physiotherapy profession in the country.
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J: Clearance letter from Provincial Medical Officer
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L: Introduction letter from the Chief physiotherapist
M: Confirmation letter from KNH that LBP is the common condition treated there
N: Proof of presence of strike during data collection
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ABBREVIATIONS USED IN THE THESIS.

CME         Continued Medical Education
CP          Central Province
CSP         Chartered Society of Physiotherapists
CT          Computed Tomography
GDP         Gross Domestic Product
KNH         Kenyatta National Hospital
MDH         Mbagathi District Hospital
DEFINITION OF TERMS

PATIENT SATISFACTION: This is patients’ perception towards the service or product in terms of meeting or exceeding their level of expectations (Lamb et al 2004: 5-7).

PATIENT COMPLIANCE: This is a term used to describe the level at which the patients continues with the treatment program as recommended by the care provider (Ferri, Brooks & Goldstein 1998; Harrison & Hong 2003).

TREATMENT GOAL: Treatment goal is a measurable target level of function that the patient would achieve within a stipulated time period (Riddle, Rothstein & Echternach 2003).

PHYSIOTHERAPIST: This is a trained professional who uses physical approaches to promote, maintain and restore physical, psychological and social well-being of a person.
taking account of variations in the health status (Porter 2005:288). Their physical approaches also prevent occurrence or recurrence of old injuries (Kent 2001).

PATIENT: This refers to a person who is receiving medical treatment in a hospital (Crowther 1997:849).

SUFFERER: This refers to a person who suffers especially from an illness (Crowther 1997:1195).

CUSTOMER: A customer is a regular user of a product (Naumann & Giel 1995: 192).

CLIENT: A person who uses the services of a professional person (Crowther 1997: 208).
CHAPTER ONE
INTRODUCTION

1.1 Introduction

This study was undertaken to investigate whether patients are satisfied with physiotherapy service for their LBP at selected hospitals in Kenya. Low back pain (LBP) is one of the most common health problems affecting people (Glaser, Lee, & Fehr 2005). McKenzie (1989) and Glaser, Lee and Fehr (2005) state that every person will at least once in his or her lifetime suffer from LBP. Mathew et al (1988) in Cook and Hassenkamp (2000) indicated that 90% of these patients recover spontaneously during their first experience of acute LBP but some of them experience recurrences which become increasingly severe. It is this group which poses challenges to the health services in terms of costs to society, disability and the presence of distress to the patient.

Physiotherapists have been involved in the treatment of persons suffering from LBP for decades using various approaches in order to obtain pain relief and restore function. This study was conducted within the framework of the rights of the patient to quality health care (according to May 2001), patient satisfaction with health services and quality of life. These will be elaborated on in the review of the literature.

Health services, whether public or private, should be managed along sound business practices. Customers are concerned with the quality of services or products and their costs (Naumann & Giel 1995). According to Gummesson (2002) product supplying companies should provide an environment with a mutually satisfying exchange
relationship between them and the customer’s. In this case, both parties increase value for each other and this would result into sustainable partnerships. Gummesson further concluded that customers get satisfaction when they receive services or products equal to the value of their money. Delivery of high-quality, cost-effective healthcare services have increasingly become a focus of policy-makers, clinicians, insurance carriers and patient advocacy groups (Thomas, Witt, Lopez-Jimenez, King & Squires 2005). In order to deliver such care, assessment of patient satisfaction with health care services should be an ongoing process. Both formal and informal methods of the data collection can be used aiming at identifying the needs of the client or customer (Lamb, Haire, MacDaniel, Boshoff & Terblanche 2004). The feedback received from the clients could be used to further improve and develop the services by taking action where specific comments have been made (MacLeod, Bruce & Bell 1999). When such action has been taken it improves patient satisfaction which has been seen to influence other outcomes of the health care (May 2001). When clients are dissatisfied with the service or product, they spread negative information and complain to others. This influences them to change to the services or products of competitors resulting in a heavy loss to the organization. On the other hand, satisfied clients tend to recommend the services or products of those organizations to other people who finally become new clients of those firms (Lamb et al 2004). In a hospital set-up when patients are discharged fully satisfied with the service they had received, it influences them to seek future care from the same health facilities (Boshoff & Gray 2004).

1.2 Background of the study

In the United States of America (U.S.A.), LBP is amongst the top ten reasons for people to visit their physicians (Bratton 1999). However, according to Patel and
Ogle (2000) acute LBP is the fifth highest ailment causing patients to visit their physicians in the U.S.A. An almost similar scenario is reported in the United Kingdom (U.K) where 1.1 million people from the age of fifteen years and above consult their physicians once a year due to LBP. According to Moore (2005) in the UK people mostly affected by LBP are those doing manual work especially where lifting is involved. In developing countries not much is known about LBP since the data is scant (Galukande, Muwazi, & Mugisa, 2005). However, in Kenya Muruka (1999) found that 64% of the tea pickers were suffering from back pain. Of these people, 29% had a history of back pain before they started picking tea. The same researcher concluded that 35% of these workers developed back pain due to occupational exposure to tea picking. Low back pain is mostly the cause of disabilities among those working in industries. Considering the fact that 13.2 million working man days are lost annually in the UK due to absenteeism caused by LBP, this may have a negative effect on the productivity of industries (McKenzie 1989; Sparkes 2005). When patients benefit from the physiotherapy they receive for their LBP, it may reduce the frequency of absenteeism among workers with LBP and improve their productivity.

One third of all the disability costs in the U.S.A. is due to LBP disorders (Bratton 1999). It is estimated that the direct costs of health care for LBP in the U.S.A is $20 billion annually. This amount increases to $50 billion annually when one includes the indirect costs (Patel and Ogle 2000). The latter refers to the cost to the economy in terms of lost work hours and loss of productivity due to absenteeism from work. The situation is no better in Canada where the treatment cost of musculoskeletal disorders is similar to the cost of cancer related diseases. This cost can further be
translated to 2% of the total disability cost which is estimated as 31.9% of the gross national product annually (Clarke 2000). In the UK, the cost met by the NHS due to LBP is £481 million annually and is a cause for concern. This figure is further inflated by the cost of individual private consultation (£197 million) and the loss due to non-performance (£3.8 billion) caused by this disability (Moore 2005).

Other countries spend a lot of money on general health care for their people. According to the 2001 report of the United Nations Developmental Program, South Africa spends 8.8% of its Gross Domestic Product on health care (Luiz & Wessels 2004). Despite the heavy funding towards health care, the resources are still outstretched by the rising health needs and demands of the South African people (Bithell 2000).

In Kenya the general health expenditure was 18.8 billion Kenya shillings for the financial year between July 2004 and June 2005 which is equivalent to 7% of the country’s national budget. It is expected that this budget will be increased to 8% for the financial year July 2005 to June 2006. However, this is still below the World Health Organization (W.H.O) recommendation of 15% of the country’s national budget (Daily Nation 19/04/2005). According to the minister for planning in Kenya the health budget will be increased due to the high demand for health facilities. The national budget will be tailored to address the poverty reduction strategies where health is one of the sectors considered as one way of fighting this problem (The Standard 05/05/2005).
Ehrmann-Feldman, Rossignol, Abenhaim and Gobeille (1996) argued that with the escalating health care cost, there is a need for effective and efficient patient management. According to May (2001) effective patient care may increase their level of satisfaction with the service which has been found to be associated with compliance with the treatment. Bratton (1999) had concluded that, effective diagnoses and management of LBP can lead to substantial savings of health care resources and relieve the suffering of many people. Thus, the health care providers should ensure that the patients benefit from the physiotherapy service they render for LBP sufferers. Therefore, the use of patient satisfaction surveys could be one way of monitoring the quality of the health care.

1.3 Motivation for the study

The researcher has been a practicing physiotherapist at the KNH for approximately 20 years. He has been involved in the treatment of patients with various problems of which LBP was prevalent. Some patients returned with recurrent LBP while a few failed to complete their treatment program. Considering the burden of LBP to the economy of the countries and individuals who suffer from this ailment, the researcher identified the need to investigate whether patients are satisfied with the physiotherapy services they receive for their LBP.

1.4 Problem statement

Doctors usually refer persons with LBP for treatment by physiotherapists who use a variety of interventions. The selection of interventions seems to depend on the knowledge, skills and personal preferences of the physiotherapist. In the
physiotherapy departments of Kenyatta National Hospital and of other selected hospitals in C.P in Kenya, patients suffering from LBP are treated by physiotherapists (Appendix L and M). It is not known whether patients receiving physiotherapy for LBP at these hospitals are satisfied with the physiotherapy services. Physiotherapists are increasingly challenged by the service consumers to provide evidence for best practice considering the cost of treatment to the individual, tax payer and health insurance funder. Equally important is the satisfaction of patients because they expect value for their money, time and effort to attend for treatment. In addition, patients also expect to benefit from the physiotherapy service to improve their quality of life. It is within this context that the following research questions and hypothesis were formulated.

1.5 Research questions

Since patient satisfaction is one of the indicators that can be used to evaluate the quality of the service the following two research questions have been formulated:

1. How satisfied are LBP sufferers with the physiotherapy service they receive at hospitals in Kenya?

2. What is the impact of physiotherapy on the quality of life of LBP sufferers who received physiotherapy in Kenya?

1.6 Aim of the study

The main aim of the study was to investigate whether patients were satisfied with the physiotherapy service they received for their LBP at hospitals in Kenya and its impact on their quality of life. This will assist in establishing an understanding as to
whether the physiotherapy service for LBP meets the expectations of the service consumer in this country.

1.7 Study objectives

In order to achieve the aim of the study, the following objectives were formulated namely:

1. To determine the level of satisfaction of LBP sufferers with physiotherapy service in Kenya.
2. To identify the factors that affect patient satisfaction with physiotherapy for LBP.
3. To identify the impact of physiotherapy on the quality of life of the patients with LBP.
4. To identify patient compliance with the physiotherapy program for their LBP.
5. To identify associations between factors affecting satisfaction namely patient-physiotherapist interaction, professionalism of service, clinical environment and patient compliance with treatment.

1.8 Hypotheses

1. Patients are generally satisfied with the quality of physiotherapy they received for their LBP at the hospitals selected for the study in Kenya.

2. Physiotherapy interventions have a positive effect on the quality of life of persons suffering from LBP.
1.9   **Significance and Rationale for the study**

This study will provide information which may form a link of understanding between the hospital management and the service consumers based on the latter’s experience and perceptions of physiotherapy for their LBP. Hence, its outcome may serve as a basis for management to ensuring cost effective, efficient and quality physiotherapy services offered at their hospitals. According to Sparkes (2005) this could lead to ongoing improvement of the services offered by the physiotherapists. The same author argues that such investigations could serve as a learning tool for an individual care provider or the department as it may highlight the needs in terms of training, staff development and service rendering. The outcome of this study could also be one step in the direction of evidence-based physiotherapy practice.

1.10   **Summary of the chapter**

In chapter one the background to the research topic was presented. Business principles with regard to client satisfaction were highlighted. These can also apply to physiotherapy service for LBP. The impact of LBP was also highlighted. The study motivation, particularly from Kenya where the study was carried out, was further discussed. The problem statement, research questions, aim of the study, hypothesis and the study objectives were stated.

1.11   **Overview of the main thesis**

There are five more chapters; chapter two is the literature review which explores the principles and concepts related to patient/ client satisfaction in health services and
business. It will also examine the biomedical and psychosocial aspects of LBP within the context of patient satisfaction and the quality of life of LBP sufferers. Chapter three will describe how the research was carried out and data handling. In chapter four the results are described and interpreted. The discussion of the results in chapter five will be presented in relation to literature. Chapter six will present the conclusions of the study and give recommendations arising from the results of the study.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

Numerous studies have been carried out on patient satisfaction in various sectors of the health services. However, the focus of this study is to investigate whether patients get satisfaction from physiotherapy for LBP. The review of the literature will be undertaken within the context of patient/client satisfaction and the quality of life of LBP sufferers. The biomedical and biopsychosocial aspects of LBP will also be highlighted.

2.2 Patient or Client Satisfaction

Satisfaction is defined as the patient/client perception towards the service or product in terms of meeting or even exceeding their expectations (Lamb et al 2004). Satisfaction is an outcome measure (May 2001). Beattie, Pinto, Nelson and Nelson (2002) elaborated on the difference between patient satisfaction with outcome and their satisfaction with the care. The researchers indicated that the former relates to the results of the treatment that the patients have received while the latter focuses on their satisfaction with the services that they have received. In order to achieve the satisfaction most of the patients’ concerns evolve around health care facilities like access, cost of the treatment and treatment time. The rest of their concerns are bureaucracy involved and the quality of clinician/patient interaction. Those suffering from LBP are more concerned with empathy from the clinicians, skills of the providers and getting enough information which will assist them in understanding their back problem, prognosis and self care. This may increase the patients’ level of
satisfaction which has been seen to correlate moderately with the treatment compliance (May 2001).

A study by Potter, Gordon and Hamer (2003) on physiotherapists and patients aiming at identifying the perceptions of the physiotherapists on the patients’ needs and the expectations the patients had from the physiotherapists. Three common themes emerged namely; physical needs, communication and behavioral needs. Under the behavioral theme, the physiotherapists indicated that they expected the patients to participate in their rehabilitation. Similar expectation was echoed by the patient who indicated that they expected the physiotherapists to provide them with self-care management strategies. Pertaining to the communication theme, the majority of the physiotherapists and patients concurred that it was important for the physiotherapists to provide diagnostic and prognostic information to the patients, liaise with other treatment providers and give appropriate explanations to the patients about their injuries and treatment. Finally, under the physical needs the physiotherapists identified the patients’ expectation as need to have symptomatic pain relief and provision of clean and comfortable treatment facilities, but contrary to that, the patients expected self management exercise from the physiotherapists.

A study by Beattie et al (2002) found that patients were less concerned with non-clinical issues like location of the health facility, equipments and parking areas for their vehicles. However, this contradicts the findings of Roush and Sonstroem (1999) who indicated that patient satisfaction in physiotherapy out patient clinics has been seen to be influenced by non-clinical issues.
The rehabilitation team utilises most of their time and energy assisting persons with impairment and disability to become independent. However, a clear understanding between the physiotherapist and the patient is necessary before the start of the rehabilitation process (Watson 2004). The intervention should focus on the individual and not the diagnosis only. Through this all the aspects of the patient’s problem will be taken into account (Metcalfé & Klaber Moffett 2005). This gives them hope for the outcome, especially when they take control of their own lives and circumstances that may lead to a better life (Watson 2004). This explains why patients believe that explanations and cure of their problems lie with the health professionals. They tend to accept information and instructions from these professionals as being correct. The interventions of this team further give them hope to resume working (Cook & Hassenkamp 2000). This stresses the need for an immediate intervention after the onset of the problem to prevent the loss of function and permanent impairment (Watson 2004). This may explain the reason why some of them relate their improvement to physiotherapy interventions (Cook & Hassenkamp 2000; Klaber Moffett & Richardson 1997)

Cook and Hassenkamp (2000) pointed out that interaction between the patient and the physiotherapist encourages individualised care. Tread (2000) added that the interaction between the care provider and the patient may lead to better communication and sustainable treatment outcome. This outcome is important since patients who associate their improvement to their own effort are more likely to maintain program adherence (Painting, Favarin & Swales 1998). The patients who are prepared in advance to be involved in their treatment may collaborate well with the physiotherapist throughout the period of intervention. This may enhance
development of physiotherapist-patient relationship (Baker, Marshak, Rice & Zimmerman 2001) which is an important factor in decision making process for the patient to comply with the exercise program (Osmotherly & Higginbotham 2004). In some cases, patients’ perception on the benefits of treatment has been found to be influenced by their predetermined expectations. This may have its side effects where the patients believe that their problems are worse; this perception may reduce their expectations of improvement and may reduce the motivation to manage their own problems (Metcalf & Klaber Moffett 2005). However, Ferri, Brooks and Goldstein (1998) had indicated that patients’ personal beliefs concerning effectiveness of the treatment are significant in determining their treatment compliance.

2.2.1 Factors influencing patient satisfaction

There are factors which affects patient satisfaction while others enable it. Such factors are discussed below;

2.2.1.1 Sources of patient dissatisfaction

Various studies have been done to identify the factors which affect patient satisfaction. According to May (2001) areas frequently identified as the source of patient dissatisfaction include; lack of adequate explanation of the problem by the care providers, low understanding of what is wrong by the patients and the amount of time spent by the physiotherapists with them. The lack of provision of continuity of care and attending to the patients’ psychological needs were other source of their dissatisfaction with the service. Feigenbaum (2000) indicated that the most common cause of dissatisfaction among patients is associated with poor service or receiving inadequate care from the physicians or their staff. A study by Cook and Hassenkamp
(2000) indicated that twenty five percent of the patients were found to abscond from their exercise program citing reasons like, lack of time, failure of the exercise program to fit in their daily programs and lack of feedback from the care providers. May (2002) indicated that it is important to assess the expectations of the patients from the physiotherapists before measuring their satisfaction level, those with low expectations are likely to score high level of satisfaction.

Other factors like availability of parking, distance to a physiotherapy facility and financial value influence patient satisfaction. Two reasons may explain this; first, patients may convince themselves that, physiotherapy facilities provide similar level of care and hence there is no reason for traveling long distances. Secondly, they may asses the financial implications and the achieved benefits based on the many visits the patient has to make to a physiotherapy facility for treatment (Roush & Sonstroem 1999).

2.2.1.2 Factors enabling patient satisfaction

Various factors have been found to correlate with the patients satisfaction; some of them include; adherence to the treatment program, self rated improvement and reduced desire to seek additional diagnostic tests (May 2001). Recently, Boshoff and Gray (2004) found that health providers, who are cheerful, and demonstrate kindness to the patients, can win their satisfaction. Further, care providers who are courteous, highly skilled and prompt in their services, have been found to satisfy the needs of the patients better. Such patients are more likely to return for future care to the health facilities with such care providers.
According to Beattie et al (2002) and Beattie et al (2005a) there is strong relationship between patient satisfaction and the quality of the therapist-patient interaction. This is on the basis of the adequate time spent by the physiotherapist with the patient and demonstrating concerns when listening to them. Further, the researchers pointed out that when the care provider has good communication skills and provides clear explanation of the treatment it is an added advantage towards the patient satisfaction with the service. Later, Beattie et al (2005a) found that overall patient satisfaction was more related to the degree at which physiotherapists answered the patients’ questions and the respect they give them during the care. The same researchers found that patients acknowledged the value of their interaction with the physiotherapist especially when they discussed relevant information related to their problems with them. Beattie, Dowda, Turner, Michener and Nelson (2005b) added that patients who receive treatment from only one physiotherapist during the entire period of intervention are more likely to be fully satisfied than those receiving care from different physiotherapists.

A study by Jennings, Heiner, Loan, Hemman and Swanson (2005) indicated that when the experiences of the care provider match with the expectation of the patient, the latter scores high level of satisfaction. In a comparison of patients’ management between physician and physiotherapists, the latter satisfied the patients more (42%) than the physicians 25%. The scoring was based on the interest they showed to the patients, time waiting, time with clinicians and understanding of the questions asked (May 2001).
Qualities of a personal assistant to patients have been found to influence the satisfaction of the latter. According to Matsuda, Clark, Schopp, Hangglund and Mokelke (2005) patients who enjoy medical-aid funded personal assistant services, get more satisfied when the assistant has some of the following personal qualities; being reliable, trusted, and respectful. Other qualities include; the assistant being loyal to the patient committed in his/her work and has ability to listen. The patient takes such an assistant not just an employee but also as a friend.

2.2.2 Effects of client/customer satisfaction

There is an association between client satisfaction and the company shareholders returns; hence a reduced client satisfaction may affect the company shareholders value (Aderson, Fornell & Mazvancheryl 2004). According to Baker (1998b) if patients are highly satisfied, an institution is more likely to receive high number of patients from word-of-mouth referrals. On the contrary, if patients are dissatisfied an institution would receive many complaints and several of them would leave to other competitors. This was supported by Haber and Reichel (2005) who indicated that customer satisfaction is mostly associated with high possibilities that the satisfied customers will recommend the goods or services to other potential customers. Hence, satisfying the clients/customers is therefore beneficial to the firm in the sense that it continues getting more clients/customers without advertising and this result in saving of resources. Clients/customers of such a firm are less likely to respond to competitor’s lower fees. Instead they would prefer to pay more to continue using the services/products of that firm (Lamb 2004). Shareholders of such firms benefits by getting high returns from their satisfied clients/customers (Aderson, Fornell & Mazyancherly 2004).
2.2.3 Methods of improving customer/client satisfaction

According to Dellande, Gilly and Graham (2004) customers have been found to comply with the instructions from service providers who are regarded as experts in their field. The organization therefore should communicate to the customers about the expertise of their service providers. This can be done by including the staff credentials in the brochures. According to Baker (1998b) some institutions in the USA have started publishing the results of patients’ satisfaction surveys so that their employees can see how institutions in one area rank against each another. Another aim of publishing patient satisfaction survey is to motivate low scoring care providers to examine the structure and processes of their practices in order to improve. Dellande, Gilly and Graham (2004) indicated that for the patients with low motivation towards a service they may be taught the likely benefits of the program and encouraged to stick to it. They can be involved further in their service delivery where they become accountable to their activities and goal achievement.

2.2.4 Methods of measuring the clients’/patients’ satisfaction

For an organization to retain clients/customers their services/products should be of high quality. In order to ensure this, a continuous assessment of the clients’/customers’ satisfaction should be maintained. The use of qualitative and quantitative survey methods has been suggested (Lamb, et al 2004). Earlier, this has been supported by Parahoo (1997) who indicated that the combination of the two methods provide diverse views about the topic under investigation. According to Lamb, et al (2004), the use of these methods make the client/customer an integral part of the firm’s source of information and decision making process.
The best survey method of assessing the client/customer satisfaction seem to depend on the individual researchers. Mead (2000), Haber and Reichel (2005) support the use of a survey method using questionnaires. On the other hand, May (2001) criticised its use. The researcher indicated that the use of a questionnaire limits the patients’ participation since they tend to be guided by the questions developed by the clinicians which are based on their own interest. However, the researcher supported the use of the qualitative survey method as it give the participant a chance to express their perception towards the service or product freely. According to Patton (1987: 9) qualitative research methods allows the investigator to study selected issues, cases or events in depth and detail.

The outcome of such survey assist the service providers to understand what satisfies or disappoint the client and what need to be done in order to meet their expectations (Jennings et al 2005). In a hospital set-up, assessment of care against standards serves as a learning tool for an individual or the department as it may identify the needs in terms of training, staff development and services. Therefore, the assessments should be accepted and considered as mean of stimulating continuous improvement rather than achieving short term goals (Sparkes 2005).

2.2.5 Instruments for measuring patient satisfaction with physical therapy care

Three instruments for measuring patient satisfaction with physical therapy care were identified from the literature. Beattie et al (2002) did a validation of an instrument for measuring patient satisfaction with physical therapy which had 12 statements, excluding demographic information. This instrument appeared to have content,
concurrent and construct validity. A psychometric analysis of the same instrument was done by Beattie et al (2005a) which demonstrated good reliability (Cronbach Alpha = 0.83).

Another instrument was developed by Monnin and Peneger (2002). This instrument had 13 statements excluding those addressing demographic data. It was found to have a good reliability where internal consistency coefficients ranged between 0.77 and 0.90. The third instrument was by Goldstein, Elliott and Guccione (2000). This instrument had 20 questions excluding demographic information. The instrument had a high reliability coefficient (Cronbach Alpha 0.99). However, only 7 (35 %) questions were considered by the researcher as appropriate for the current study in Kenya.

2.2.6 Indicators of satisfaction

Customer/client satisfaction is a significant indicator for a firm’s financial stability. Other indicators include the company’s profitability, revenue and sales growth (Haber & Reichel 2005). According to a Workers’ Compensation Board report (2004) of Prince Edward Island, employees’ satisfaction is indicated by the length of time workers wait for their benefits and involving them in decision making process concerning their claims. Further, the ability of the Board staffs in answering the workers’ questions indicates satisfaction of the latter.

In the management of patients those suffering from acute LBP have been found to resume to work after four weeks of physiotherapy intervention. Most of these patients are those with strong motivation to return to work (Fritz & George 2002).
2.3 Patient compliance with treatment

Compliance is a term used to describe the level to which the patient continues with the treatment program as recommended by the health care provider (Ferri, Brooks & Goldstein 1998; Harrison & Hong 2003).

2.3.1 Interaction between physiotherapist and the patient

A relationship with good communication between physiotherapist and the patients are important components for a successful treatment program (Mead 2000). However, some physiotherapists do not involve patients during the decision making process. They have been found to determine the information to be given to the patients, such information is not tailored fully to meet the patient’s situation which is one of the strategies to ensure patient’s treatment compliance (Kersssens, et al 1999; Talvitie & Reunanen 2002).

Treatment compliance has been found successful when the instructions are integrated to the patient’s daily activities and written in a language they can understand (Kersssens et al 1999). Repeating the same information to patients orally, is an added advantage to the successes of treatment compliance (Ferri, Brooks & Goldstein 1998; Bassett & Petrie 1999; Harrison & Hong 2003; Koumantakis, Watson & Oldham 2005). Schoo, Morris and Bui (2005) supported written guidelines but added that for old people suffering from osteoarthritis of the knees, the brochure should be printed in 14-point font and require grade four reading skills. However, the findings of Smith, Lewis and Prichard (2005) contradicts the outcome of those studies, in their study they found that written exercise sheet for the patients did not reinforce the understanding enough. Instead, they recommended that
such patients require a high level of supervision and repeated instruction for them to remember the exercise properly. According to Klaber Moffett (2002) the written guidelines aims at encouraging the LBP sufferers to cope with the problem by continuing with their daily routine rather than avoiding all physical activities. This helps in winning the patients from believing that exercises would damage their spine. Such guidelines further play a significant role in improving the patient treatment adherence level.

Those patients suffering from acute LBP have been found to score high treatment compliance (Carter & O’Driscoll 2000). On the other hand, those suffering from chronic pain score low on treatment compliance (Di Fabio, Mackey & Holte 1995). This could be due to the presence of depression or anxiety caused by the longstanding nature of their problem (Ferri, Brooks & Goldstein 1998).

2.3.2 Factors which affect patient treatment compliance

Factors which have positive or negative influences on compliance have been identified in various studies. I will first elaborate on the factors which have positive influence to the treatment compliance and finally the ones with negative influence to the adherence to the treatment program.

2.3.2.1 Factors which influence treatment compliance positively

Several studies have been done on patients’ compliance with the care and they have found various reasons which influence it. According to Ferri, Brooks and Goldstein (1998) the patients who have been made to understand their problems have been
According to Mead (2000) patients would like to be listened to and whatever they say should be considered valid by the physiotherapists. This would influence them positively towards compliance with care.

Income and compliance seem to be associated, people earning higher than American $12,000 have been found to have more interests in being involved in decision making for their care. In comparison, those with low earning were less interested in being involved in goal setting for their care and they only considered physicians as the only health providers with authority to make decisions for their care (Payton, Nelson & Hobbs 1998).

2.3.2.2 Factors which have negative effects on treatment compliance

There are various negative factors which influences the patient treatment compliance. According to a study by Chappell and Williams (2002) aiming at identifying the reasons for none compliance with home physiotherapy program in paediatrics, several factors which influences compliance negatively were found. The parents of those children used to forget while others lacked time for their children’s exercise. Ferri, Brooks and Goldstein (1998) found that patients who do not have knowledge about their ailments score low treatment compliance. Previously, Sluijs (1991) had stated that most patients associate low treatment compliance with lack of time for exercises, presence of pain and discomfort during the treatment program. In a study by Tread (2000) some patients reported that they stopped attending for physiotherapy after experiencing some physical discomfort due to exercises they had been shown by the care provider. However, they never reported it to the
physiotherapist and they lost the contact with them. Fritz and George (2002) indicated that some patients suffering from acute LBP tend to fear pain during the treatment. Such pain avoidance behavior may result to reduced patient participation in the treatment program.

Patients have been found complaining that their views were often not listened to or not seriously considered (Mead 2000). Talvitie and Reunanen (2002) indicated that when a patient fails to be heard it may amount to a breach of the right of the patient and this would have a negative influence to their compliance with treatment program. Treatment cost and its attendance seems to be associated, according to Collins, Quick, Musau, Kraushaar and Hussein (1996), when outpatient registration fee was introduced to the Kenyans in 1989, the use of the health facilities in this country reduced. Mwaba, Mwanza and Liambila (1995), had indicated that when Kenya Government implemented the cost sharing program, patients attendance dropped by 50 %. This necessitated the Government to suspend the program for sometimes. During the suspension period an increase in patients’ attendance (41 %) was recorded.

2.3.2.3 Consequences of non-compliance

Other studies have reported that when patients fail to comply with the treatment, future management for the same ailment may be more costly (Ferri, Brooks and Goldstein 1998). Buck and Ciccone (2004) found that lack of adherence to the treatment program may have a negative influence to the patient’s improvement. Such a decision may result in worsening of the ailment and utilization of more health facilities. Ferri, Brooks and Goldstein (1998) gave examples of patients
suffering from diabetes, the poor compliance results in increased frequency of hospital admission. In a case where the poor treatment compliance does not threaten life it is associated with low involvement in physical activities, reduced exercise tolerance and increased attacks like in patients suffering from asthma. For the elderly patients they may fail to adhere to the treatment due to factors associated with their age. Such factors include loss of memory and or self neglect, but the family members who have been educated by the health care provider may supervise them. Fritz and George (2002) added an example that patients with acute LBP who tend to avoid pain during the treatment are prone in developing chronic disability.

2.3.2.4 Improvement of barriers affecting treatment compliance

This section will discuss improvement of barriers which tend to hinder treatment compliance as identified by some studies. These include barriers encountered by the patient during the treatment program, lack of feedback, and the feeling of helplessness by the patient. This can be addressed through the provision of a positive feedback from the physiotherapist and the family members inform of praising the patient (Klaber Moffett & Richardson 1997; Ferri, Brooks & Goldstein 1998).

For the patient to succeed in having long term treatment compliance two points should be considered; first, the instructions are given to perform an exercise by demonstrating or guiding the patient. Secondly, once the patient becomes competent in performing the exercises, the physiotherapist may assist in deciding on how the program can be integrated in patient’s daily routine (Klaber Moffett & Richardson 1997).
Buck and Ciccone (2004) carried out a study with a view of identifying whether there are specific interventions which can improve adherence to a home exercise program in a patient with intermittent claudication. They used a Health Counseling Model which was described as a counseling technique that health care provider can use to educate, support and encourage adherence and change of behavior to patients with medical problems. They indicated that the health provider should talk to the patients and make them aware and understand about the nature of their illnesses. They should further discuss with them the effects of their lifestyles in relation to their illnesses. The patient should be encouraged to perform those exercises which do not require complicated machines. According to Schoo, Morris and Bui (2005) this improves the patients’ compliance with the attendance to the clinic especially in the early phase of the treatment. They added that when patients comply to attend to the clinic in the early phase it is a good predictor for them to comply with the subsequent phases. Buck and Ciccone (2004) had stated that when the patients are performing an activity if need arises they may get social support from a member of the family or a friend.

2.3.2.5 Methods of measuring treatment compliance

Various methods exist for measuring compliance with treatment. According to Ferri, Brooks and Goldstein (1998) some of them include patient self reporting and impressions made by the health care providers. The impression made by the care providers are based on the assumption that patients’ provide accurate information to those interested with their health. However, a medication usage compliance was measured using the above methods and the results were compared with that obtained from medication monitor which was placed somewhere in the unit but neither the
patients’ report nor the health care providers report reflected actual medication dosage. This resulted to the conclusion that the impression made by the health care providers and the self reporting by the patient are not reliable methods of measuring the treatment compliance. The use of convert microprocessor has been seen to provide accurate and reliable information relating to treatment compliance.

Although the results from the former research methods never agreed with the outcome of the medication dosage monitor, that study was measuring the drug dosage compliance. The current study will measure the treatment satisfaction with the service they had received. The study will use the same methods under the quantitative research component to get the patients’ opinion about the physiotherapy service for LBP.

According to Harding and Watson (2000) and Buck and Ciccone (2004) when the patient’s treatment program has been formulated, there is a need for the physiotherapists to monitor the progress of the former. The use of a diary at home has been recommended. It should be used for documenting any activities performed by the patient, duration and success or problems encountered during the program. The diary is reviewed always the patient return to the clinic for reassessment; the progress discussed, solutions to the problems developed and the patient encouraged to continue with the program. Later, Schoo, Morris and Bui (2005) added that when such a measure has been taken it help the physiotherapists to monitor how active the patient is and how well he/she comply with the treatment program. Buck and Ciccone (2004) had concluded that such a measure would help to stimulate the patient to adhere to the exercise program.
2.4 Goal setting for the treatment program

A goal is a measurable target level of function that the patient would achieve within a stipulated time period. Its setting establishes a target to be accomplished within a set period of time (Riddle, Rothstein & Echternach 2003). Harding and Watson (2000) tried to describe the type of goal necessary for the patient. They indicated that the patient should be involved in the goal setting which should be relevant and interesting to them, measurable and achievable. Klaber Moffett (2002) added that a developed home program should have a specific and a realistic goal that increases the amount of exercises and its grade of difficulty gradually. Riddle, Rothstein and Echternach (2003) concluded that goals requiring demanding activities are given longer time to achieve than those which need easier tasks.

2.4.1 Patient-centered goal setting

Goal setting should focus the client. According to Randall and McEwen (2000) and Liu, Chan and Chan (2005) a patient-centered approach is a situation where the physiotherapists involves the patients/clients in discussing their needs and formulation of their treatment program. In this model of patients’ interview, physiotherapists assess the clients’ expressed concerns and give them a priority during development of the treatment program. However, it is advisable for the physiotherapists to continue interacting with the patients during the treatment as this assists them to have a deeper understanding of the patients’ concerns. Such care providers achieve a high level of agreement over the identified problems with their patients. Liu, Chan and Chan (2005) further stated that different patients have
different needs and it is therefore better for the physiotherapists to spend a few minutes with them every time they come for the treatment. This helps the care provider in understanding the immediate concerns of the patient and creates a rapport that is necessary for a successful rehabilitation program.

Earlier, Potter, Gordon and Hamer (2003) found that the professional relationship between physiotherapist and the patient leads to identification of problems. The relationship is further enhanced when the expectations of the two match together. It is therefore advisable for the physiotherapist to explore with their patients issues that are most important to them. Earlier, Mead (2000) had stated that physiotherapist may have a lot of knowledge but if it fails to correspond with the expectations of the patient the outcome of care may not be very successful. Further, if physiotherapists fail to consider patients’ culture as well as lifestyle during formulation of the treatment program, similarly the outcome of care may not be very successful.

A study by May (2001) found that patients prefer back care providers who emphasise self-care. This could be the reason why they participate in their treatment goal setting which shows their willingness and readiness to be involved in the care (Baker et al 2001). According to Klaber Moffett (2002) success has been found with those patients who set a target for their goals. Such goals tend to be meaningful and encourage them to develop a strong motivation towards the compliance of their treatment program (Bassett & Petrie 1999; Osmotherly & Higginbotham 2004). The patients believe that this approach gives them a clear understanding of their problem (May 2001). This understanding may be due to the active role they take in sharing the responsibilities of their care and outcome (Jette, Grover & Keck 2003).
However, Liu, Chan and Chan (2005) cautioned that during the participation of the patient in the goal setting, it is important to ensure that the sufferer does not have features of depression. This is necessary so that their views towards the problems would be regarded accurate and a true reflection of their concerns.

For a successful goal setting programs, there must be co-operation between patient and the physiotherapist (Osmotherly & Higginbotham 2004). In such a situation physiotherapists may get the insight of the patients to understand their attitude and beliefs since they have been seen to influence treatment programs. Through such understanding meaningful treatment goals to both patient and the physiotherapist may be realised leading to minimal barrier interruption (Payton, Nelson & Hobbs 1998; Osmotherly & Higginbotham 2004).

On the other hand goals set by the physiotherapist without consulting the patients have been found to register low treatment compliance (Bassett & Petrie 1999). Mead (2000) added that the physiotherapists should assist the patients to explore the various treatment options, risks and benefits involved. Through such assistance the latter will be able to make a choice of the treatment right for them.

2.5 Patient’s rights to quality care

The patient has the right to receive treatment of high quality (May, 2001) they also have a right to be involved in decision making about their health and independence. These decisions are respected even when they are opposing the opinion of the professional. The patients need to know and be involved in the planning of their treatment (Harrison & Hong, 2003).
In some countries the rights of the patient are recognised in the country’s constitution. For example in South Africa every citizen has a right to health and safe environment as well as a right to participate in the decision making on matters concerning their rights. South Africans also enjoy the right of access to health care and to the information of one’s health insurance or medical aid scheme. They are further entitled to the right of choice of health and the right to being treated by a clearly identified care provider. Confidentiality and privacy are also a right for every South African where information concerning individual’s health and treatment may only be disclosed with an informed consent or with an order from the court.

In the right of informed consent the people of South Africa are entitled to get the full and accurate information on ones illness, diagnostic procedure and the treatment costs to be involved. They have the right to refuse the treatment provided that the refusal will not affect other people. When they are not satisfied with a decision they have the right to be referred for a second opinion. Continuity of care is a right enjoyed by the people of South Africa and they have a right to complain about the health services and this warrants investigation to be carried out. The complainant is entitled to know the outcome of the investigation (The Patients’ Right Charter of South Africa 1996 act. No 108). For patients to understand their rights there is need to develop an education strategy to deliver accurate and reliable information about health care to the consumers. The education programs should encourage consumers to consider on quality when selecting health plans, providers and treatment (USA Patient Rights 1999).
On the other hand, patients have responsibilities towards their rights. According to the Duke University Medical Center (2005) patients are responsible for providing as much information as possible about their health, medical history and insurance benefits. They are at liberty to ask care providers questions when they do not understand medical terminologies or instructions about their plan of care. Patients are supposed to adhere to their plan of care. If they are unable or unwilling to comply with it, they should inform their care providers who should explain to them the medical consequences of not following the recommended treatment. In such situations, patients are responsible for the outcomes of not complying with their plan of care. According Palomar Pomerado Health (2005) patients should inform their care providers of dissatisfaction with their care.

There are rules and regulations for the patients to follow when they are in hospitals. According to the Duke University Medical Center (2005) patients should act in a manner that is respectful of other patients and facility’s properties. They are also responsible in meeting their financial obligation to the facilities.

2.5.1 Standards of physiotherapy practice

There are many standards of practice for various professionals. The use of standards provides excellence and consistency in clinical work through clinical governance. This sub-section will present the physiotherapy standards of practice. According to the Chartered Society of Physiotherapists (2000 revision), a standard is a collective agreement by all members of the profession and they change from time to time. The standards of physiotherapy practice include the core standards, the service standards and the evaluation tool. The responsibility of the core standards are entrusted to
individual members while the service standards are entrusted to the organization. In order to measure the extent of the implementation of the core standards, the evaluation tool is necessary. This tool measures the goal achievement level whose outcome assists in the decision making to improve in a particular area of work. Recently, Sparkes (2005) indicated that change of practice has been found difficult and it takes time, however, open discussions and team decisions may facilitate its implementation.

According to the Regulated Health Professional Act (1991) of Ontario College of Physiotherapy, standards are set to ensure the quality of professional care and promoting continuing competence among the members. The use of the standards helps individual therapists to determine whether they are performing to the expected level. When the performance and the standard match together, there is improvement of patients’ treatment outcome. Further, the set protocols help the members of the public to understand what they expect during the treatment and assess the quality of care that they receive. According to Mead (2000) the standards to be followed by the physiotherapists should focus on factors like patient’s culture, lifestyle and their preferences when formulating the appropriate treatment program.

2.6 Exercise and LBP

Exercise programs improve the quality of life for the patients suffering from LBP (Patel & Ogle 2000). They assist the patient with means to avoid recurrence of LBP and reduce its severity. They also help in distribution of nutrients into the disc spaces and surrounding soft tissues in the spine. The supplied nutrients assist in maintaining healthy discs, muscles, ligaments and joint of the spine (Ullrich 2004).
Shiple and DiNubile (1997) indicated that exercises help to strengthen and stabilize back and abdominal muscles.

According to Ullrich (2004) tight hamstring muscles limit movement in the pelvis and this can increase stress across the low back. Therefore, stretching exercises to the hamstring muscles help to reduce the intensity of a patient’s back pain and the frequency of recurrence. According Shiple and DiNubile (1997), exercises help to maintain flexibility of back and hamstring muscles and this minimizes possibilities of getting injuries. However, Hope and Forshaw (1999) found that physiotherapy interventions benefit patients with disabilities which are not accompanied by psychological distress.

Other studies have found exercise interventions very helpful too, according to Carter and O’Driscoll (2000) exercise improves health and individuals fitness. Earlier, McGill (1998) stated that the activities also maintain health and enhance endurance. According to Patel and Ogle (2000) exercises have strengthening effects to a patient with LBP. However, in order to continue enjoying the effects of exercises, follow-up programs must be maintained (Liddle, Baxter & Gracey 2005).

A review of several studies on the role of exercise prevention of non-specific LBP was done by Maher, Latimer and Refshauge (1999). Two groups were put on focus, one group was on exercise while the other one was the control group. Most of the studies demonstrated a reduction in number of recurrence of the non-specific LBP to those patients on exercises and reduced sick leaves caused by the non-specific LBP. After thirteen months follow-up period, the group on exercises had lost only 28
working days while the controlled group had lost 155 working days. According to these researchers these findings indicate the need for exercise programs in working areas to minimise incidences of non-specific LBP and sick leaves due to this problem. However, they pointed that spinal manipulations have been found to be more effective than the exercise program to the patients with non-specific LBP. A study by Van Rooijen, Rheeder, Eales and Beaker (2005) on patients suffering from Diabetes Mellitus (Type two) summarised that the primary goal of clinical care is to improve the patient’s outcomes. The successes of this goal indicate two things; first, there is improved control of the disease which may result to reduced complications related to the ailment. Secondly, it improve the functioning and perceptions of health and overall the quality of life of the patient.

2.7 Outcome measures

Various assessment tools are used by physiotherapists to measure disabilities associated with LBP. According to Johnson and Thomson (2004), Oswestry is a questionnaire which has six statements (A - F), in each of ten sections. These sections cover impairments like pain and ability like personal care. In every section, the patients choose the statements those best describe their status. The statements to be chosen have scores as follows; A = 0, B = 1, C = 2, D = 3, E = 4, F = 5 and the total possible scores ranges from zero (0) to fifty (50). The zero score indicates high level of function while 50 score suggests lowest level of function

To accommodate the patients who do not complete all the section, clinicians can calculate percentage of disability on the basis of the possible scores. According to the researchers, the percentage of disability is interpreted as follows;
0 – 20 % = minimal disability, 20 – 40 % = moderate disability,
40 – 60 % = severe disability, 60 – 80 % = crippled and 80 – 100 = bed
bound.

Other researchers used this scale. White (1998) stated that Oswestry Scale is a
measure which can be used to identify change after a treatment program has been
given for sometimes. However, the researcher cautioned that the use of Oswestry
Scale is better when assessing acute problems than chronic conditions. Visual
Analogue Scale is another tool used for assessing pain severity (Dixon, Bird,

2.8 Overview of LBP

This section will present an overview of LBP.

2.8.1 Prevalence of LBP

It has been predicted that every person will, once in their adult life, suffer from back
pain (McKenzie 1989: 1). According to a study by Emami, Abdinejad and
Nazarizadeh (1998) on Iranian women, 27.4% were found to experience LBP more
than once in a year while 12.4% had a once in a year prevalence. Of the 27.4%, of
the women, 35% were farmers, 32.5% were manual workers with housewives and
clerks representing 26% and 15% respectively. Those women doing manual work
experienced more symptoms of LBP than non-manual workers. This prevalence
showed an upward trend with increase in age.

In the U.S.A. the prevalence of LBP ranges from 7.6% to 37% with the highest
prevalence between the ages of 45-60 years (Bratton 1999). Ninety percent of the
adults in this country suffer from LBP at least once a year (Patel & Ogle 2000). In the recent past, Bratton (1999) reported that the same ailment also affect children in the U.S.A. According to a study by Jordaan, Kruger, Stewart and Becker (2005) on adolescents in South Africa, LBP was found to increase notably at the ages of 15 and 17 years for the life time, one year (life time suffering meant having back pain more than once in a year while a year prevalence indicated having experienced back pain once in twelve months) and at a point of prevalence. For the life time and one year prevalence, it was slightly higher among males than females. It is hypothesized that reduced flexibility in boys during the puberty stage could lead to increased stress in the soft structures. Other possible causes for adolescent LBP include activity levels, psychosocial factors and smoking.

In the U.S.A. a study was done to Alpine ski instructors aiming at identifying the point of prevalence and life time prevalence of LBP. The study found that the instructors had a life time prevalence of LBP of 75% and the peak prevalence at the age group 41 - 50 years (Peacock, Walker, Fogg & Dudley 2005).

### 2.8.2 Causes of LBP

Low back pain is not a specific diagnosis; it is merely a term given based on presenting symptoms of pain and limited function in the LBP region. In health care settings with no specialised diagnostic tests it has been difficult to diagnose the anatomical causes of LBP (Patel & Ogle 2000). According to Bratton (1999) LBP can result from mechanical stress or from other underlying causes referred to as secondary causes. The mechanical causes of acute LBP include dysfunction of the musculoskeletal and ligamentous structure. Pain resulting from these may originate
from the disc, annulus, facet joints, muscle fibers and ligaments. Other causes of this ailment include diseases cancer and immunosuppression among others. Such causes are referred to as red flags. Corrigan and Maitland (2003: 23) added that back pain can be caused by intra-abdominal lesions like peptic ulcers, pancreatic and gall bladder disorders. Other causes of LBP exist; McKenzie (1989:10) indicated that concentration of chemicals to the tissues irritates nerve ending subsequently causing pain to the involved tissues. The author further indicated that there is no clear relationship between LBP and degenerative changes of the spine. This is because many people have degenerative changes of the spine as seen on x-rays but they do not suffer from LBP.

2.8.2.1 Risk factors in LBP

Various risk factors have been associated with LBP, namely posture, occupation and lifestyle. According to a study by Emami, Abdinejad and Nazrizadeh (1998) on Iranian women, it was found that working in a stooping posture and sitting for more than four hours a day have been associated with increasing chances of suffering from LBP in all age groups. According to the University of Maryland Medical Center (2002) sitting for too long puts most of the pressure to the back and that can be a source of back pain. The University Medical Center suggest that for the people who drive for a long period they need to move the seat as far forward as possible to prevent bending the spine. McKenzie (1989:4 - 6, 16 - 18) indicated that when one sits on a chair for some time, there is a reduction in lumbar lordosis resulting in the spine going into a flexion position. The spinal muscles tend to relax and the vertical weight bearing strains are left to the ligamentous structures and if the situation continues for too long it causes LBP. The reduction of lumbar extension is
responsible for the recurrence of the LBP where 75%-85% of the LBP are as a result of this. The reduced lumbar extension tends to influence the patient posture in sitting and standing where they walk with slightly stooping posture. In poor sitting posture especially when the spine moves into kyphosis, intradiscal pressure increases and decreases when the spine moves into lordosis. Patients have been found to experience pain on sitting when the lumber spine moves into kyphosis and decreases when the spine moves toward the lordosis. This suggests that there may be correlation between intradiscal pressure and pain pattern where the intervertebral disc may be contributing to the onset of LBP. McKenzie described good sitting posture as that which maintains the spinal curves present and in the upright position, namely cervical lordosis, thoracic kyphosis and the lumbar lordosis.

McKenzie further indicated that when there is increased intradiscal pressure the nucleus moves away from the point where the compressive forces are applied. Although the nucleus moves in antero-postero plane it also move laterally and can take any position between the vertebral bodies which may cause scoliosis. Anterior compressive force on the disc may cause an increase in tangential stress at posterior annulus while the anterior annulus bulges. When the compressive force is applied in extension, the tangential stress reduces posteriorly but increases anteriorly. The bulging of the annular clears from the anterior but appears posteriorly. The anterior bulging of the disc wall during flexion and its bulging posteriorly in extension may be caused by the weakness of the relaxed annulars. Since the bulging is under reduced tangential stress and the nucleus has moved away from the intradiscal pressure it is unlikely that the nucleus material will be forced out. McKenzie concluded that with an intact annular wall, a bulge occurring in the posterior annulus
on extension is normal. This is because when the spine is in extension the posterior annular is not under tangential stress and the nucleus has moved away from the intradiscal pressure towards the anterior. Therefore it is unlikely that the annular tear will occur under these circumstances. However, a bulging appearing in the posterior wall, on spinal flexion when the annular wall is damaged indicates a weak posterior annulus. In this situation the bulge is under increased tangential stress and the nucleus has moved posteriorly. In situation where a crack or fissure occurs the nuclear material may occupy this space resulting into further distension of the annulars.

2.8.2.1 Occupation and lifestyle

According to the University of Maryland Medical Center (2002) and Corrigan and Maitland (2003: 16) some occupations or sport activities which involves prolonged excessive bending, twisting, standing or sitting may result in disc degeneration. A sedentary lifestyle may result in musculoskeletal tissue atrophy due to lack of exercises, a similar result may be obtained from those people in sedentary occupations.

Cigarette smoking has been associated with LBP. Sufferers of LBP who smoke have shown low isometric lumber extensor strength compared to non-smoking LBP sufferers. This may explain why the LBP sufferers who smoke experience more pain than the non-smokers with LBP (University of Maryland Medical Center 2002; Al-Obaidi, Anthony, AL-Shuwi & Dean 2004). They should be encouraged to stop smoking since the nicotine levels especially for those who smoke thirty cigarettes daily, have been associated with the necrosis of the nucleus pulposus as well as
hypertrophy, cracking and detachment of the annulus. Further, the metabolic and solute exchange process within the disc has also been reported to be affected by cigarette smoking (Porter 2003:110).

### 2.8.3 Classifications of LBP

Different forms of LBP classifications are used. The first classification is based on duration of the symptoms where the duration of symptoms for the acute LBP lasts for six weeks or less. This is followed by the sub-acute category with pain symptoms of between six and twelve weeks. Finally, for symptoms lasting more than twelve weeks, it is categorised as chronic LBP (Bratton 1999). Sparkes (2005) indicated that according to the Clinical Standards Advisory Guidelines of the UK, acute LBP is defined as pain for less than three months and chronic for symptoms lasting for more than three months.

McKenzie (1989:25-26) classified LBP into three syndromes namely postural, dysfunction and derangement. The researcher described postural syndrome as pain caused by mechanical deformation on soft tissues due to postural stress. This is caused after prolonged maintenance of certain postures or positions which subject the soft tissues to continuous stress. The pain clears with a change of position or postural correction.

The second is the dysfunction syndrome which is caused by mechanical deformation of soft tissues due to adaptive shortening. The shortening of the tissues lead to a loss of movement in some direction. Any attempt of movement elicits pain before full
range of movement is achieved. This syndrome is associated with intermittent pain and partial loss of movement.

Third is the derangement syndrome which is caused by mechanical deformation of the soft tissues. Any change in position of the fluid nucleus within the disc and the surrounding annulus causes discomfort in the normal resting position of the two vertebrae enclosing the involved disc. This syndrome is usually associated with constant pain. However, intermittent pain may also occur depending on the size and the location of the derangement. Movements of the affected tissues may be partially or completely blocked. In the acute stage of this syndrome kyphosis and scoliosis deformities are commonly found. The presentation of the three syndromes are different from each other hence, each syndrome require a different treatment approach.

In contrast, Corrigan and Maitland (2003:19) argued that there is little consensus on practical classification of LBP. This may explain why the management of the LBP is still a problem. Most of the classifications are based on the anatomical or neural structures involved and their lesions but they are of no clinical value. A practical approach clinically is to diagnose those disorders causing the LBP in which the pathology has been clearly described.

Another method of classification is based on the severity of the symptoms on functions. Delitto, Erhard and Bowling (1995) classified LBP into three stages and in each stage there are different treatment goals. In the first stage, the patient is expected to achieve the following goals; a reduced Oswestry LBP score of less than
40%-60%, to sit for more than 30 minutes, able to stand for more than 15 minutes and able to walk more than 0.6 kilometer. In the second stage, the patient is expected to perform activities of daily living and have a reduced Oswestry score of less than 20%-40% and finally in the third stage the patient is expected to walk and have a reduced Oswestry score of 20% or less.

2.9 Psychosocial aspects of LBP

Low back pain can also result from other causes apart from the injuries; Corrigan and Maitland (2003:26) indicated that the presence of anxiety in the patient may cause tension of the muscles. If it is prolonged the patient may get LBP and muscle fatigue. Other causes such as psychosocial factors like economical strain, poor job satisfaction and pending litigations can have an influence on LBP (Bratton 1999). However, it is worth noting that longstanding suffering from LBP may develop into secondary psychological distress. The latter has been seen to increase with an increase of the disability level (Hope & Forshaw 1999). A patient with depressive features presents with lowering moods or lack of interest in pleasurable events. They report loss of appetite and sleep, and mostly they wake up very early in the morning. They tend to associate their back pain with loss of sleep (Corrigan & Maitland 2003: 25-26). According Gallagher (2003) depressed patients think and speak more slowly than normal. They have problem in concentrating, remembering and making decision.
### 2.10 Assessment and management of a patient with LBP

In order to plan for an appropriate and effective treatment program for a LBP sufferer, a comprehensive patient’s evaluation should be done by the health care providers to assist in making the patient’s diagnosis (Patel & Ogle 2000). This is necessary in determining whether the cause of the LBP is mechanical or has a secondary underlying cause (Bratton 1999). According to McKenzie (1989: 24) physiotherapists are skilled to diagnose LBP but they are not competent to diagnose it when there are other underlying secondary causes. It is therefore necessary for the doctor to make the differential diagnosis of the LBP to identify the patients with LBP accompanied by serious pathologies from being referred for physiotherapy treatment.

#### 2.10.1 Doctor’s assessment

Various investigations are carried out to patients with acute LBP by the doctors. According to Bratton (1999); Patel and Ogle (2000); Corrigan and Maitland (2003: 43-46) they include laboratory testing and radiographic imaging. However, laboratory tests are carried out when the clinician suspects the presence of serious underlying causes like a tumour or infections. In such situations full blood cell count and erythrocyte sedimentation rate tests can also be investigated. Similarly, radiographic examinations are not necessary mostly in the first month of the injury. However, if the patient is observed to have continued motor weakness, computed tomography scanning (C.T) and magnetic resonance imaging (M.R.I) can be carried out.
Although Patel and Ogle (2000) supported the use of M.R.I. and C.T. scanning, they pointed that these tests have been found to show abnormalities in normal asymptomatic patients which do not correlate well with the presenting clinical symptoms. Hence, positive results of M.R.I. and C.T. scanning on patients with LBP are sometimes questionable. They however indicated that M.R.I. is better for identifying the presence of soft tissue abnormalities like herniated discs or tumor. Computed tomography is said to provide better results on cortical bone like in patient with osteoarthritis. Corrigan and Maitland (2003: 44) added that the use of M.R.I. has advantages over other type of imaging in making the diagnosis of the LBP and especially when detecting disc hydration and disc degeneration.

2.10.2 Physiotherapy assessment

Good patient care starts with baseline assessment. During evaluation physiotherapists should focus on subjective and the objective examinations of the sufferers. Subjective assessments describe the characteristic and the behavior of pain patients experience and if there are relationships between the present and past medical histories (McKenzie 1989: 27 30; Patel & Ogle 2000; Harding & Watson 2000). Earlier, Delitto, Erhard & Bowling (1995) had state that those patients who report experiencing pain and are unable to fall a sleep or keep on turning in bed, mostly, pain of this kind is not postural or position related. It suggests possibility of serious underlying pathology. In the objective examination various testing are done. They include gait and postural, rage of motion and straight leg raising (SLR). Other testing include reflex and motor and sensory.
2.10.3 Multidisciplinary assessment

Chronic back problem encompasses more than physical concerns and such there is need for a comprehensive approach by different health care providers (Delitto, Erhard & Bowling 1995). These researchers were supported by Ingemarsson, Sivik and Nordholm (1996) who indicated that successful rehabilitation programs consider the patients’ risk factors and should focus on all their needs and situations and not only the symptoms of the ailment. Later, Hope and Forshaw (1999) found that patients with chronic pain benefit less from physiotherapy interventions. According to Sparkes (2005) the possible cause of this outcome could be due to the presence of psychological distress which has been found as major hindrances to the improvement of the patients. The presence of depressive factors leads to chronic pain and high health care cost. The author further indicated that there is need for early identification of these ailments for appropriate care. Hope and Forshaw (1999) suggested additional measure to help physiotherapists in establishing the level of patient’s distress in the first contact with them. This would assist the care providers to identify the patients who are more likely to benefit from physiotherapy and would result in saving the patient’s money. MacLeod, Bruce and Bell (1999) recommended the use of multidisciplinary health care model. They found that the use of this approach ensures that all the patients’ needs are identified and advised accordingly. This model further detects the sufferers’ needs at an early stage which reduces the need for further care in future. However, the patients should participate in identifying their own problems.

The multidisciplinary approach was found useful by Norrefalk, Svensson, Ekholm and Borg (2005) in managing patients with long term ailments who had no
malignancy. They gave rehabilitation programs to these patients for eight weeks and followed them for one year after being discharged. They recorded a return to work success of 63% of the patients under follow-up program. However, according to Cook and Hassenkamp (2000) physiotherapists have limited formal education in behavioural sciences. The authors suggested that an improved curriculum for the physiotherapists at all levels would perhaps improve the multidimensional management of pain by the care providers.

2.10.4 Management of a patient with LBP

There are numerous approaches used by health professionals in the treatment of LBP. However, success of treatment depends on the patients understanding the disorder and his or her role in preventing recurrence (Patel & Ogle 2000). Despite the various management techniques, recurrence of LBP has been evidenced with every successive attack, being more severe (McKenzie 1989: 2). Sparkes (2005) indicated that there is no consensus regarding the appropriate treatment of LBP. Some of these treatment approaches are explained below:

2.10.4.1 Physiotherapy management

Injuries and diseases result in pain and suffering to the patient. It would therefore be helpful if the treatment provided decreases pain and subsequently reduces the patient’s suffering (Clarke 2000). Physiotherapists play an important role in the management of LBP than any other health care provider (Pinnington 2001). They use various modalities and methods to relieve the discomfort, fear, anxiety and loss
of function associated with LBP. These modalities include electro-physical agents such as cold, heat and modified electrical currents.

2.10.4.1.1 Patient education

Patient education starts at the first consultation with the physiotherapist, the information provided assists the patient to make a decision about participation in the program. The use of simple explanations to the patient about the problem has been suggested. The explanation should be held in form of a discussion between the physiotherapist and the patient where the latter has the freedom to ask questions for better understanding (Harding & Watson 2000). On the other hand Klaber Moffett (2002) argued that teaching patients on self management in groups has been found as a successful way of education method. Sparkes (2005) elaborated that back class treatment is suitable for patients suffering from simple LBP.

During the education of the patients, it was found that most of the physiotherapists provide a lot of advice to patients on back care while others offered none (Kerssens, Sluijs, Verhaak, Knibbe & Hermans 1999). Earlier Sluijs (1991) had indicated that physiotherapists provide most of the information to the patients in the first two sessions of the treatment compared to the follow-up visits. Most of the information was about the illness, instructions on home program and advice about illness behaviour. According to Talvitie and Reunanen (2002) the physiotherapists mostly talk to their patients on matters related to physical activities and less if any on matters related to their social and psychological concerns. However, Sluijs (1991)
had cautioned that when too much information is given to the patients they tend to forget half of it.

Harding and Watson (2000) suggested that during the discussion between the physiotherapist and the patient, explanations should include effects of disability, benefits of exercises, advice on lifting techniques and working postures (Klaber Moffett & Richardson 1997). When such information is provided geared towards the need of the patient, they tend to forget less of the information provided (Sluijs 1991). When demonstrating exercises to the patients, it should be done clearly after which they try the same with the guidance of the physiotherapists (Klaber Moffett 2002). Some patients have been found to have misconceptions of their treatment benefits (Metcalfe & Klaber Moffett 2005). This could be due to the influence they get from the information materials on the treatment effectiveness. They obtain those materials from the internet, newspapers, magazines, public libraries and from the self-help support groups (Mead 2000). To improve on these misconceptions the physiotherapists need to be knowledgeable to be able to educate them on the aims and benefits of physiotherapy interventions (Mead 2000; Metcalfe & Klaber Moffett 2005).

2.10.4.1.2  Spinal mobilization

Manipulation techniques have been found beneficial for the patient with LBP based on the speed at which the patient improves. These benefits are achieved better when the manipulations are started in the early phase of the treatment. This allows the patient to be actively involved in their management which can be described as self-
care program (Erhard, Delitto & Cibulka 1994). According to McKenzie (1989: 2) many studies have shown that 44% of the LBP sufferers are better in one week, 86% are better within one month while 92% of the patients are better within two months. The researcher concluded that when the spinal manipulations are carried out for duration of eight weeks, a success of ninety two percent may be achieved. However, the presence of longer duration of symptoms and presence of radiation of pain from the back to the leg are two factors identified to hinder the effects of spinal manipulation. Patients with such symptoms should therefore not continue with these interventions (Fritz, Whitman, Flynn, Wainner & Childs 2004). During this period they may need reassurance which may help them to reduce anxiety about their problem (Klaber Moffett & Richardson 1997). Physiotherapists therefore may need to encourage them to consider their problems as things they can control through exercise program (Klaber Moffett 2002).

Rivett and Milburn (1997) had cautioned that health professionals using manipulative therapy can cause complications to the spine. In this respect McKenzie (1989: 2) advocated for treatment which aims at educating and teaching the patient methods of self-care.

2.10.4.1.3 Exercise therapy

There are various reasons for recommending an exercise program to an individual. For those suffering from back pain the program aims at rehabilitation, injury prevention and improving fitness level. An exercise regime which includes general and cardiovascular exercise may be ideal for a person suffering from LBP. They are more beneficial when performed daily and at a low repetition tasks (McGill 1998).
Bratton (1999) stated that these activities should commence early to prevent debilitation related to inactivity and improve activity tolerance aiming at restoring the patient’s function. This was further stressed by Osmotherly and Higginbotham (2004) who stated that it would be ideal if the programs are started early in the acute phase of the problem. However, some patients with acute LBP tend to fear pain during the treatment. The researchers recommended the use of Fear Avoidance Questionnaire to identify those patients at risk of activity restriction. The use of this measurement tool would assist the care provider to design an appropriate treatment program for the patient. Sparkes (2005) indicated that patients suffering from acute LBP may benefit from a back class where they are advised on self-care and general exercises. The researcher cautioned that after the patients become competent with the care, they should be reviewed by the same physiotherapist and given further advice or treatment depending on the care outcome. Earlier, Cook and Hassenkamp (2000) had indicated that exercise programs those result in few or short term benefits are easily discarded by the patient.

According to Payton, Nelson and Hobbs (1998) exercise programs have been successful when focusing on prevention of pain and disability by involving patient’s participation. When the intervention has been given, they restore the functions and enable the patients to return to their work and home related tasks after a short duration (Casimiro & Sveistrup 2000; Reo & Mercer 2004). However, those patients who receive their treatment interventions late they do not benefit because they have already lost hope and developed disabled behavior pattern (Ingemarsson, Sivik & Nordholm 1996). According to Williams, Hapidou and Cullen (2003) these patients lack enough confidence in their ability to perform functional activities. The
authors indicated that people suffering from chronic pain may take longer period to accommodate the new skills that they have learnt into their daily routine.

During the exercise program the patient should be educated on safe ways of exercising to prevent further injuries (Klaber Moffett & Richardson 1997). This is because if the exercises are not properly performed, they fail to achieve the intended purpose. Sometimes they may lead to additional injuries of the surrounding tissues (Reo & Mercer 2004). It would therefore be advantageous if the physiotherapist understands the mechanism of the injury to be able to formulate an exercise program and develop an injury prevention strategy (McGill 1998).

Educating the patients on exercise program with view of involving them to participate in spine care is an added advantage (Bratton 1999). After the injury short resting periods, of two to three days have been recommended to minimise the effect of physical wasting and to prevent the patient from assuming the dependent sick role (Patel & Ogle 2000). If prolonged bed rest is considered it may result into chronic pain (Sparkes 2005). During the resting period however, the LBP suffers may benefit from the use of firm mattresses irrespective of whether the back pain symptoms are relieved when the lumbar region is in flexion or in extension. The use of such mattresses has been seen to allow them to enjoy quality sleep (Dubb & Driver 1993). However, when May (2001) compared the health care providers who emphasises more on bed rest and the use of drugs with those who encourage more self care, the patient scored higher treatment satisfaction from the latter.
2.10.4.2 Pharmacology management

Some types of drugs such as Aspirin, non-steroidal anti-inflammatory drugs and muscle relaxants were found to be relatively effective in the treatment of LBP (Bratton 1999; Patel & Ogle 2000). According to Biederman (2005) NSAID drugs are mostly used for the treatment of mild to moderate pain, soft tissue injuries and some arthritic conditions. However, the patient may experience some side-effects which may be due to the use of these drugs. The side-effects include gastrointestinal ulcerations, acute renal failure and bleeding tendencies. According to Lawson (1999) patients who could be suffering from depression due to chronic physical illness can benefit from drugs like tricyclic antidepressants which are effective in increasing slow wave sleep. This sleeping pattern is important for minimising pain and hence improves the patient’s quality of life. Corrigan and Maitland (2003: 26) added that the use of the drugs like monoamine oxidase inhibitors and serotonin reuptake inhibitors are well tolerated by the patient with depression.

2.10.4.3 Surgical intervention

Not all patients suffering from LBP benefit from conservative management. According to Glaser, Lee and Fehr (2005) surgical interventions for patients suffering from LBP may be considered when other treatment options have been tried and failed. Hong (2002) stated that common reasons for surgical interventions to patient with LBP include presence of sciatica and spinal stenosis. However, Patel and Ogle (2000) indicated that some patients suffering from acute LBP may require emergency surgery based on the cause of their LBP. The authors singled out patients
with cauda equine lesions characterized by sensorimotor changes in the legs and having urine retention. Glaser, Lee and Fehr (2005) indicated that LBP can be worse when the patient is under stress. The authors concluded that it may not be a good idea to operate the patient when one has stressing event in life.

2.11 Summary of the chapter

In this chapter, literature on patients and client satisfaction in general with regard to physiotherapy for person suffering from LBP were presented. Reference was made to the impact of LBP and factors affecting patient satisfaction. The literature further indicated that professional interactions between physiotherapists and the patients are crucial for successful management of the latter. Such interactions result into high treatment compliance and satisfaction of the patients.

In order to maintain patients’ satisfaction, surveys aiming at identifying what satisfy or dissatisfy the clients should be an ongoing process. The effect of satisfaction was identified. Clients who are satisfied tend to recommend the organization’s services or products to other people who finally become new clients.
CHAPTER THREE
METHODOLOGY

3.1 Introduction

In this chapter the researcher presents the research methods which were used in order to achieve the aim and objectives of the study. Two research methods were used, namely quantitative and qualitative methods. Each research method will be explained separately under subheadings, detailing sampling technique, sample size, data collection, instruments, data capturing and data analysis. Finally, the ethical aspect considered in the study will be stated.

3.2 Research design

A cross-sectional, descriptive study design, utilizing a combination of two research methods was chosen. For the first part a quantitative research method and for the second part a qualitative research method was used. This study design was chosen by the researcher because the targeted sample was expected to be large and the respondents could be recruited in one area. According to Polit, Beck and Hungler (2001) this design is suitable where the data collection is done at one particular point in time. Furthermore a cross-sectional study design is appropriate for describing the relationship of a phenomenon at one point in time and it is economical and easy to manage within a limited timeframe (Polit, Beck & Hungler 2001). The outcome of this study design allows the researcher to make inferences about the population from which the sample was recruited (Currier, 1979). A quantitative research method is used in gathering facts, which can be captured in a numerical format and analyzed with statistical methods.
On the other hand a qualitative research method allows the researcher to gain deeper insights into the respondents’ views, opinions, feelings and beliefs in their natural settings (Hicks, 1995). These findings enrich the quantitative information more (Burns, 2000). Triangulation research method was used in the data collection. This method involves two or more methods of investigating the same subject in one study (Parahoo, 1997). According to De Vos (2001) the triangulation of the two research methods in data collection increases its reliability. Earlier, Treece and Treece (1986) had pointed that when both methods are used they may result in uncovering some unique information that could have been omitted using one method. The authors further indicated that it can increase the confidence in results and allow for creative methods.

3.3 Research setting

The research was carried out in selected hospitals in the Nairobi and Central Province (C.P) in Kenya. The selection of the hospitals was based on those hospitals’ monthly return whose physiotherapy records indicated that LBP ailment was a common condition treated there. The information was obtained from the Chief Physiotherapist in the Ministry of Health in Kenya (Appendix L) and the Chief Physiotherapist from K.N.H. (Appendix M). The selected hospitals from the C.P. were Nyeri Provincial General Hospital, Thika District General Hospital, Maragua District Hospital, Nyahururu District Hospital, Kiambu District Hospital, Muranga District Hospital and Al Kalau District Hospital. In Nairobi the K.N.H. and Mbagathi District Hospitals (M.D.H.) were targeted. However, only the K.N.H. was used as the management of the M.D.H. was of the opinion that the hospital was not
appropriate for the study. The management suggested the use of other hospitals (Appendix P).

3.4 Study population

The targeted study population included all the adult patients receiving physiotherapy for their LBP in Kenya.

3.5 Inclusion criteria for LBP patients

Only adult patients, aged 18 years and above and suffering from LBP were included in the study. Those suffering from LBP associated with serious pathologies like tuberculosis, tumors or recent fractures of the spine were not included. This was ensured by checking the doctor’s referral note whether the patient’s LBP was associated with any of the above pathologies.

3.6 Part One of Study: Quantitative Component

The quantitative research method used for this part of the study is described below.

3.6.1 Sampling method

The researcher employed a convenient sampling method for recruiting subjects who attended selected health facilities for physiotherapy for their LBP and they were recruited on voluntary basis. With a convenient sampling method the researcher uses most readily available respondents for the study. The respondents are not necessarily known to the researcher (Polit, et al 2001). The population should be defined so that those who participate form a big sample with similar characteristics. However, the
use of this non-probability sample limits the researcher to choose whom to include in the study and this may be a source of bias (Currier, 1979).

3.6.2 Sample size

The initial targeted sample was 300 LBP sufferers from the targeted 12 hospitals. During the data collection phase a general strike by all the civil servants started on the 2nd of June 2005 and it lasted for five days (Appendix N). This strike affected the service delivery resulting in a decline in patient attendance. Some hospitals, however, were more affected than others such as the Al Kalao hospital where no patients were recruited for the study.

3.6.3 Data collection

The data was collected using a questionnaire-based survey from the willing patients who were receiving physiotherapy for their LBP. The use of questionnaire method was supported by Burns (2000) as appropriate when dealing with many respondents. In circumstances where the data collection period is not limited, further follow-ups can continue until a better sample size has been achieved (Currier, 1979). The use of a questionnaire allows every participant to get a similar assessing tool to complete which may result in standardized responses (Burns, 2000). During the completion process, if any problem arises, the researcher or the assistants are available although they remain in the background (De Vos, 2001). The use of a questionnaire also eliminates a situation where the researcher is available but the respondent to be interviewed is not available as when using an interview in a qualitative study (Burns, 2000). Moreover it provides a possibility of complete anonymity of the respondent.
Such anonymity may be necessary in obtaining information about deviant behaviors or embarrassing characteristics (Polit, et al 2001).

3.6.4 Research instrument

The research instrument was developed from various questionnaires for measuring patient satisfaction and also literature. One of these questionnaires was the MedRisk Instrument for Measuring Patient Satisfaction With Physical Therapy Care by Beattie et al (2005a) and it had good reliability (Cronbach alpha = 0.83). This instrument had 12 statements excluding those focusing on the demographic data. Only 9 of the 12 statements (75 %) relating to patient satisfaction were found to address some interests of the current study while the rest, namely 3 statements, focused on external factors which affect patient satisfaction. These generic statements were concerned with the courtesy of the receptionist, registration process and comfort of the waiting area. Based on this, the nine statements were adopted for the study and the three were left out.

Treece and Treece (1986: 262) described the content validity of an instrument “as that which is closely related to the issue to be measured”. In order to have good content validity for the questionnaire of the current study, five more statements were adopted from the following literature by Goldstein, Elliott and Guccione (2000), Monnin and Penerger (2002) while two were developed from Cook and Hassenkamp (2000) and May (2001). These statements focused on compliance with the treatment, treatment environment and constancy in the physiotherapist treating patients. Other statements investigated patients’ response to the treatment and their level of satisfaction with the physiotherapy service for LBP. All the statements were
added together resulting into sixteen statements excluding the four items for demographic information (Appendix A).

3.6.4.1 Reliability of the research instrument

The reliability of a measuring tool is the consistency it has in providing similar results from the same population when administered at different times (Currier 1984: 155). Due to the addition of the seven questions, this necessitated the need to pilot the instrument. This was done with ten LBP sufferers who were attending the physiotherapy clinic at the University of the Western Cape. The same patients were informed that they were to complete the same questionnaire after one week which was done for re-testing purpose.

The two sets of data were entered using SPSS software under different codes. In order to establish the correlation of the two sets of data, the reliability analysis using the Scale Test was carried out. The Cronbach’s Alpha coefficient of 0.706 was obtained which indicated that the tool was reliable. Thereafter the same questionnaire was translated into the Kiswahili language by a lecturer of this language and the test-retest was repeated with ten people in Kenya. The same analysis process was followed resulting in a Cronbach’s Alpha coefficient of 0.572 which indicated that the tool’s reliability was lower than the English version. Test-retest of this questionnaire was not repeated due to limitation of time. Thus, only the English language questionnaires were used. Those patients who had minimal or no understanding of English language were assisted by the principal researcher or the assistant researchers when necessary to clarify the terms.
3.6.4.2 Content validity

This refers to the “adequacy of the sampled content in the measuring tool for the subjects intended to be assessed” (Polit, et al 2001). It is guided by the question: “Is the substance or content of this measure representative of the content of the property being measured” (Burns, 2000). Peer input to the research instrument was given by some post-graduate physiotherapy students. They were of the opinion that the tool was addressing all the study objectives. Further inputs were given by the statistician who advised the researcher not to use numeral numbers as the patients’ options but instead use the words; Strongly disagree, Disagree, Agree, Strongly agree and each option should be written in a box. He further advised the use of a four-point Likert-Scale since respondents may tend to be neutral when given the five-point Likert-Scale which has the option of the neutral option. Finally, he advised to write all the options of statement number four in weeks and on the rewording of statement number ten for better understanding. The researcher made the changes as advised by the statistician.

The questionnaire was then translated into the Kiswahili language (Appendix B) being a national language in Kenya, for those patients who could not understand or read the English language. Another independent translator translated the Kiswahili version of the questionnaire back to English in order to ensure that the two questionnaires have the same content and meaning. However, no differences occurred.
3.6.5 Description of the questionnaire

The questionnaire consisted of sections A and B; the former for demographic data such as age, sex, socioeconomic data and the latter part for information on quality of physiotherapy services the patients had received (Appendix A). Some statements (7, 9 and 18) were negatively worded. This was to ensure that the participants carefully read and understood the statements to prevent them from guessing.

The participants’ demographic data and the duration of the treatment the patients had undergone were covered by questions number 1 to 4. Part B focused on the domains of patient satisfaction which were investigated, they include (a) physiotherapist-patient interaction which was measured under statements number 5 to 9 and 11 (Beattie et al 2005a), (b) professionalism of service under statements number 10, 17 and 18 (Cook & Hassenkamp 2000; Goldstein, Elliott & Guccione 2000; Beattie et al 2005a) and (c) where statement number 16 (Monnin & Perneger 2002) addressed treatment environment where the patient’s received his/her treatment. Another domain of patient satisfaction was compliance with treatment which was measured under statements number 14 and 15 (Goldstein, Elliott & Guccione 2000; May 2001). The statements number 12, 13, 19 and 20 (Goldstein, Elliott & Guccione 2000; Monnin & Perneger 2002; Beattie et al 2005a) addressed the overall opinion of patient satisfaction with the physiotherapy service they had received.

3.6.6 First procedure for the study

A letter requesting for permission (Appendix R), accompanied by copies of the other clearance letters and a copy of the proposal, were given to the Medical
Superintendents of the selected health facilities. In some hospitals the officers endorsed the permission in writing on the researcher’s letter while others gave verbal permission (Appendices I and J). After permission was granted the data collection followed.

Before the actual commencement of the data collection, the principle researcher held a meeting with the two research assistants in order to train them on administering the questionnaires. They were also qualified physiotherapists who were on leave during the data collection period and were not working in the hospitals where they collected the data. During the meeting it was agreed that the physiotherapy uniform should not be worn. All the researchers were only using a nametag without the title physiotherapist. This was aimed at isolating the researchers from the rest of the physiotherapists, which could have an intimidating effect on the patients who may then withhold some information. During the actual data collection, the physiotherapist in-charge of the physiotherapy departments of the selected hospitals assisted the researcher by identifying those patients suffering from the LBP from the physiotherapy register and as they came for their physiotherapy treatment.

The purpose of the study was explained to the patients with LBP who met the inclusion criteria. They were asked whether they would be willing to participate and those who accepted the request provided verbal informed consent. Thereafter they were given the questionnaire to complete. Those patients who were not able to read or write were assisted by the research assistants or the principal researcher to complete the questionnaire in an office. The questionnaires were collected
immediately after completion. Either the principal researcher or his assistants covered each hospital for a period of two weeks.

### 3.6.7 Data capturing

The quantitative data was captured utilizing the SPSS (Statistical Package for the Social Sciences) software for the analysis after conversion of the responses from nominal to numerical format. The strongly disagree and disagree options were assigned 1 and 2 respectively while agree and strongly agree were assigned 3 and 4. The demographic data were also assigned numerical codes. Finally, the level of satisfaction had five options ranging from 1 to 5. For the purpose of the analysis option 1 and 2 in statement number twenty were considered as low level of satisfaction while option 3 was regarded as moderate. The rest, options 4 and 5, were considered as high level of satisfaction.

### 3.6.8 Data analysis

The data was subjected to descriptive statistical analysis to express the independent variables as frequencies and percentages. For the inferential statistics the Spearman’s Test for correlation was used to determine the strength of association between the ordinal data established at a P-value of $p < 0.01$. This was done to identify whether any association existed between the factors affecting the patient satisfaction in LBP management, namely treatment compliance, quality of life and patient’s knowledge about LBP. According to Bryman and Cramer (1999: 186-187) when variables are at ordinal levels, Rank Correlation Test can be used to measure their relationship. Under this test either Spearman’s or Kendall’s methods can be
used to test for relationship between two ordinal variables. The two methods are non-parametric indicating that they can be used in a wide variety of context as they make fewer assumptions about the variable. The interpretations of the two methods are identified with the Pearson’s \( \rho \) where the computed coefficient ranges between -1 and +1. Spearman’s Test was chosen as Kendall’s Test produces slightly smaller coefficient

3.7 Part Two of the Study: Qualitative Component

The qualitative research method used for this part of the study will be explained.

3.7.1 Sampling method

The patients from every participating hospital who met the inclusion criteria and participated in the initial part of the study were asked whether they would be willing to be interviewed as a follow-up to the questionnaire. From those patients who indicated their willingness to be interviewed, a simple random sampling was done. The names of the LBP sufferers from the same hospital who responded positively for the interviews were placed in a cup which was shaken several times and later one name was drawn by the principal researcher. The person whose name was drawn was informed and arrangements were made for a suitable time and venue for the interview. Four LBP suffers were interviewed from some of the selected hospitals in the C. P. while the rest were interviewed from K.N.H. in Nairobi.

3.7.2 Sample size

A total of 9 LBP sufferers were randomly selected for the interviews.
3.7.3 Data collection methods

The data was collected through face-to-face interviews with the identified LBP sufferers. This involved their interpretation and feelings of the physiotherapy service they received for their LBP and how physiotherapy impacted on their quality of life. The interviews were done under a friendly atmosphere between the principal researcher and the patient where the latter could ask questions for a better understanding. In support of this method Patton (1990) indicated that qualitative research methods assist the researcher to study identified issues in depth and detail.

3.7.4 Research instrument

Three pre-determined questions were used by the principal researcher to guide the semi-structured interviews. The first question asked to set the climate was about the cause of the back problem. The second question focused on the effects of their LBP on their daily activities and social lives. The last question was focusing on the impact of physiotherapy treatment on their lives. However, more probing ensued based on the direction taken by the interview.

3.7.5 Second procedure for the study

Appointments were made with those patients who were selected for the interview based on a time and venue convenient for them. In order to prepare the patient in advance a consent letter (Appendix C) accompanied by an interview guide (Appendix K) was given to the patient prior to the day of the interview. On the day of the interview, a signed written consent was provided by the patient before the interview started. All the patients were interviewed by the principal researcher.
where four of them were interviewed in the hospital in an office; two at their homes while the remaining three were interviewed at their places of work during the lunch break. During this exercise some patients spoke English while others used the Kikuyu language. The principal researcher had the advantage of being conversant in both languages, therefore no interpreter was engaged. On average, every interview lasted for almost twenty minutes.

### 3.7.6 Data capturing

The interviews were tape-recorded. In order to ensure the trustworthiness of the recorded data, the tape was replayed for the patient to ascertain that, what was recorded was exactly what he or she said. Subsequently, the data transcription followed and they were shown a copy of the transcribed data to ensure that what was transcribed was exactly what they had said.

### 3.7.7 Data analysis

Analysis of the qualitative data was done by the principal researcher who also translated the interviews which were recorded in Kikuyu language to English language. Occasionally, these translations retained original words or expressions that would have lost its true impact in the English translations. Thus, some actual words used by the respondents are included in the text as transcribed verbatim in order to express their feelings.

This was followed by the process of categorization through the reading of the transcribed notes and listening to the recorded interviews over and over to sort out
the views of every respondent through the data coding. The codes with related information from all the interviews were grouped together into various categories. Comparative trends, tendencies and emphases were noted and the information was sorted into predetermined themes and the new themes which emerged from the recorded data.

The primary focus for the interview was to establish the effects of LBP on the sufferers’ activities of daily living, social life and the benefit of physiotherapy for the LBP. It was important to identify the impacts of LBP to the quality of life of a LBP sufferer as that provided bases or indicators of satisfaction which were used to compare with the outcome of physiotherapy interventions. The triangulation of the comparable quantitative data with the interview results was done. According to De Vos (2001) data triangulation is an approach which tries to gather observations utilizing a variety of sampling strategies. This ensures that a theory is tested in several ways.

3.8 Ethical considerations

The Higher Degrees Committee of the University of the Western Cape granted Senate approval before the study commenced (Appendix E). Written permission was obtained from the Ministry of Education in Kenya, where the principal researcher was also given an identification card to use while in the field (Appendix F and G). Further permission was granted from the Research and Ethical Committee in K.N.H in the same country before the data collection commenced (Appendix H). The final permission was granted by the management of the hospitals which were selected for the study (Appendix J). Participation in this study was gained through informed
consent and it was on a voluntary basis (Appendix D). Participants were informed of the purpose of the study and they were told of their right to withdraw from the study at any point. Confidentiality of the information was maintained because anonymity was ensured. Permission was sought for recording of the interview data and respect was granted to issues considered to be sensitive by the respondents.

3.8.1 **Expected risks and benefits**

The participants were told that there were no anticipated physical risks involved in the study. However, if one felt that the content of the interview was causing feelings of stress or emotional discomfort, they may end the interview. Similarly, they were informed that there were no direct benefits for participating in the study but the information could assist the hospital management to ensure quality physiotherapy services for LBP sufferers.

3.9 **Summary of the chapter**

In this chapter the researcher described the research methods used. The choice of research setting was based on the number of patients with LBP treated at physiotherapy departments in Kenya. The study design, methodology and data analysis were motivated and supported with the references. Procedures to ensure that the study was conducted in an ethical manner were explained. The results of the study are presented in the next chapter.
CHAPTER FOUR

RESULTS

4.1 Introduction

In this chapter the results of the study are presented. The results from the quantitative and qualitative parts are described and interpreted separately with the aid of tables and graphs. Descriptive and inferential statistical analyses were used for the former. The Spearman’s Correlation Test was used to identify the associations between patient satisfaction and the factors affecting it. These calculations were based on statement number 12 in the questionnaire. Firstly, the results of the quantitative data are described under subheadings namely; socio-demographic characteristics of the sample, and patient satisfaction. The data collected for the qualitative part was analyzed under categories and themes

4.1.1 Interpretation of Correlation Coefficient (r)

The Spearman’s Correlation Test indicates the strength and direction of relationships between two variables. The closer $r$ is to zero the weaker the relationship. A detailed interpretation of Correlation Coefficient results is presented below;

$0.19 = $very low, $0.2 - 0.39 = $low, $0.4 - 0.69 = $moderate, $0.7 - 0.89 = $high and $0.9 - 1 = $very high (Bryman & Cramer 1999:175 - 181).

4.2 Part one of the study: Quantitative component

The results of the quantitative data are presented below.
4.2.1 Social demographic characteristics of the LBP sufferers

Only a total of 201 persons receiving physiotherapy treatment for their LBP were recruited as general civil servants’ strike started during data correction phase leading in decline in patients’ attendance (Appendix N). This size represents 66.7 % of the targeted 300 patients for voluntary participation in the study. Of these patients, 50.2 % (101) were recruited from the selected hospitals in the Central Province (C.P) while 49.8 % (100) were from K.N.H. in Nairobi Province. The gender profile demonstrated that 60.2 % (121) of the participants were females while 39.2 % (80) were males. This indicates that there were more females than males in the sample of LBP sufferers. The mean age of the participants was 45.43 years (SD. 10.32), ranging from 20 – 73 years. A summary of the socio-demographic characteristics of the participants is presented in Table 1.

Table 1: Social demographic data of the LBP sufferers by gender and mean age (N = 201).

<table>
<thead>
<tr>
<th></th>
<th>Females</th>
<th>Males</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>121 (60.2 %)</td>
<td>80 (39.8 %)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mean age</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (years) (SD)</td>
<td>45.43 (10.32)</td>
</tr>
<tr>
<td>Females mean age (years) (SD)</td>
<td>45.54 (10.65)</td>
</tr>
<tr>
<td>Males mean age (years) (SD)</td>
<td>45.52 (9.85)</td>
</tr>
</tbody>
</table>

4.2.1.1 Low back pain by age groups

FIGURE 1 shows that the least number of people with LBP in the study was in the 20 – 29 years and over 70 year age groups. The results further demonstrated a sharp increase of LBP in the 30 – 39 year age group, with most of patients in 40 – 49 year age group. From this age group, a sharp decrease of the ailment is noted to 50 – 59
years age group. These indicate that LBP increased almost linearly with age but more severe from 29 – 39 to the peak at 40 - 49 years age group.

Figure 1: Age distribution of the LBP subjects [n = 201]

4.2.1.2 Occupation and LBP

According to FIGURE 2, housewives represent the largest proportion of the sample (26.4 %) (53). The type of house work done by the house wives may have contributed to their suffering from LBP. Doyal (1995: 161) pointed that women have a heavy burden of domestic work than men. The author further indicated that women physiology was different from that of men. During pregnancy a hormone is
released which causes laxity to the ligaments and this interferes with the biomechanics of the pelvic girdle and vertebral column. However, the ligaments may recover after three days post delivery but their effects to the joints has been found to take utmost three months (Aua, R. S., Bullock-Saxton, J. & Markwell, S. (1998: 227). Other occupations were farming (17.4 %) (35) and business related activities (14.4 %) (29). However, this study did not categorize the types of the business they were doing. The figure further showed that people from the police force (1.5 %) (3) were the least in the sample suffering from LBP. Based on these results one can suggest that housewives had flexible program, which allowed them to attend for their treatments. The occupations classified as others in this study were individual occupations which could not be grouped together. Examples of such occupations included; barber, carpenter and engineer.
4.2.1.3 Duration of treatment

The data demonstrated that 44.8% (90) of the LBP sufferers attended for their treatments for more than 12 weeks while 36.4% (73) had been treated between 1 – 6 weeks. However, few patients (18.9%) (38) attended treatment in the duration between 6 – 12 weeks. Probably, most of them may have improved in the acute phase. Bratton (1999) indicated that most patients suffering from acute LBP improves with minimal interventions in the first few weeks.
4.2.2 Patient satisfaction

The results of the four domains of patient satisfaction, namely patient-physiotherapist interaction, professionalism of service, treatment environment and compliance with treatment are described. Results of the Likert-Scale were described under two major groups namely Agree and Disagree. References will be made to the combined frequencies for each group and where appropriate will be further analyzed under the four responses of Strongly disagree, Disagree, Agree and Strongly agree. Graphs and tables will be used to present the frequencies for each of the responses. Results from the Spearman’s correlation Test can be found under Appendix Q.

4.2.2.1 Interaction Between Physiotherapist and Patient

The interaction between the physiotherapist and the patients was assessed through the items 5, 6, 7, 8, 9 and 11 in the questionnaire. This involved communication on treatment advice, answering questions and listening to the patients.

4.2.2.1.1 Treatment explanation

In response to statement 5, the majority of the patients (88 %) (177) agreed that physiotherapists explained their treatment thoroughly. Of this group 51.7 % (104) agreed with the statement and 36.3 % (73) strongly agreed. There were also others who disagreed with this statement; 9.5 % (19) disagreed and 2.5 % (5) strongly disagreed (FIGURE 3). The Spearman’s Test for correlation between the physiotherapist explaining treatment to their patients and patient satisfaction showed a significant moderate positive correlation ($r = 0.408; p < 0.01$). These results
suggest that there is dependence between patient satisfaction and explanation of the treatment to the sufferers.

Figure 3: Agreement of the subjects on the therapists’ explanation of treatment

![Graph showing agreement levels](image)

Y - axis: Responses in percentage

4.2.2.1.2 Advice to the patients

FIGURE 4 shows the responses to statement 6. The majority of the patients (90.1 %) (181) agreed that the physiotherapists gave them advice on avoiding future back problems. Of this group; 48.8 % (98) strongly agreed with the statement and 41.3 % (83) agreed. On the other hand, there were those patients who differed with the
statement; 8.5 % (17) disagreed and 1.5 % (3) strongly disagreed. A low positive correlation was found between the physiotherapist advice and patient satisfaction ($r = 0.380; p < 0.01$). This indicates that patient satisfaction relies on advice given to the patient about the treatment.

**Figure 4: Agreement of the subjects on the therapists’ advice [n = 201]**

4.2.2.1.3 **Answering of questions**

This item was deliberately stated negatively to avoid the participants from guessing when completing the questionnaire. In response to it, the majority of the patients (76.1 %) (153) disagreed that the physiotherapists were not answering their
questions. Of this group; 38.8 % (78) strongly disagreed with the statement and 37.3 % (75) disagreed. There were also patients who agreed with this statement; 16.9 % (34) agreed and 7 % (14) strongly agreed (FIGURE 5). The Spearman’s correlation coefficient showed a significant negative low association between answering of patients’ questions and patient satisfaction ($r = -0.284; \ p < 0.01$). These results suggest that satisfaction of the patient depend on the competency of the physiotherapist in answering patients’ questions.

**Figure 5: Agreement of the subjects on the therapists’ answering of questions**

<table>
<thead>
<tr>
<th>Responses</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly disagree</td>
<td>40</td>
</tr>
<tr>
<td>disagree</td>
<td>30</td>
</tr>
<tr>
<td>agree</td>
<td>20</td>
</tr>
<tr>
<td>strongly agree</td>
<td>10</td>
</tr>
</tbody>
</table>

Y - axis: Responses in percentage
4.2.2.1.4 Physiotherapists listen to the patients’ concerns

FIGURE 6 shows the responses to statement 8. The majority of the patients (97 %) (197) agreed that the physiotherapists listened to their concerns. Of this group 51.2 % (103) agreed with the statement and 45.8 % (92) strongly agreed. The Spearman’s Test for correlation between physiotherapists listening to the patient concerns and patient satisfaction showed a significant low positive correlation ($r = 0.347; p < 0.01$). This implies that patient satisfaction can be affected negatively if patient’s concerns are not listened to.
4.2.2.1.5 Direct contact time with the physiotherapist

This item was deliberately stated negatively to prevent the respondents from completing the questionnaire without reading it properly and perhaps guessing. In response to it the majority of the patients (83.6 %) (168) disagreed with the statement that the physiotherapists did not spend enough time with them. Of this group 43.8 % (88) disagreed with the statement and 39.8 % (80) strongly disagreed. There were also a minority of patients who agreed with the statement; 10 % (20) agreed and 6.5 % (13) strongly agreed. The Spearman’s correlation coefficient showed a significant low negative association between the time used by
physiotherapist treating the patient and patient satisfaction ($r = -0.207; p < 0.01$).

These results indicate that the amount of time spent by the physiotherapist with the patient during the treatment has an impact on their satisfaction with the service received. This is shown in FIGURE 7.

**Figure 7: Subjects’ agreement on the contact time with the therapists during treatment [n = 201]**

![Bar chart showing responses](chart.png)

$Y$ - axis: Responses in percentage

### 4.2.2.1.6 Instructions on home program

In response to statement 11 the results demonstrated that 86.1 % (173) of the LBP sufferers agreed that physiotherapists gave them detailed instructions on their home
program. Pertaining to this issue, 43.3 % (87) agreed with the statement and 42.8 % (86) strongly agreed. There were also patients who disagreed with this statement; 10.9 % (22) disagreed and 3 % (6) strongly disagreed. The Spearman’s Test for correlation between physiotherapist giving instructions to patient on home program and patient satisfaction showed a significant moderate positive association (r = 0.480; p < 0.01). This implies that patient satisfaction depend on the instructions given to the patient about the treatment. This is shown in FIGURE 8.

Figure 8: Subjects’ agreement on home program by the therapists [n = 201]
4.2.2.2 Professionalism of physiotherapists

Aspects relating to the professionalism of the physiotherapists were assessed through items 10, 17 and 18 in the questionnaire.

4.2.2.2.1 Respect for patients

In response to statement 10 the results demonstrated that 98.5 % (198) of the patients agreed that they were accorded respect during treatment. Of these patients, 80.6 % (162) strongly agreed with the statement and 17.9 % (36) agreed. On the other hand, a few patients had different perceptions regarding this issue; 1 % (2) disagreed with the statement and 0.5 % (1) strongly disagreed (FIGURE 9). The Spearman’s correlation coefficient between physiotherapist treating patient with respect and patient satisfaction showed a significant low positive association (r = 0.289; p < 0.01). This suggests that there is reliance between patient satisfaction and the respect accorded to the patient during the care.
4.2.2.2 Constancy in physiotherapists treating patients

TABLE 2 shows responses to statements 17 and 18. It was noted that most patients (54.8 %) (110) were not treated by the same physiotherapist every time they attended for their care. The result further showed 54.2 % (109) of them were not being bothered by being treated by different physiotherapists. However, a notably large proportion (45.8 %) (92) did not like being treated by different physiotherapists. According to the results of Spearman’s Test for correlation coefficient, there was no significant association between patient satisfaction and
receiving treatment from the same physiotherapist \( (r = 0.040) \) or different physiotherapist \( (r = 0.066) \). The results imply that receiving treatment from different physiotherapists does not affect patient satisfaction.

Table 2: Treatment constancy

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagreed</th>
<th>Disagreed</th>
<th>Agreed</th>
<th>Strongly agreed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>no</td>
<td>%</td>
<td>no</td>
</tr>
<tr>
<td>Same PT</td>
<td>26.9 (54)</td>
<td>27.9 (56)</td>
<td>11.4 (23)</td>
<td>33.8 (68)</td>
</tr>
<tr>
<td>Not bothered by different PT</td>
<td>7.5 (15)</td>
<td>38.3 (77)</td>
<td>34.8 (70)</td>
<td>19.4 (39)</td>
</tr>
</tbody>
</table>

Key: PT = physiotherapist  
no = number of patients  
% = percentage of proportion

4.2.2.3 Compliance with treatment

In response to statement 14 and 15 the results demonstrated that 93 % (187) of the patients agreed that they were attending for their treatments. Most of them (75.6 %) (152) agreed that the cost of the treatment was reasonable. However, a notably large proportion (24.4 %) (49) disagreed that the cost of the treatment was reasonable. This is presented in Table 3.

Table 3: Compliance with treatment

<table>
<thead>
<tr>
<th>Item</th>
<th>Opinion</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>no</td>
<td>%</td>
<td>no</td>
<td>%</td>
</tr>
<tr>
<td>Attendance</td>
<td>0.5</td>
<td>(1)</td>
<td>6.5</td>
<td>(13)</td>
<td>31.3</td>
</tr>
<tr>
<td>Cost</td>
<td>4</td>
<td>(8)</td>
<td>20.4</td>
<td>(41)</td>
<td>33.8</td>
</tr>
</tbody>
</table>
4.2.2.3.1 Association between treatment attendance and cost

According to the results ($r = 0.156$ at $P < 0.05$) of the Spearman’s Test for correlation coefficient, there is no significant association between treatment attendance and the cost of care. However, cost of care is significantly ($r = 0.342; p < 0.01$) associated with patients’ satisfaction. This suggests that there is dependence between patient satisfaction and the cost of care. For example, an increase in cost of care may have a negative impact on the patient satisfaction. On the other hand, a reduction of treatment cost may have a positive impact on patient satisfaction.

4.2.2.4 Treatment environment

In response to statement 16 the majority of the patients (93 %) (187) agreed that the treatment areas of the various physiotherapy clinics were clean (FIGURE 10). Of this group 54.2 % (109) strongly agreed with the statement and 38.8 % (78) agreed. The Spearman’s Test for correlation between the clinical environment and patient satisfaction showed a significant low positive association ($r = 0.296; p < 0.01$). This implies that patient satisfaction can be affected by the level of cleanliness of the treatment area.
4.2.2.5 Overall opinion of service

Overall opinion of service was assessed through items 12, 13, 19 and 20 in the questionnaire.

4.2.2.5.1 Improvement

In response to statement 19 the majority of the respondents (95 %) (191) indicated that their back problem improved with physiotherapy. These findings indicate that physiotherapy treatments are effective in the management of LBP. Further, the
results support the second study hypothesis that physiotherapy interventions have a positive effect on the quality of life of persons suffering from LBP. This was also found in the results from the qualitative study described later in this chapter. According to the Spearman’s Test for correlation between patients’ improvement and patient satisfaction there is a significant low association (r = 0.352; p < 0.01). This indicates that patient satisfaction with the service has a positive impact on the patient’s improvement. This is shown in **FIGURE 11**.

**Figure 11: Subjects’ agreement on the responses to the treatment [n = 201]**

![Figure 11: Subjects’ agreement on the responses to the treatment](image_url)
4.2.2.5.2 Use of physiotherapy in future

The results of statement 13 demonstrated that 98.5 % (198) of the patients had agreed to return to their respective physiotherapy clinics for their future care if the need arises. Of this group 61.7 % (124) strongly agreed to return to the same clinics in future and 36.8 % (74) agreed. However, some sufferers did not want to return; 1 % (2) disagreed and 0.5 % (1) strongly disagreed. The Spearman’s Test for correlation indicated a moderate association between future use of care and patient satisfaction \( r = 0.518; p < 0.01 \). This suggests that the future use of health care from the same health facility depends on the past record of the patient satisfaction. Based on these findings one may easily infer that the patients were comfortable with the care given to them by the physiotherapist.

4.2.2.5.3 Overall satisfaction

The results of statement 12 indicated that majority of the patients (96.5 %) (194) had positive feeling regarding the services they had already received from the physiotherapists (FIGURE 12). The data demonstrated that 59.2 % (119) of the patients were highly satisfied with the service while 37.3 % (75) were fairly satisfied with the interventions which they had received. These findings support the first hypothesis of the study that patients are generally satisfied with the quality of physiotherapy treatment they received for their LBP.
4.2.2.5.4 The Level of satisfaction

In response to statement 20 the level of satisfaction was classified as follows on the scores used:

1 and 2 were combined as a low rating of satisfaction.

3: Moderate.

Scores 4 and 5 were combined as a high rating of satisfaction.

The majority of the patients (71.6 %) (144) rated the physiotherapy service for their LBP as high (FIGURE 13).
4.2.2.5.5 Level of satisfaction by regions

Although it was not the purpose of this study, the researcher found that patient satisfaction with the physiotherapy for LBP varied from region to region. However, in order to maintain their anonymity they were identified as region A and B. FIGURE 14 summarizes the level of satisfaction with physiotherapy service for LBP in region A. The figure shows that patients in this region were more satisfied (79 %) (79) than those in region B (64.4 %) (65).
**FIGURE 15** shows the level of satisfaction in region B. According to the figure, patients in this region were less satisfied with physiotherapy service for LBP compared to those in region A.
4.3 Part two of the study: Qualitative component

Responses were transcribed verbatim, coded and categorized under two predetermined themes. However, patients’ recommendations emerged as a new theme. These results are tabulated in TABLE 4
Table 4: Themes and Categories

<table>
<thead>
<tr>
<th>Themes</th>
<th>Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>The impact of LBP on quality of life.</td>
<td>Activities of daily living</td>
</tr>
<tr>
<td></td>
<td>Marital relationship</td>
</tr>
<tr>
<td></td>
<td>Work</td>
</tr>
<tr>
<td></td>
<td>Social life</td>
</tr>
<tr>
<td></td>
<td>Employment</td>
</tr>
<tr>
<td>Impact of physiotherapy interventions on quality of life.</td>
<td>Benefits</td>
</tr>
<tr>
<td>Patients’ recommendations</td>
<td>Counseling</td>
</tr>
<tr>
<td></td>
<td>Knowledge about surgery for LBP</td>
</tr>
</tbody>
</table>

### 4.3.1 Impact of LBP on Quality of Life

The effects of LBP to the quality of the patients’ lives are described below under different categories.

#### 4.3.1.1 Activities of Daily living

The qualitative data indicated that most of the patients had general feeling that they were not fully independent in performing some of their routine activities related to sitting, walking, personal care and toileting. During the interview they had the following to say:

*A:* 'I couldn’t sit, I was lying on a mattress at the back of the car, I was being carried like a luggage’

*B, F,* ‘I was walking with a walking stick...I was being supported by somebody and the walking stick’

*C and H:* ‘I can’t do cloth washing’
E: ‘..I was not bending or standing....sitting down was a problem’

G: ‘...I couldn’t take myself to the toilet, I used to be washed’

4.3.1.2  Sexual dysfunction

During the interview, six participants showed openness to discuss the impact of LBP on their sexual function. During the session they had the following to say:

A, B and D: ‘...many things go wrong like bed activities (sex) life does not go well like the way somebody had been before’

E: ‘..the most important thing is that my wife understands...she knows the problem’

F: ‘You keep on getting pain and problems such that even you can’t enjoy with your husband...when you become unable to attend to your husband’s needs...He sees that you are there but it is as if you don’t exist. You know we are like people who fear each other, he fears me that if he touches me I may become worse and like wise I fear him because I see as if my problem may become worse. Our happiness is just like that...’

G: ‘..when one has a back problem, mostly one is not interested with women affairs. If your legs are not moving sex becomes difficult. You can get erection but other parts of the body prevent you from doing that work and you even loose interest’
4.3.1.2  Social life

Four patients expressed that the presence of LBP changed their social lives. They referred to aspects such as visiting friends and going to church and had the following to say:

B: ‘..it was very painful…I vacated my normal church going to another further church because of sitting problems,…also in the social gathering I couldn’t go even with my family out because I was a problem to them….I was very discouraged, I was feeling bad…bad because I became a liability to other people…yaah.’

E and F: ‘I can’t visit my friends’

G: ‘Now I can’t go to church because of walking problem,…’

I: ‘If I visited a friend I couldn’t sit on a hard stool…’

4.3.1.4  Work

From the interviews, one could conclude that LBP ailment had partially or completely limited the patients from attending to their work. The following quotations express their feelings:

A: ‘..when one is sick and he is the one who takes care of his work…there must be some things going wrong’

B: ‘I couldn’t drive…’

C: ‘I am unable to do any work which involve bending’

D: ‘…I could teach almost the whole school. But as soon as this thing started, I had to slow down in life’
E: ‘They just told me to have a bed rest…. I am the bread winner….I go outside Kenya to do business, so when I am not going no body else go’

F: ‘I have not been able to cook for my children…I am unable to clean my house… I am unable to feed my cows’

G: ‘I am unable to do work’

H: ‘..if I do very little work this back pain forces me to sit down.’

I: ‘The only work which was difficult for me was anything that involved bending’

4.3.1.5 Relationship with employer

During the interview three patients who were employed indicated that LBP strained their relationship with the employers. The latter was not happy because the ailment had reduced the performance of the employees. The respondents had the following to say:

B: ‘I was working half day….I was not giving them full time service, my services were more needed…something was going wrong in the office, so they were not happy.’

D: ‘..there reached a point where we could not cope very well because I could not do as I used to do…’

F: ‘My husband stopped working because of my LBP problems.’

4.3.1.6 Dependence on others

Five patients who were interviewed had general feelings that before the treatment they were unable to do most of their activities by themselves. Instead they used to rely on other people. Some of the following quotations convey their feelings:
B: ‘my son used to drop me to the office...I was looking for somebody to drive me home.’

D: ‘It is a problem to the whole family the children and the husband.’

E: ‘I couldn’t do that unless somebody drove me.’

F: ‘My husband stopped working....to take care of me.’

H: ‘I pay somebody to do the work for me.’

**4.3.2 Impact of physiotherapy on Quality of Life**

The effects of physiotherapy interventions are described below.

**4.3.2.1 Benefits**

From the data, seven patients were happy with the physiotherapy interventions. They enabled them to regain independence in their activities while others were able to socialize. During the interview they looked happy and some of them expressed their feelings with humor. The following quotations convey the feelings of these patients:

*A: ‘I used to be carried like a luggage.... (meaning traveling in the back of a truck or a van) the problem has cleared after the physiotherapy treatment, I can drive myself, I can sit eeh, I can supervise my business.’*

*B: ‘...after my sixth session I was able to walk properly without the walking stick.’*

*D: ‘Physiotherapy has helped me because I remember as soon as I had sex I could not control my urine, today that problem is not there...I can*
call myself okay. I used to have that pain you can’t imagine after the
sex but now after the physiotherapy the pain is not there.’

E: ‘The physiotherapist twisted me and then I started standing,... this
is the third time and I think I can do many things...I am driving from
that day I came here for the first time...I am doing my own things at
home...I am able to bath, turn, bend’

G: ‘There is no doubt about that,...I am improving in terms of walking.
I take myself to the toilet, even I wash my face.’

F: ‘.. I am able cook food...if water is put on a stool I can wash
myself.’

I: ‘I have benefited much because even if I am traveling to Kisumu
(The third city in Kenya) I can’t feel much pain.’

Further, another benefit derived from attending for physiotherapy care was the
discussion between the patients on their experiences with LBP.

Although most of the patients had positive experiences with physiotherapy for LBP,
there were two patients who did not derive any benefit from physiotherapy
interventions as they continued experiencing some symptoms of the problem. They
indicated that they were combining physiotherapy treatment with other medications.
When expressing their experiences with physiotherapy treatment, they had the
following to say:

C: ‘I benefit slightly,...I wanted even to ask the doctor (physiotherapist)
the drugs I can take so as to benefit more and when I will recover or
what? When I am going for physiotherapy treatment I don’t take drugs,'
but when I feel a lot of pain I take one diclofenac tablet a day...To lie down is a problem, to sit on a hard chair I get a lot pain.

H: ‘Oh yes I don’t benefit, sometimes it improves and other times it is worse, I don’t improve even with these treatments (physiotherapy interventions). Now I am combining with herbal medicine and I am improving.’

4.3.3 Patient satisfaction

Excerpts from the interviews support the results in the quantitative component. Expression of three patients implied that the latter had good interactions with the physiotherapists. The following excerpts express their feelings:

D: ‘...and actually the way they talk to us when we come, actually I have made a note...(meaning that they have appreciated their interaction with the physiotherapists)’

E: ‘...it is a big department with polite people. First in the morning somebody has to lead the patients in prayers. ..very satisfied and I hope everybody sees what I see.’

F: ‘Like the physiotherapists they are very sympathetic...they give somebody encouragement, treat you well and you feel that the problem has reduced.’

Further, the results from the interviews indicated that patients received education on how to care for their back problems. The education ranged from instructions to advice on what one should do and what to avoid. The excerpts below express the type of advice and instructions which were given to them by the physiotherapists:
B: ‘...with the advice I was getting from my physiotherapist....on how to walk, to stand or not to carry or not to lift heavy things, not to bend...I was able to recover very first’

D: ‘...they have taught me how to go about it, if I bend too much definitely I have to get pain....they have made me to understand more about the back problem... even at home it is not necessary I come here when the attack come...I know that I should have better rest straight away, and the attack end-up disappearing.’

E: ‘..I have been shown some exercises which I am supposed to do when I am at home or when I am a lone or well relaxed..’

4.3.3.1 Advice to other LBP sufferers

Patients who benefited from physiotherapy treatments felt that LBP sufferers need to go for physiotherapy treatment. Two of the patients who were interviewed expressed their feelings as follows:

A: ‘..if I get somebody suffering the way I was suffering, I can tell him/her to go to the hospital..(physiotherapy department)’

B: ‘..even I refer many people to physiotherapy department..’

However, one patient who never benefitted from physiotherapy interventions indicated that,

H: ’I can advice them to pray to God so that He can show us the drug to help us.’
4.3.4 Patients recommendation

Patients’ recommendations from the interviews are presented below.

4.3.4.1 Need for counseling

From the interview data three female patients were of the opinion that their spouses needed to given some counseling and advice to understand back problem. The following excerpts convey their feelings;

D, F and H: ‘..I think it is good to involve the other person,.. to know what really goes on with back problem…at least involve him or the two of them to understand so that when this thing is not work they understand.’

4.3.4.2 Professional understanding between doctors and physiotherapists

One patient made an observation that although there is teamwork spirit between the clinicians, a vacuum seem to exist between doctors and physiotherapists. She said:

‘doctors and physiotherapists somehow you work together as a team but still there is a vacuum there. Those ones seem not to understand your work’

4.3.4.3 Patients’ knowledge of operation due to LBP

Four patients who were interviewed indicated that they knew the possible complications of the operations due to the LBP. The following quotations express their feelings and opinions:

B: ‘I advice people not to rush for operation for the back problem... you can’t bend after the operation.

D: ‘...there is a doctor who was operated on for having the same problem I am having and he ended becoming worse than he was like. One of us is
‘a bit sick, she was operated on and she got another serious problem with the same back.’

E: ‘They never at any one time be normal...after one week back to the hospital, the best way is first of all is to be seen by people like physiotherapists for the problem of the back.’

G: ‘Let me say the wound healed. When he was asked how he compare himself before and after the operation he responded; You know now I don’t have the problem I used to have although I am unable to walk well...Before the operation I was walking with pain but after the back operation I don’t feel pain apart from being unable to walk normally.’

4.4 Summary of the chapter

In this chapter the results of the quantitative and qualitative components were presented. Nine factors which affect patient satisfaction were identified in the first part of the study. They include explanation of treatment, advice given to the patient, answering of their questions and listening to their concerns. Other factors include direct contact time with the physiotherapist during the treatment, instruction on home program and respect given to the patients during the treatment. Finally, cost of care and treatment environment factors were identified. The Spearman’s Test for correlation of the ordinal data was used to examine for the associations between patient satisfaction and these factors. The results indicated that the majority of the patients were generally satisfied with physiotherapy service for LBP. This was further confirmed in the interviews with the patients. Finally, the majority of the patients indicated that they achieved a high level of satisfaction with the physiotherapy service for LBP. These results are being discussed in the next chapter.
CHAPTER FIVE
DISCUSSION

5.1 Introduction

In this chapter the results of the study are discussed in relation to the research questions, aims and objectives of the study. The discussion will focus on dimensions of patient satisfaction with physiotherapy they received for their LBP.

5.2 Factors Affecting Patient Satisfaction with Physiotherapy for LBP

The dimensions of patient satisfaction identified in this study include patient-physiotherapist interaction, professionalism of service, the clinical environment and patient compliance with treatment. Other dimensions focus on the impact of physiotherapy on LBP and overall opinion of service. Factors associated with patient satisfaction are discussed under the above dimensions. In the discussion references will be made to the results and where appropriate, excerpts from the interview data are utilized.

5.2.1 Interaction between physiotherapist and the patient

There were various items in the questionnaire, which elicited responses regarding patient-physiotherapist interaction. This is discussed under effective communication, cultural sensitivity and patient participation in decision-making. Effective communication includes items such as explanation by the physiotherapist about the condition and treatment, advice and instruction given to the patients on their home program. Others included answering of the patients’ questions and listening to their
concerns. The time spent by the physiotherapist with the patient and their treatment compliance are discussed separately.

5.2.1.1 Effective communication

A person who can communicate effectively is the one who is able to produce clear and unambiguous message. The same person should also be in a position to detect any ambiguities in other people’s speech (Shaffer 2002). The results of the study demonstrated that the majority (88%) of the patients agreed that physiotherapists explained their treatment thoroughly and that is they were satisfied with the physiotherapists explanation of the back problem and treatment. This was confirmed during the interviews with the patients. Such explanations help the patients to take some responsibility for their own care as expressed by one of the interviewees:

‘..they have taught me how to go about it, if I bend too much definitely I have to get pain....they have made me to understand more about the back problem... even at home it is not necessary I come here when the attack come...I know that I should have better rest straight away, and the attack end-up disappearing’.

In this study, it was established that explaining the treatment to the patients is significantly associated with their satisfaction with the services offered (Figure 3). According to Harding and Watson (2000) patients understand explanations about their problems and treatment better when they discuss them with the physiotherapists. This understanding can be enhanced further when the care providers have good communication skills with their patients (Beattie et al 2005b). Tread (2000) concluded that patients’ understanding of their problem and treatment would result in a sustainable treatment outcome. It is therefore important for
physiotherapists to discuss with the patients about their problems and the required interventions.

There are different opinions on the use of written information as a means of communication with the patients. The results of similar studies indicated that patients understand better when the guidelines are presented in a language they can understand, and their understanding is enhanced by repeating the same instructions orally (Ferri, Brooks & Goldstein 1998; Bassett & Petrie 1999; Harrison & Hong 2003; Koumantakis, Watson & Oldham 2005; Schoo, Morris & Bui 2005). Contrary to these findings, Smith, Lewis and Prichard (2005) state the use of written guidelines do not reinforce the understanding of exercises to the patients. Instead, they recommended supervision and repetition of the instructions to the patients. Earlier, Klaber Moffett (2002) had explained the importance of written guidelines. The researcher indicated that the guidelines encourage the patients with LBP to cope with the problem by continuing with their daily routine rather than avoiding all physical activities. Harding and Watson (2000), Potter, Gordon and Hamer (2003) advocated the use of simple explanations in assisting the patient to better understand about their ailments. When such information is given, the patients are able to assess the benefits and the risks involved in their care (Mead 2000). Thus a combination of written guidelines with oral explanations may assist patients in understanding their problems, benefits and risks involved in the treatment.

Other studies have established factors which may affect patients’ understanding about their problems and their treatments. According to Sluijs (1991) physiotherapists provide most of the information to the patients in the first two
sessions of the treatment compared to the follow-up visits while others, according to Kerssens et al (1999) provide none on back care. May (2001) cautioned that when the explanations are not adequate, patients may have a low understanding of their problems and that has been frequently identified as the source of their dissatisfaction. Earlier, Ferri, Brooks and Goldstein (1998) found that patients who do not understand their problems scored low on compliance with treatment. This is an indication that patients need to be given adequate explanations about their conditions and treatments all the time in order to understand them clearly.

The results further demonstrated that the majority of the patients (86.1 % and 90.1 %) agreed that they received instructions on a home program and advice on avoidance of future back problems respectively from the physiotherapist. The provision of instructions on a home program was significantly associated with patient satisfaction with the services they received (Figure 8). According to Klaber Moffett (2002) physiotherapists should demonstrate clearly to the patients on how to perform exercises. For better understanding of the demonstrations to the patients, the researcher insists that sufferers should practice what they have been shown by the physiotherapists under the guidance of the latter. This implies that for patients to understand what they have been taught by the physiotherapists, they need to practice it under supervision of the latter.

Similar studies have described the appropriateness of treatment programs for the patients. According to Klaber Moffett and Watson (2002) the recommended program should be specific and that the amount of exercises and grade of difficulty
should be gradually increased. Harding and Watson (2000) described the program as that which should be relevant and interesting to the patient, measurable and achievable. However, during such exercise programs there is the need for the patients to be educated on the safe ways of exercising to prevent further injuries (Klaber Moffett & Richardson 1997). If not properly performed, it may have the opposite effect and sometimes they may lead to additional injuries of the surrounding tissues (Reo & Mercer 2004). Hence, an appropriate treatment program is that which attracts the patient’s attention. Furthermore, there is need for the patient to be taught the correct methods of performing the exercises before the start of a treatment program to avoid possibilities of additional injuries.

Other factors have been found to affect the understanding of the instructions given to the patients. Sluijs (1991) found that when too much information is given to the patients they tend to forget half of it. This indicates that patients need to be given specific information relevant to their problems.

5.2.1.2 Cultural awareness

It is also essential for health care providers to be sensitive to patients’ cultures which may be affecting their improvement. MacLeod, Bruce and Bell (1999) recommended the use of a multidisciplinary health care approach to the patients. According to these researchers this approach ensures that all the patients’ needs are identified and advised accordingly. Possibly this approach may help in identifying factors related to the patients’ culture. Payton, Nelson and Hobbs (1998) indicated
that cultural beliefs have been found to affect participation in their treatment programs. Therefore, physiotherapists need to have an insight of the patients, in order to understand their attitudes and beliefs which may affect the success of their treatment programs (Mead 2000). Through such understanding meaningful treatment goals acceptable to both patient and the physiotherapist may be realized with minimal barrier interruption (Payton, Nelson & Hobbs 1998; Osmotherly & Higginbotham 2004). Hence, identifying patients’ attitudes or beliefs that may hinder participation in their care may assist in development of a treatment program with minimal barriers.

As mentioned earlier, by Klaber Moffett (2002) that the use of written guidelines encourages LBP sufferers to cope with their problems, they also help in winning the patients from believing that exercises would damage their spine. Ferri, Brooks and Goldstein (1998) indicated that patients’ belief concerning effectiveness of the care is significant in determining their compliance with the treatment. These findings indicate that patients’ beliefs concerning their care and problems may influence the treatment outcome.

5.2.1.3 Patient participation in the decision making

The results of the study demonstrated that the majority (76.1 %) of the patients acknowledged that physiotherapists answered their questions related to the back problem adequately. Answering of patients’ questions was significantly associated with their satisfaction with the service they received (Figure 5). According to Beattie
et al (2005a) patient satisfaction is more related to the degree at which the physiotherapists answered the patients’ questions.

Other studies have found that some physiotherapists do not involve their patients in the decision making of their treatment program. Instead, they unilaterally decide on information to be given to the patients. In most cases such information is not tailored to meet the patients’ need which is one of the strategies to ensure that they comply with the treatment (Kerssens et al 1999; Talvitie & Reunanen 2002). Bassett and Petrie (1999) pointed out that the treatment goals set by the care providers without consulting the patients have been found to result in a low compliance with treatment. Mead (2000) summarized that if there is no agreement of expectations between physiotherapist and the patient, the treatment outcome may not be successful. Thus, lack of interaction between physiotherapists and the patients may result in unsuccessful treatment outcomes.

The findings of the study further demonstrated that, almost all (97 %) the patients agreed that physiotherapists listened to their concerns. This is in contrast with Mead (2000) who indicated that the patients’ complaints are often not listened to or even not believed by the health care providers. There is also a significant association between physiotherapists listening to patients’ concerns and their satisfaction with the service they received (Figure 6). This was supported by Beattie et al (2005a) who found that there is a strong relationship between patients’ satisfaction and the quality of their interaction with the physiotherapists. According to Beattie et al, this interaction is on the basis that physiotherapists demonstrate concerns when listening
to the patient. These findings imply that patients’ satisfaction depends on the quality of interactions between physiotherapists and the patients where the former shows genuine interest in the sufferers’ concerns.

Similar studies have looked into the interaction between physiotherapists and the patients and they have come-up with different findings. Buck and Ciccone (2004) found that for the patient to comply with the treatment there is need for the health care provider to talk to former and make them aware and understand about their illness. According Potter, Gordon and Hamer (2003) and Liu, Chan and Chan (2005) interactions between physiotherapists and the patients bring the former closer to the sufferers’ problems. According to Tread (2000) such interaction may result into a sustainable treatment outcome by the patient. Otherwise if the patients’ concerns fail to be heard it may amount into a breach of their right (Talvitie & Reunanen 2002). Hence, there is support from the literature that interaction between physiotherapists and the patient results in sustainable treatment program.

5.2.1.4 Direct contact time with the patient

The findings demonstrated that most of the patients (83.6 %) were comfortable with the time the physiotherapist spent with them during the treatment. In this study there was significant association between time factor and patient satisfaction (Figure 7). This finding is in agreement with Beattie et all (2002) and Beattie et al (2005a) who found that there is a strong relationship between physiotherapists and the patient interactions when adequate time is spent in the treatment of the latter. May
(2001) also indicated contact time as a factor in patient satisfaction. Liu, Chan and Chan (2005) concluded that when physiotherapist spend some time with patients, other than understanding their concerns they also create an environment for establishing good rapport. Thus, there is support from the literature that the use of adequate contact time with patients has an association with their satisfaction.

Other studies looked at the number of treatment sessions and period of attendance for patients suffering from chronic ailments. According to Williams, Hapidou and Cullen (2003) people suffering from chronic pain may require longer treatment duration to continuously accommodate the learnt skills in their daily program. These findings are supported by the results of the current study as most of the participants had received their treatment for more than twelve weeks. According to Bratton (1999) and Sparkes (2005) chronic LBP is defined as symptoms lasting for more than three months. Norrefalk et al (2005) rehabilitated patients with long term impairments excluding malignancy for eight weeks and followed them for one year. Most of these patients (63 %) improved. Thus patients suffering from chronic impairments may need longer follow-up care in order to achieve better treatment outcomes.

5.2.1.5 Patient compliance with treatment

Compliance is a term used to describe the level to which the patient continues with the treatment program as recommended by the health care provider (Ferri, Brooks & Goldstein 1998; Harrison & Hong 2003). Aspects related to patient compliance with
treatment were attendance and cost of the treatment. The findings demonstrated that the majority of the patients (92%) were attending for their treatment appointments regularly. However, a large number of them were not comfortable with the cost of the treatment. The results further demonstrated that a significant association between cost of care and patient satisfaction existed but none was established between the latter and treatment attendance. Lamb et al (2004) stated that satisfied clients/customers are less likely to respond to competitor’s low charges; instead they would prefer to pay more in order to continue using the same services/products of that organization. These findings imply that patients were satisfied with their treatment programs despite some of them being uncomfortable with the cost of the care.

The results of similar studies have demonstrated that patients who are involved at an early stage in decision making of their care may collaborate well with the physiotherapists throughout the intervention period. This may enhance development of physiotherapist-patient relationship which is an important factor in decision making process for the patient to comply with the exercise program (Baker et al 2001). These findings have been supported by several studies which have indicated that when patients are involved in the development of their care, they get encouraged to have a strong motivation towards the compliance with the treatment program (Basset & Petrie 1999; Harding & Watson 2003; Osmotherly & Higginbotham 2004). Earlier, Painting, Favarin and Swales (1998) had stated that patients who associate their improvement on their own effort are more likely to maintain treatment adherence. Hence, involving the patients in the management of their care may influence them to comply with the treatment program.
Another factor which may contribute to the patient compliance with the treatment is their satisfaction with the service they receive. Roush and Sonstroem (1999) indicated that financial value has been seen to influence patient satisfaction with the service. This is more so when the patient compares the achieved benefits and the value of the money they had spent. As mentioned earlier, when the clients are satisfied with the quality of service, there is a lesser likelihood for them responding to the competitor’s reduced charges; instead they would opt to pay more in order to continue receiving the services or products of that organization. Hence, satisfied clients consider the benefits/value of the service/product more than the value of money they have spent.

Other studies have identified different factors associated with low patients’ compliance with treatment. Metcalfe and Klaber Moffett (2005) found that patients with negative predetermined feelings of the benefit of their treatment may influence the outcome of their care. It becomes worse when they believe that their ailments are serious. Such feelings may reduce the motivation of the patients in managing their ailment. Tread (2000) found that some patients stop attending for physiotherapy treatment after experiencing some discomfort due to the exercises they had been shown by the physiotherapists. According to Feritz and George (2002) pain avoidance behavior may result in reduced participation in the care, this has been seen with patients suffering from acute LBP during the treatment.

Another factor, which affects the treatment compliance, is the cost of care. According to Collins et al (1996) when the outpatient registration fee was introduced
in Kenya in 1989, utilization of the health facilities reduced. According to Mwaba et al. (1995), the use of these facilities increased by 41% when the Government of Kenya suspended the implementation program of cost sharing in the public hospitals. May (2001) indicated that the cost of treatment is one of the patients’ concerns in getting satisfaction with the health services. Although there was no significant association between the treatment cost and attendance in this study, literature supports that the cost of the care can affect its compliance.

Consequences of non-compliance with treatment and efforts to improve it have been reported in literature. According to Ferri, Brooks and Goldstein (1998) when a patient fails to comply with the treatment program, future management for the same ailment may be more costly. This was supported by Buck and Ciccone (2004) who found that lack of adherence to the treatment program may result in worsening of the condition and utilize more health facilities. Therefore, there is a need for the physiotherapists to develop strategies for ensuring that the patients comply with their treatment. According to Buck and Ciccone (2004) when the patient’s treatment program has been formulated, there is a need for the physiotherapists to monitor the progress of the former. The patient can keep a diary at home for documenting any activities performed, the duration and the success or problems encountered during the program. The diary should be reviewed by the physiotherapists every time the patient returns to the clinic for reassessment. The patient’s progress is discussed, solutions to the problems developed and the patient is encouraged to continue with the program. Schoo, Morris and Bui (2005) added that when such a measure has been taken it shows whether the patient can become self reliant in taking
responsibility for their back care. Buck and Ciccone (2004) had concluded that such a measure would help in stimulating the patient to adhere to the exercise program.

5.2.2 Professionalism of service

A profession is a body of knowledge and it consists of several components, which distinguishes the profession. Professionalism in the medical field requires adherence to a high code of ethics. Under these ethics physicians are expected to act for good of their patients and put this good of others above their own interest and that of the profession. Other qualities of professionalism include humanism, excellence, accountability, compassion and respect (Fehser 2002). Aspects related to professionalism of the service in this study were respect towards the patient, constancy of physiotherapists and the treatment environment.

5.2.2.1 Respect towards patients

The results of the study demonstrated that the majority (80.6 %) of the patients admitted that they were treated with respect. According to a survey by the Johns Hopkins Medical Institution (2005) patients who are treated with respect are more likely to report higher levels of satisfaction. The current study found a significant association between treating patients with respect and their satisfaction with the service (Figure 9). This is in agreement with Beattie et al (2005a) who found that quality of professional interaction between the care providers and the patients in matters relating to their treatment and being treated with respect has a strong bearing towards the patient satisfaction. These findings indicate that there is an association between treating the patient with respect and their satisfaction with the service.
There are various ways of expressing respect to the patients. According to Baker (1998a) the care providers should be the first ones to greet the patient when they go for their care. During discussion between care provider and the patients, the former should address their clients by name whenever possible. The author added that care providers should review the patients’ notes to remember their information before entering examination room. This would impress the patients as it indicates readiness of the care providers and it also establishes trust if the patient knows that the physiotherapist is knowledgeable about their condition.

Another aspect of respect is the handling of patient information and confidentiality in record-keeping. According to O’Cottrell (2000) practitioner should keep the patients’ record clear, accurate and up-dated. Further, practitioner should ensure that confidentiality of the patients’ records is maintained and the information can only be released with an order from a court of law directing their revelations. Consedine (2004) added that the assistance given by the senior member of a profession guide their juniors in monitoring the quality of the professional service they extend to the clients. According to the Patients’ Right Charter of South Africa (1996 act. No. 108) respect and confidentiality of information is a basic patients right.

Professionalism in the handling of patients’ body should be maintained always. In the legal arena patients’ respect is defined. According to the Office of the Attorney General State of Arkansas, inappropriate touching of an individual’s body that is not in the usual course of treatment amounts to physical abuse.
5.2.2.2 Constancy in physiotherapists treating patients

The results of the study demonstrated that most of the patients were not treated by the same physiotherapists when they went for their care. However, a good number of them were not bothered by being treated by different physiotherapists. In this study, participants were recruited from two areas with different set-ups. In physiotherapy departments from CP, the researcher observed that there was no treatment continuity from the same physiotherapist any time the patient came for the care. The scenario was different in KNH, physiotherapists in this hospital practiced individualized care management model (Appendix S) where patients continued receiving treatment from the same care provider throughout the intervention period. The two different approaches may have contributed to the outcome of this study. However, statistically no significant association was established between patient satisfaction and receiving treatment from the same or different physiotherapists. In contrast, May (2001) states that the absence of this continuity has been frequently identified as a source of the patient dissatisfaction. According to Cook and Hassenkamp (2000) the continuation of the treatment enhances interactions between physiotherapists and the patients. Cook and Hassenkamp further indicated that, continuation with treatment from the same physiotherapist has been found to encourage patients on individual care. Beattie et al (2005b) found that patients who receive care from only one physiotherapist during the entire period of their treatment were more likely to be fully satisfied than those who receive care from more than one care provider. Sparkes (2005) concluded that physiotherapists who advise patients on self-care management and general exercises should be the same one to review them and adjust the program based on the outcome of the assessment. Thus,
literature supports that; receiving treatment from one physiotherapist during the entire period of care may have a positive influence towards patient satisfaction.

5.2.3 **Treatment environment**

The findings of the study demonstrated that the majority of the patients (93 %) agreed that the treatment areas were clean. Further, the study found that cleanliness of the treatment areas had a significant association with patient satisfaction (Figure 10). This is agreement with Roush and Sonstroem (1999) who found that patient satisfaction in physiotherapy outpatient clinics has been found to be influenced by non-clinical issues like cleanliness. According to the Carle Foundation Hospital (2005) patients need to be treated in a clean, comfortable and safe environment. However, the findings of the current study are in contrast with those of Beattie et al (2002) and Potter, Gordon and Hamer (2003) who found that patients had low concerns with non-patient care issues like cleanliness.

5.2.4 **Impact of physiotherapy on Quality of Life**

The third objective of the study is to identify the impact of physiotherapy on the quality of life of the patient with LBP. In order to determine the effects of physiotherapy on quality of life, it is essential to identify the impact of LBP to the patients before they received physiotherapy treatment. Therefore, this is being discussed under two sub-headings; first, the impact of LBP on the patients before physiotherapy treatment and secondly, the impact of physiotherapy interventions on their quality of life.
5.2.4.1 Impact of LBP on the quality of life before physiotherapy intervention

Low back pain significantly results in participation restriction in an individual. Most of the patients who were interviewed reported that LBP had an adverse effect on their independence in performing some activities related to sitting, walking, personal care and toileting. Some of their expressions are shown by the following excerpts:

‘I couldn’t sit, I was being carried like a luggage’

‘...I was being supported by somebody and the walking stick’

‘I can’t do cloth washing’ ‘...I was not bending or standing’

‘...I couldn’t take myself to the toilet, I used to be washed.’

McKenzie (1989:1) states that LBP is a major cause of disabilities.

Low back pain also influenced their ability to work as well as having a direct impact on the company. The results from the patients who were interviewed indicated that most of them were not able to attend to their work effectively due to the effects of LBP. During the interviews they had the following to say:

‘...when one is sick and he is the one who takes care of his work...there must be some things going wrong’ ‘I couldn’t drive...’

‘I am unable to do any work which involve bending’

‘...I could teach almost the whole school. But as soon as this thing started, I had to slow down in life’
‘They just told me to have a bed rest…. I am the bread winner....I go outside Kenya to do business, so when I am not going nobody else go’

‘I am unable to clean my house...I am unable to feed my cows.’

According to McKenzie (1989:1) LBP has a negative effect on the productivity of industries due to the frequent sick leave it causes among employees suffering from this ailment. Two of the interviewees in the study expressed that the effects of LBP severed relationship between them and their employers. The following quotations convey their feelings:

‘I was working half day.... my services were more needed...something was going wrong in the office, so they were not happy.’

‘...there reached a point where we could not cope very well because I could not do as I used to do...’

According to Moore (2005) in the UK the cost met by NHS due to LBP is £481 million annually. This amount is inflated to £3.8 billion when one considers the cost of the individual’s private consultation and the loss due to none performance caused by LBP. The situation in the USA (Bratton 1999) is almost similar to the one in the UK in terms of cost due to LBP. In this country the direct health cost due to LBP is $20 billion annually, this amount is inflated to $50 billion by the indirect cost of this ailment. These findings indicate that the impact of LBP is not only felt by an individual but also the country’s economy.
With regard to participation restriction, the interviewees reported that they were unable to socialize with others in terms of visiting friends and going to church due to LBP. The following excerpts convey their feelings:

`.it was very painful…I vacated my normal church going to another further church because of sitting problems,... I couldn’t go even with my family out because I was a problem to them....I was very discouraged,... I became a liability to other people....`

`I can’t visit my friends.'

According to Kraus (2005) LBP interferes with interpersonal relationship between sufferers and their friends. This indicates that victims of LBP live a miserable life during the painful episodes.

Low back pain was further found to cause sexual dysfunction in some of the interviewees and this limited them from interacting with their spouses. Those patients had the following to say:

`...many things go wrong like bed activities (sex) life does not go well like the way somebody had been before`

`the most important thing is that my wife understands...she knows the problem’

`You keep on getting pain and problems such that even you can’t enjoy with your husband...when you become unable to attend to your husband’s needs...He sees that you are there but it is as if you don’t exist.’

`...when one has a back problem, mostly one is not interested with women affairs. If your legs are not moving sex becomes difficult. You can get
erection but other parts of the body prevent you from doing that work
and you even lose interest.’

According to Kraus (2005) LBP has a significant impact on the sufferers’ ability to have satisfying sexual relationships and it affects both sexes. This implies that LBP has the potential to destabilize marital relationships.

5.2.4.2 Impact of physiotherapy interventions on the quality of life

The results of the study support the second hypothesis for the study namely that physiotherapy interventions have a positive effect on the quality of life of the person suffering from LBP. Also a significant association was found between patient satisfaction and their improvement. The majority of patients (95%) agreed that they improved after physiotherapy interventions and this was confirmed by the interviewees. Their improvement ranged from fair improvement to total recovery.

The following excerpts express their feelings:

‘I used to be carried like a luggage (meaning traveling in the back of a truck or a van) … the problem has cleared after the physiotherapy treatment. I can drive myself, I can sit, I can supervise my business

‘..I am able to cook food’

Several studies reported on the benefits of physiotherapy interventions for patients with LBP. Casimiro and Sveistrup (2000), Reo and Mercer (2004) found that physiotherapy interventions restore the affected functions and enable the patients to resume their work and home related tasks. This is because exercise help to strengthen and stabilize back and abdominal muscles (Shiple & DiNubile 1997). However, in order to continue with the beneficial effects of exercise Liddle, Baxter and Gracey (2005) cautioned that patients have to maintain the program follow-up.
Thus there is support in the literature that physiotherapy interventions are effective in the treatment of LBP.

Even after a few sessions with the physiotherapy some of the patients who were interviewed reported improvement as evidenced by the following quotations:

‘.. this is the third time and I think I can do many things’...
‘..after my sixth session I was able to walk properly without the walking stick’
‘..I am improving in terms of walking, I take myself to the toilet, even I wash My face.’

According to Bratton (1999) and Sparkes (2005) acute LBP is characterized by symptoms lasting less than six weeks. Erhard, Delitto and Cibuka (1994) had stated that when manipulation techniques are used they benefit the patients with LBP based on the rate at which they respond. The authors further indicated that benefits are better achieved when the manipulations are started in the early phase of the treatment. Painting, Nelson and Hobbs (1998) concluded that treatment programs which focus on prevention of pain and disability by involving the patients have been found to be successful. Thus, it has been found that patients with acute LBP respond faster to spinal manipulations especially when they are commenced in the early phase of the treatment. It should also be kept in mind that most patients suffering from LBP improves in the first few weeks with minimal intervention (Bratton 1999).

Other researchers have recommended alternative physiotherapy interventions for a patient with acute LBP. Patel and Ogle (2000) indicate that during the acute phase of LBP the use of cold packs and short bed rest of two to three days is recommended.
However, the use of cold packs should be limited to two to four weeks. Patel and Ogle (2000) added that short bed rest minimizes the physical deconditioning of the patient and prevents them from assuming a dependent sick role. Otherwise, prolonged bed rest in a patient suffering from acute LBP, may result in chronic pain (Sparkes 2005). During the bed rest period, Dubb and Driver (1993) recommend the use of firm mattress by the LBP sufferers as it allows them to have quality sleep.

The study also demonstrated that not all the patients benefited from physiotherapy interventions. This was found in the results from both the quantitative and qualitative data. Of those who were interviewed stated that they were combining physiotherapy interventions with medication including herbal remedies. During the interviews they had the following to say:

‘I benefit slightly,...I wanted even to ask the doctor ( some patients referred physiotherapist by the title doctor) the drugs I can take so as to benefit more and when I will recover or what? When I am going for physiotherapy treatment I don’t take drugs, but when I feel a lot of pain I take one diclofenac tablet a day...’ ‘...sometimes it improves and other times it is worse, I don’t improve even with these treatments (physiotherapy interventions). Now I am combining with herbal medicine and I am improving.’

According Cook and Hassenkamp (2000) patients who do not recover fully from acute LBP, continue getting recurrences with each episode becoming increasingly severe. As mentioned earlier by Hopes and Forshow (1999) longstanding suffering from LBP may result in psychological distress and such patients do not benefit from physiotherapy treatments. Therefore, patients with chronic back problems need
comprehensive approach by different health care providers as their ailment encompasses more than physical concerns (Delitto, Erhard & Bowling 1995). Thus patients with chronic problems require multidisciplinary care approach as they do not benefit from physiotherapy intervention alone.

Other studies have found different reasons why some patients fail to respond to physiotherapy treatments. Ingemarsson, Sivik and Nordholm (1996) indicated that patients who seek for treatment late after the injuries do not benefit because they have already lost hope and developed disabled behavior patterns. According to Hope and Forshaw (1999) patients with disabilities which are accompanied by psychological distress do not benefit from physiotherapy interventions. Fritz et al (2004) clarified that patients who have suffered for a longer duration with symptoms of sciatica do not benefit from manipulation therapy and they should not continue with these interventions. However, McKenzie (1989:2) indicated that such patients can benefit from education and teaching methods of self-care. Hence, there is support from the literature that some patients suffering from chronic ailments which are accompanied by features of distress may not benefit from physiotherapy interventions. Patel and Ogle (2000) had indicated that patients with worsening neurologic deficits or pain that is resistant to conservative care may require surgical intervention.

5.2.5 Overall opinion of service

Another objective of the study was to identify the level of patient satisfaction with the physiotherapy service for their LBP. The following factors demonstrated the best correlation with overall patient satisfaction with the service; giving instructions to
the patients on home program \( r = 0.480 \) and explaining the treatment to them \( r = 0.408 \). According Bryman and Cramer (1999: 175 – 181) these factors were moderately correlated with patient satisfaction with the service.

5.2.5.1 Patient satisfaction

The outcome supports the first hypothesis for the study namely that patients are generally satisfied with the quality of physiotherapy treatment they receive for their LBP. This was largely due to the interactions between them and the physiotherapists. The majority (96.5 %) of the patients agreed that they were satisfied with the physiotherapy service for LBP they had received. This was confirmed during the interviews with the patients. Some of those patients who were interviewed felt satisfied with interactions between them and the physiotherapists. This can be confirmed by the following excerpts:

‘..like physiotherapists they are very sympathetic...they give somebody encouragement, treat you well and you feel that the problem has reduced.’

Boshoff and Gray (2004) found that health care providers who are cheerful, kind and courteous can win patient satisfaction. Another patient who was interviewed indicated that they were satisfied based on the interactions between them and the physiotherapists every morning through prayers in the department. The patient had this to say:

‘...it is a big department with polite people. First in the morning somebody has to lead the patients in prayers.’

According to Beattie et al (2005a) overall patient satisfaction is related to the degree at which physiotherapists interact with the patients. Thus, literature supports
that patient satisfaction depends on the level of interaction between them and the physiotherapists.

Similar studies have identified the factors which enable patient satisfaction. May (2001) indicated that patients have been seen to achieve satisfaction from the treatment when they are attended to by skilled care providers. However, the researcher cautioned that for the patients to be satisfied with the services they have to comply with the prescribed treatment program. These findings were supported by Jennings et al. (2005) who found that when the experience of the care provider matches the expectation of the patient it improves satisfaction of the latter. Thus there is a relationship between the skills of the health care providers and getting satisfaction with the care.

According to Lamb et al. (2004) satisfaction is an individual’s perception on services or products. This perception is on whether the service/product meets or exceeds individual’s expectation. For an organization to maintain client satisfaction, assessment on their perceptions of the services/products should be a permanent ongoing process. Both formal and informal methods of the data collection can be used to identify their needs. According to the Regulated Health Professional Act of Ontario College of Physiotherapy (1991) and CSP (2000 Revision) the use of standards of practice provides excellence and consistency in discharging of clinical work. However, these standards are supposed to be measured to identify the level of performance and the outcome used to improve the services (CSP 2000 Revision). In a hospital set-up, assessment of care against the standards serves as a learning tool for an individual or department for identifying the needs in terms of training, staff
development and service (Sparkes 2005). Jennings et al (2005) added that the results of such assessments assist the service providers to know what satisfies or disappoints the client. Jennings further indicated that the results further identify the intervention required to be done in order to meet the clients’ expectations. Sparkes (2005) concluded that assessments should be an accepted practice in hospitals and regarded as a means of stimulating continuous improvements rather than achieving short term goals. Thus, assessment of care should be an ongoing process as it identifies what dissatisfies the clients and what interventions are needed to improve the situation.

The results further demonstrated that the majority of the patients (71.6 %) rated physiotherapy service for LBP as highly satisfactory. One of the interviewees had the following to say about the service:

*very high and I hope everybody sees what I see.*

According to Boshoff and Gray (2004) and Jenning et al (2005) when the experience of the care providers match the expectations of the patients, the former are more likely to be rated highly. These findings indicate that skills of the health care providers, quality of interaction between them and the patients have a bearing in the level of satisfaction.

Although this study did not assess the expectations of the patients before measuring their level of satisfaction such a step should be considered for comparative purpose. According to May (2002) patients’ expectations from the care providers need to be assessed before the measurement of their level of satisfaction. May indicated that patients with predetermined low expectations are more likely to score higher levels
of satisfaction. Thus assessments of patients’ expectations need to be done before measuring their level of satisfaction.

5.2.5.2 Future use of service

Finally, the study demonstrated that almost all the patients (98.5%) agreed that they would return to their respective clinics for future care if the need arises. This was also confirmed during the interviews from the patients who improved. Two of them indicated that they would refer other LBP sufferers for physiotherapy treatment. They expressed their feelings as follows:

‘..if I get somebody suffering the way I was suffering I can tell him/her to go to the hospital (physiotherapy)’ 
‘..even I refer many people to physiotherapy department.’

The future use of the physiotherapy service in this study had a significant association with patient satisfaction. Baker (1998b) indicated that if patients are satisfied with a service an institution is more likely to receive more patients through word-of-mouth referrals. Haber and Reichel (2005) added that satisfied clients are mostly associated with a higher probability that they will recommend the services or products to other potential customers. This indicates that client satisfaction can have an influence on the utilization of services or products. Based on this indication, one may conclude that patients who participated in the study may market physiotherapy service for LBP of the participated hospitals in Kenya. This may result in an increased number of new patients suffering from LBP seeking the care for their problems.
The marketing survey model uses similar methods of survey as applied in this study. The model indicates that satisfied clients tend to recommend the services/products of such firms to other people who finally become their new customers (Lamb et al 2004). Hence, it is beneficial to the firms as they continue getting new clients without advertising and this result in saving resources (Haber & Reichel 2005). In a hospital set-up when the patients are discharged fully satisfied with the service they had received, it influences them to seek future care from the same health facilities (Boshoff & Gray 2004). Lamb et al (2004) indicated that satisfied clients are less likely to respond to competitors’ lower service fee; instead they are prepared to pay more to continue using the services or products of such firm. These findings indicate that the future use of services or products depend on the past client satisfaction with services or products from such firms. Considering the level of satisfaction of patients in this study, one may conclude that apart from them using the same facilities in future they will also recommend the services to other persons in need of care. Further, the findings of this study may be used as a tool to market physiotherapy service for LBP in Kenya.

There were also a minority of patients who were not satisfied with the service in this study. According to Baker (1998b) if patients are dissatisfied the institution gets a lot of complaints and more patients leave for other competitors. This was supported by Lamb et al (2004) who indicated that when clients are dissatisfied with the services or products, they spread negative information and complain to others. This influences them to change to other competitors’ services or products resulting in heavy losses to the organization. Thus, there is support from the literature that continuous use of services or products depends on past satisfaction of their clients.
5.3 Summary of the chapter

In this chapter, results of the study were discussed by comparing and contrasting with results from related studies. Most of the findings of this investigation were in agreement with the results of other studies. It was noted that patient satisfaction depends on their interaction with the physiotherapists. This interaction was found to play an important role in the management of the patients. Further, this relationship results into formulation of a treatment program accepted by the two and the patient scores high treatment compliance. Associations were found between most of the factors and patient satisfaction. The summary, conclusion and the recommendations of the study are presented in the next chapter.
CHAPTER SIX
SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Summary

The purpose of this study was to investigate whether patients are satisfied with the physiotherapy service they received for their LBP at selected hospitals in Kenya. It also examined the impact of physiotherapy on the quality of life of patients with LBP in relation to patient satisfaction. The study utilized the method of triangulation by combining both quantitative and qualitative research methods in order to complement each other and to provide adequate understanding of the study outcome. Two hundred and one (201) participants were recruited from Nairobi and the Central Province. Follow-up semi-structured interviews were held with 9 patients who had participated in the first part, namely the quantitative component of the study.

Factors which affect patient satisfaction with service were identified under the following dimensions of patients’ satisfaction, namely interaction between physiotherapists and the patient, professionalism of service and the treatment environment. Other factors associated with patient satisfaction were the patients’ compliance with treatment and affordability of the treatment. These factors were significantly associated with patient satisfaction.

The results further showed that majority of the patients stated that they improved after physiotherapy interventions. Patient improvement was also significantly associated with their satisfaction with the service. Although some patients indicated that they were not being attended to by the same physiotherapists, others were not bothered by receiving treatment from different physiotherapists every time they go...
for treatment. Statistically no significant association was found between patient satisfaction and receiving treatment from the same or different physiotherapist. Finally, the results indicated that the majority of the patients were satisfied with physiotherapy service for LBP and they rated it as highly satisfactory. Most of them agreed that they would use the same health facilities in future if need arises.

6.2 Conclusions

The study outcome supported the two hypotheses namely patients are generally satisfied with the quality of physiotherapy treatment they received for their LBP. The second hypothesis stated that physiotherapy interventions have a positive effect on their quality of life.

6.3 Recommendations

The following recommendations are made on the basis of the findings of the study.

6.3.1 Recommendations to the hospital management

Patients’ satisfaction is one of the indicators of the quality of care being given to the users of a service, and it can be used as a benchmark upon which to compare services offered in public hospitals with those provided in private health facilities. Even though patients were satisfied with physiotherapy service for LBP, it is highly recommended that assessment of the patients’ satisfaction be an ongoing process. Their feedback should be addressed, based on the comments they make. This will enhance patients’ satisfaction with the care they receive in the public hospitals. The outcome of patient satisfaction survey can also serve as an early warning sign if problem areas are brought to the notice of management.
6.3.2 Dissemination of information on Patients’ Rights

The study has showed that the majority of the patients were satisfied with the respect and the information given by physiotherapists. The physiotherapy staff should be commended for up-holding the patients rights to respect dignity and right to information. The researcher recommends that copies of the Rights of Patients in Kenya may be made readily accessible to the patients in the departments for their perusal. This would enhance understanding of their rights especially during interactions with physiotherapists in development of treatment goals.

6.3.3 Recommendation to the Physiotherapy Profession in Kenya

The use of Standards of Practice has been found to provide excellence and consistency of service delivery (Chartered Society of Physiotherapy 2000 Revision). In spite of the patients’ satisfaction with the service, still, there may be a need to evaluate physiotherapy practices in Kenya as some countries have already developed Standards of Practice in this discipline. Therefore the researcher recommends that the K.S.P, the Chief Physiotherapist M.O.H. and K.N.H initiate the process of formulation of Standards of Practice in physiotherapy and implement their use in Kenya. The use of such standards would encourage physiotherapy departments to proactively take initiative for self-evaluation. Evidence based practice is an important component for ensuring good standards of practice (Herbert, Jamtvedt, Mead & Hagen 2005:6). This can start with clear and accurate record-keeping (O’Cottrell 200).
6.3.4 Health promotion

The study showed a greater prevalence of LBP in different occupations such as housework, farming and business related activities. The researcher recommends that appropriate health promotional programs be provided to the general public and people in their work environment. Physiotherapists should be proactively involved in awareness campaigns promoting health backs. This can be done through community-organized groups, posters newspapers and exposure through radio and television programs. This would be one of the strategies for reducing the health budget on LBP.

6.3.5 Marketing of the profession

Through the above mentioned health promotion initiatives the profession and its role in prevention and management of LBP can be marketed especially with regard to the quality of life of LBP suffers. Considering the good image and high satisfaction rating given by the patients, the physiotherapy departments where these studies were conducted should be encourage to advertise their services.

6.3.6 Further research

It is recommended that similar studies to be carried out in other public hospitals in Kenya to establish patients level of satisfaction the level of patient satisfaction with the care they receive using larger sample sizes to improve generalisability of the results.
6.4 Limitations of the Study

The outcome of this study cannot be generalized to all hospitals in Kenya since it used convenient, non-probability sampling as only a few hospitals were selected to participate in this study. Furthermore only few patients were recruited for the study due to problems during data collection. During this time a general strike of all the civil servants in Kenya started which led to a decline in patient numbers attending for treatment. If all hospitals were used the larger sample size may have improved the reliability of the results.

Another limitation may have been contributed by the use of the English version of the questionnaire only in the data collection as the Kiswahili language version was found to have low reliability. Due to time limitations it was not possible to test and retest the Kiswahili version of the questionnaire.
REFERENCES


http://www.csp.org.uk/effectivepractice/standards.cfm


http://www.dukehealth.org/Privacy/PatientBillOfRights/#resp


http://www.extenzaeps.com/MMS/doi/pdf/10.5555/afhs.2005.5.2.164;jsessionid=in0LUJSEwRdgZ7ZMxK


http://www.cecats.com/topics/backpain.html


http://moon.ouhsc.edu/dthompson/CDM/outcomes.htm#oswestry


National Centre for Environmental Health. USA (2005) .[Online]. Available
http://www.cdc.gov/nceh/indicators/summary.htm


University of Maryland Medical Center (2002). What are the lifestyle triggers for low back pain and how can it be prevented? [Online]. Available http://www.umm.edu/patiented/articles/what_lifestyle_triggers_low_back_pain_how_can_it_be_prevented_000054_4.htm


