

Assessment of the Impact of Physiotherapy on Health Related Quality of Life (HRQoL) of Patients with Arthritis in the Pretoria Area of South Africa

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ABSTRACT The aim of this study was to assess the impact of physiotherapy on HRQoL of patient with arthritis. The design for this study was a prospective survey design. The EuroQoL tool was used to collect data. The participants in this study were 32 patients attending arthritis clinic in Soshanguve district clinic of Pretoria North. The outcome of this study revealed that there was no significant impact of physiotherapy on all domains of HRQoL (mobility (p=1.00), self care (p=0.37), usual activity (p=0.48), pain (p=0.06), anxiety or depression (p=0.20) and health state (p=0.28). While on the other hand there was a significant effect on the best imaginable health state (p=0.0001). Though there was no statistical significance of the impact of physiotherapy in all domains there was however improvement in the state of health within the different domains.

INTRODUCTION

Humans engage in activities involving body movements from an early phase of life. These movements are predetermined by the state of health of the musculoskeletal system. These activities can be limited by musculoskeletal problems such as arthritis. Musculoskeletal conditions are a major burden on individuals, health systems, and social care systems, with indirect costs being predominant (Woolf and Pfleger 2003). An estimated 46 million U.S. adults (about 1 in 5) reported doctor-diagnosed arthritis, according to annual estimates from combined 2003–2005 data (Lawrence et al. 2008). It is also stated that arthritis is the nation's leading cause of disability. Work limitations attributable to arthritis affect more than 5 percent of the general U.S. population and nearly 30 percent of people with arthritis. Yearly, arthritis results in 750,000 hospitalizations and 36 million outpatient visits. Arthritis is not just an old person's disease. Nearly two-thirds of people with arthritis are younger than 65. Arthritis is historically one of the oldest diseases of human kind, and in vertebrates (Moskowitz et al. 1984). According to Li et al. (2004) osteoarthritis is neither a simple nor a single disorder but instead a complex event that may be viewed as a multifactorial process rather than a single disease with many and varied causes. Osteoarthritis (OA) occurs in persons with

rheumatic disease (Melvin 1989). Rheumatoid arthritis (RA) is an autoimmune disorder affecting 1 in every 100 people in Canada (Badley et al. 1999).

RA causes disability, deformity of the joints and damage to other organ systems with women two to three times more likely to be affected than men (Kosinski et al. 2002). RA is a chronic, progressive disease occurring in approximately 1 percent of the adult population in the United States. The condition is characterized by joint pain, stiffness, and deformity in multiple regions, particularly the hands and feet. According to Abel et al. (2005) arthritis is the leading cause of disability and has been described as one of the most pressing public health problems. Arthritis is a debilitating condition which has an impact on the quality of life of those who are affected. In diagnosing rheumatoid arthritis patient presents with swan-neck deformities of the fingers as lesions, caused by the disease with marked active arthritis of the interphalangeal joints and is unable to perform functional activities. Nodules can be found as well on flexor and extensor tendons of the hand, sacrum, Achilles tendon lungs and myocardium (Baliga 2006). According to Moskowitz et al. (1984) joint articular cartilage and subchondral bone is the site of major abnormalities and disease process.

According to Uhlig et al. (2007), this condition affects HRQoL especially of those that are not aware of how they can improve their lives to delay progression of the condition. According to Guyatt

et al. (1997) delaying mortality is sufficient reason to administer a treatment. They further state that when doing an examination, the signs that should be detected are those of articular disease, swelling, tenderness, limitation of mobility, instability and deformity.

Hales (2009) declares that people often take for granted non diseased, healthy state of being and that the first sign of loss of ability poses a threat to the continuity of life. She further writes that health means being sound in body, mind and spirit and that health has many dimensions. Such as physical, psychological, spiritual, social, intellectual and environmental. Arthritis affects all aspects of a person's life. It affects how one functions, sleeps, exercises and the emotive state of that individual, it is a chronic ailment. Joseph (1996) says that a disease is a condition which causes abnormalities in the body and the loss of function and normal health of an individual.

Arthritis was observed to be prevalent in the area under study along with other chronic conditions. A dearth of information on Health Related quality of life and arthritis in this community was observed. This study sought to assess the impact of Physiotherapy on HRQoL of patient with arthritis at a Clinic in Soshanguve Area of Pretoria, South Africa. The specific objectives were to investigate the impact of physiotherapy on the following; mobility (e.g. walking with aid of devise); self care; usual activities e.g. work, study, housework, family or leisure activities; pain/ discomfort and anxiety/ Depression

METHODOLOGY

Setting

The study setting was Soshanguve, a semi urban area/ township situated about 45 km north of Pretoria, Gauteng in South Africa. It populates Sotho, Shangaan, Nguni and Venda people. This informal settlement has illiteracy and semi-literacy rate of 48 percent and 35 percent respectively (Labour force Survey 2006).

Study Design

The design for this study was a prospective survey design. According to Hicks (2004), prospective design involves identifying the group you wish to study and collecting the information required when they use a particular service, in this case physiotherapy.

Population

Population for this study was patients attending arthritic clinic at a Clinic in Soshanguve Clinical District, North of Pretoria

Sampling

Thirty-two (n= 32) participants were purposively sampled. This was done by obtaining clinical files of patients attending rheumatology clinic, all those attending physiotherapy for arthritis treatment were targeted for the study. Only patients suffering from arthritis, with symptoms of pain, stiffness, and limitation of activities of daily living due to the condition were included in this study. .

Instrument for Data Collection

The permission to use the EuroQol for data collection was obtained from the EuroQol office. The instrument for data collection was a translated version of the EuroQol tool for the assessment of Health Related Quality of Life (Berzon and Shumaker 1995). This was translated to Setswana Language. Back and forth translation was done under the supervision of two independent Setswana language lecturers from the University of Southern Africa.

A pilot study was done on five patients with arthritis from the Dr. George Mukhari Hospital. They were randomly selected and asked to complete the questionnaire. Participants in the pilot were excluded from the eventual study and since the pilot study was done to improve internal validity, the researcher.

Reliability and Validity

The English version of the EuroQoL is a standardized tool with established reliability and validity (Brazier, Jones and Kind, 1993). The reliability and validity of the translated version was established from the pilot study. Respondent's bias was minimized by ensuring that the participants fully understood the instructions.

Ethical Considerations

The Study was approved by Medunsa Research, Ethics and Publications Committee (MCREC) and a written approval was granted by the committee.

Data Collection

HRQoL tool was used to collect data from all participants in this study. A follow up interview was conducted three weeks after receiving treatment to investigate the impact of physiotherapy on HRQoL. Details of demographics and health information were obtained from patient files. Patients were then expected to attend physiotherapy for a minimum of three times a month to determine the effects of physiotherapy on HRQoL.

Data Analysis

The Statistical Package Social Science was used to analyze the data. Descriptive statistics of percentages and mode and graphs were used to describe data collected, while the hypothesis was tested with t-test with the level of significance set at 0.05.

RESULTS

A total of 32 female patients aged between 37 and 78 years with arthritis participated in this study. The mean age was 60.25 with a standard deviation of 9.7 years (60.2±9.7). All participants presented with chronic illness. The highest education level of participants was below grade 12. There was no significant impact of physiotherapy on all domains of HRQoL. Mobility (p=1.00), Self care (p=0.37), Usual activity (p=0.48), pain (p=0.06), anxiety or depression (p=0.20) and health state (p=0.28). On the other hand there was a significant effect on the best imaginable health state (p=0.0001). About 41 percent of participants expressed that they had some problems in walking and mobility after first session of data collection. Thirty percent of the participants reported increase in the “best imaginable health state”.

DISCUSSION

This study sought to evaluate the impact of physiotherapy on the different domains of HRQoL. The results showed clinical improvement in the different domains of health of patients after receiving physiotherapy. There was no change in mobility after physiotherapy for both health states of patients having no problems in walking-about. This result is at variance with those reported by Abel et al. (2005). In their study of physical activity

(mobility) and arthritis, 58 percent participants reported improvement in physical activity with physiotherapy. There was also decrease in the severity of impaired mobility in agreement with Kovar et al (1992), who reported that a program of supervised fitness walking and patient education can improve functional status without worsening pain or exacerbating arthritis-related symptoms. The relatively small sample size, the different research design, the short duration of the study and the type of physiotherapeutic intervention might have influenced the outcome of this study. A study with a larger sample size over a longer duration is therefore recommended.

An improvement in self care after physiotherapy was observed in this study. The number of patients reporting improvement went up, implying that physiotherapy does impact self-care of patients and therefore can be used to improve the HRQoL of patients. This finding agrees with those of Geoppinger et al. (1989) and Fries et al. (1997) who reported significant increase management of self and improvement of practice of self care behaviors and scores with a significant decrease in perceptions of helplessness.

There was an increase in number of patients reporting no problems in performing usual activities. A decrease in the number of patients reporting inability to perform usual activities was also observed. This clearly indicated that physiotherapy has a positive impact on patient's usual activity in turn, quality of life. This agrees with Davey and Cochrane (2004) that exercise program can produce significant improvements in usual activities of daily living in the exercise group compared with the non exercise group.

An improvement in state of pain in that (an increase in patients reporting no pain or discomfort) after having received physiotherapy was observed. There was a decrease in number of patients reporting extreme pain or discomfort which as indicates a positive impact of physiotherapy on pain as a domain of health. The outcome of this study was supported by the findings of Fries et al. (1997) and Lorig et al. (1993) who reported a reduction in pain and improvement in function.

A decrease in percentage of patients reporting a worse state after receiving physiotherapy was documented. This agrees with Abel et al. (2005) who states that physical activity as therapy positively influences general health. An increase in the percentage of patients who felt better after receiving physiotherapy was seen. Also observed

was improvement in best imaginable health state of 30 percent after physiotherapy intervention. An association of health improvement and physiotherapy can therefore be made. Abel et al. (2005) concurs that functional limitation, which is proportionate to health state have been associated with decreased HRQoL and that physical activity improves physical health by decreasing pain, and improves function and delay disease progression and its subsequent disability which is parallel to a good health state.

Though there was no statistical significance on the impact of physiotherapy on HRQoL, there was however clinical significance of physiotherapy on the different domains of health related quality of life as described by EuroQol. Improving HRQoL may be one outcome that physiotherapists in our different clinical situations might consider for inclusion in their clinical settings.

The scope of this study did not include the specific physiotherapy treatment that the patients were receiving. This might have influenced the outcome of this study and therefore limited the generalization of this study to a larger population. Other possible limitations might have been the short time between the administration of the tool due to pressure of writing and submission of this work and relative low sample size of the participants. It is therefore recommended that a further study be done to include standardization of the treatment and a larger sample size over a long period of time. Further studies should also consider moderating and monitoring treatment that the patients receive. A double blind randomized control trials design could be considered for future studies.

It is also possible that the specific diagnosis of the patients could affect HRQoL: i.e. patients with Osteoarthritis and Rheumatoid Arthritis will report different HRQoL scores. It was however not part of this study to investigate the effect of diagnosis on HRQoL. This was difficult because the patients' files only had a diagnosis of arthritis and therefore investigating the effects of diagnosis on HRQoL would have been impossible in this study. A further study to look at the association between diagnosis and HRQoL is therefore suggested. Different factors such as how much treatment patients get and the frequency of visits could also affect the outcome of a study of this nature. Standard treatment protocols for patients with arthritis should be used in different practices. It is also recommended that physiotherapy review assessment and evaluation protocols of the patients in the area under study so

as to reach a better diagnosis and target specific symptoms of patients in Soshanguve district and hence improve their arthritic state.

Patients are given home programs. Patient compliance to home program is not evaluated in this study and could therefore be recommended for future investigation.

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