DOI: https://doi.org/10.53350/pjmhs2023172215

ORIGINAL ARTICLE

Therapeutic Role of Clinical Inertia among Patients with Degenerative Arthritis

NOOR ULLAH KHAN[1], MAZHAR ARSHAD[2], ANAM ZAFAR[3], AFIFA EHSAN[4], MUHAMMAD HARIS IDREES[5], SYED ZAHRA GILLANI[6]
[1,2]*Physiotherapist, Care Physiotherapy Clinic, Lahore, Pakistan.*
[3]*Assistant Professor, University of South Asia, Lahore, Pakistan.*
[4]*Associate Professor, Department of Oral Biology, Faryal Dental College, Lahore, Pakistan.*
[5]*Fatima Memorial College of medicine and dentistry, Shadman, Lahore, Pakistan.*
[6]*Physiotherapist, Riphah International University, Lahore, Pakistan.*
Correspondence to: Afifa Ehsan, Email: afifaehsan@gmail.com, Cell: 00923004668379

ABSTRACT

Aim: In underdeveloped countries, clinicians face obstacles in achieving goals of management in conditions such as diabetes, hypertension, stroke, arthritis, sciatica, and lower back pain. In practice, clinical inertia plays a notable role as a factor that leads to inadequate management of chronic diseases. Clinical inertia has on no occasion been elaborated in musculoskeletal disorders in Pakistan. Consequently, the purpose of this study was to check the occurrence of clinical inertia among patients with degenerative arthritis and to know the medical errors associated with it.

Methods: This cross-sectional study was conducted from April 2022 to December 2022 and included 150 study participants suffering from degenerative osteoarthritis by non-probability convenient sampling. Data were collected by retrospective chart reviews from private physical therapy clinics in Lahore. Friedman ANOVA was used for comparison between NPRS at the time of the first visit; at week 1 and week 2.

Results: The findings of this study suggest that there is a significant difference ($P \leq 0.000$) between the pain of study participants at the time of the first visit, after one week, and after the second week. The study also showed that the charts of the research participants receiving treatment did not mention the range of motion associated with degenerative osteoarthritis which is considered one of the crucial goals in patients suffering from degenerative osteoarthritis.

Practical Implication: There is a dire need to have an in-depth knowledge of clinical inertia and its factors which will ultimately help to develop specific strategies to minimize reflexive errors that play a causative role in clinical idleness.

Conclusions: There is a difference in pain intensity of patients in the first week and during the second week but there is a high risk of clinical inertia in physical therapy practice related to lack of knowledge.

Keywords: Degenerative Arthritis, Inertia, Joint Diseases, Musculoskeletal Diseases, Osteoarthritis, Physiotherapy, and Physical Therapy.

INTRODUCTION

Degenerative osteoarthritis is a leading cause of disability worldwide, which comprises symptoms of joint pain, and functional limitation that leads to poor quality of life.[1] In underdeveloped countries, clinicians face obstacles in achieving goals of management in conditions such as diabetes, hypertension, stroke, arthritis, sciatica, and lower back pain.[2-3] The problems in the management of such chronic conditions include lack of time, lack of clinical experience, or lack of evidence-based knowledge is said to be clinical inertia which is due to the failure in the initiation of treatment.[4] There are many disparities present between clinical practice and available knowledge and the term clinical inertia is representative of these gaps.[5]

Clinical inertia is also referred to as therapeutic inertia, treatment inertia, or patient inertia and is defined as the "inadequate management of chronic diseases" or "failure of the clinician towards intensification and alternating the treatment strategies when there is a need".[5] It is caused by many factors and as a consequence researchers hypothesize three classes of variables prompting clinical inertia, for example, factors associated with healthcare suppliers, patients, and the healthcare setup, with an expected relative commitment of 50%, 30%, and 20% individually.[6] Clinical inertia is furthermore a potential cause of many adverse effects on a patient's chronic conditions such as excess medical cost and increasing mental, social, and physical disability.[6]

Usually, clinical inertia is discussed with pharmaceutical therapy but it can be used synonymously with other healthcare services for instance in physical therapy, i.e. physical therapist fails to deliver therapeutic intervention timely according to the severity of the condition.[1] There are many conditions requiring physical therapy treatment based on their chronicity and progression for instance patients with lower back pain, sciatica, hemiplegia, traumatic brain injury, and degenerative arthritis. Similarly, osteoarthritis is also considered a slowly progressive disorder that needs the identification of progression and modification of therapy accordingly.[7]

Clinical inertia has on no account been elaborated in the aspect of any musculoskeletal disorder in Pakistan and there is a dire need to have in-depth knowledge of clinical inertia and its factors which will ultimately help to develop specific strategies to minimize reflexive errors that play a causative role in clinical idleness in practice. Subsequently, the purpose of this study is to check the occurrence of clinical inertia among patients with degenerative arthritis and to know the medical errors associated with it. This will help them to enhance their adherence to clinical practice guidelines for better performance.

MATERIALS AND METHODS

Methods & Population: This cross-sectional study was conducted from April 2022 to December 2022 and included 150 study participants suffering from degenerative osteoarthritis from five private physical therapy clinics in Lahore who were enrolled after obtaining written informed consent.

Sampling: Non-probability convenient sampling was used.

Inclusion & Exclusion Criteria: Patients of both genders, receiving treatment from a physiotherapist for degenerative arthritis were included in the study, whereas patients with gout, rheumatoid arthritis, or any other systematic inflammatory disorder were excluded from the study.

Ethical Approval: Ethical approval of the study was obtained from the institutional review board (IRB) / ethical committee before the commencement of the study vide letter No.FDC/ERC/2022/11.

Data Collection Procedure: To check the prevalence of clinical inertia in patients with degenerative arthritis chart reviews were filled for musculoskeletal diseases. Information was gathered on a retrospective chart which had demographic data, and problems at the first visit of physiotherapy OPD. The follow-up charts were then reviewed to look for changes in treatment and achievement of short-term goals at end of the first and second weeks by the physiotherapist. The intensity of pain was documented by a numeric pain rating scale (NPRS) which ranges from 0-10. Confidentiality was maintained throughout.

Data Analysis: Statistical analysis was done through SPSS statistical Package version 23. Descriptive data including gender, region of pain, and treatment changes were measured by frequency tables, graphs, and charts, while quantitative data including age and intensity of pain were measured employing standard deviation. Friedman ANOVA was used for comparison between NPRS at the time of the first visit; at week 1 and week 2. p-value ≤ 0.05 was considered significant for all analyses keeping the confidence level at 95%.

RESULTS

In the current study, 150 patients suffering from degenerative arthritis were included. The mean age was 59.85 ± 9.50 years (Figure 1). Out of the total 150 cases, 93 (62.0%) were female and 57 (38.0%) were male.

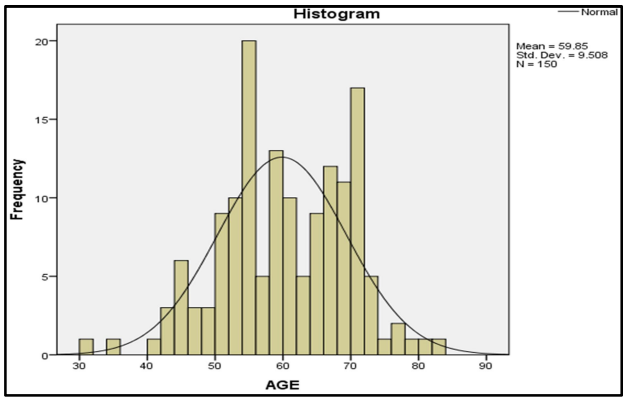

Figure 1: Age Distribution Of Study Participants

Symptoms at the first visit showed that the frequency of pain is 133 (88.7%) and the frequency of pain associated with swelling and redness is 17 (11.3%) (Table-1).

Table-1: Descriptive Data Of Participants

Characteristics		Frequency (%)
Gender Distribution	Males	57 (38%)
	Females	93 (62%)
Participants experiencing pain		133 (88.7%)
Swelling And Redness With Pain		17 (11.3%)

NPRS at the first visit measured 7.73 ± 1.170 while NPRS at week 1 measured 6.21 ± 1.189 and at week 2 measured to be 5.13 ± 1.453 (Table-II).

Table-2: Intensity Of Pain In Participants With Osteoarthritis

Pain Intensity	Mean ± Std.Dev
NPRS At First Visit	7.73 ± 1.170
NPRS At Week 1	6.21 ± 1.189
NPRS At Week 2	5.13 ± 1.453

Treatment modifications for pain showed that during the first week, out of 150 patients, 83 (55.3%) were found to have no change and 67 (44.7%) were found to have a change while treatment changes at week two show that out of 150 study participants, 56 (37.3%) were found to have no change with regards to treatment while 94 (62.7%) were found to have a change while being treated. Friedman ANOVA was used which showed a p-value of less than 0.05 (P ≤0.000) and suggested a significant difference between the pain of study participants.

Table-3: Friedman ANOVA By Rank Test

	Mean Rank	p-value
NPRS at 1st visit	2.96	0.000*
NPRS at week 1	1.89	
NPRS at week 2	1.15	

P is significant at the 0.05 level

DISCUSSION

Degenerative osteoarthritis is ranked among the ten most vulnerable diseases causing disability and musculoskeletal pain in 10% of males and 18% of females over the age of 60.[8] The information on the prevalence of osteoarthritis is dependent on its diagnostic methods either through the radiographic findings or the clinical findings.[8] It has been recently reported that clinical inertia is one of the medical errors and a contributor to the adverse effects of clinical outcomes in such patients.[8] A study conducted showed that retrospective chart reviews and electronic medical records could be of great help in identifying and controlling clinical inertia among healthcare providers which can ultimately help to reduce the risk factors associated with clinical inertia.[10] The present study also showed that employing retrospective chart review, treatment modifications by the physical therapist in patients with degenerative osteoarthritis were made only in 44.7% of cases for the first week and 37.33% after the end of week 2. This shows the high prevalence of collapse in treatment intensification in patients with degenerative osteoarthritis.

The latest substantiation established that there are two phases of degenerative osteoarthritis, one with disease progression and worsening of symptoms and the second with a plateau or joint stability.[7] On the contrary, the pattern or regimen of the plan of care must be altered by the clinical physical therapist accordingly.[7] It was seen in the current study that a significant difference was present between NPRS at the time of the first visit, after one week, and after two weeks. The results are similar to the effort done in 2012 suggesting that by using standard treatment strategies for degenerative osteoarthritic patients there is a significant difference in the recording of pain intensity, functionality, and health-related quality of life between the first visit and the second visit 2.[8]

Some main findings of the present study also disclosed that none of the retrospective charts of the study participants of degenerative osteoarthritis receiving treatment mentioned the range of motion which is considered an objective in patients suffering from degenerative osteoarthritis. Consequently, there is a high risk of clinical inertia in physical therapy practice related to a lack of knowledge about appropriate goals of therapy, lacking recognition of clinical outcomes, and non-concordant therapeutic guidelines. A model of the causes of clinical inertia explained three main sources: factors related to health care providers, factors related to patients, and factors related to the system.[6] In the current study the results put the most focus on factors related to health care providers comprising of failure to identify problems, start proper treatment, alter the treatment intensity and frequency, failure to set the appropriate goal of therapy, and failure to report proper follow-up symptoms.

CONCLUSION

There is a difference in pain intensity of patients in the first week and second week but the study presented that there is a high risk of clinical inertia because of a lack of knowledge about appropriate goals of therapy, lacking recognition of clinical outcomes, and non-concordant therapeutic guidelines.

Acknowledgement: The authors highly acknowledge the participants of the study and the institutions that allowed them to collect data.

Conflict of Interest: There was no conflict of interest present in process of this research.

REFERENCES

1. Almirall AS. Clinical inertia in osteoarthritis. Atencion Primaria. 2012 Feb;44(2):72.
2. Ehsan A, Riaz F, Raza A, Sahu EH, Rathore E, Abdullah U. Knowledge and Awareness of Oral Health in Type 2 Diabetes Mellitus Patients Visiting A THQ Hospital in Punjab, Pakistan. Pakistan Journal of Medical & Health Sciences. 2022 Jun 1;16(05):227-.
3. Riaz F, Ehsan A, Raza A, Abdullah U, Mehdi MM, Sahu EH. Impact of Demographic Factors on Oral Health Knowledge and Attitude of

patients with Type II Diabetesmellitus Visiting A THQ Hospital in Punjab, Pakistan. Pakistan Journal of Medical & Health Sciences. 2022 Dec 3;16(10):247-.
4. Phillips LS, Branch Jr WT, Cook CB, Doyle JP, El-Kebbi IM, Gallina DL, et al. Clinical inertia. 2001;135(9):825-34.
5. Lingow SE, Guyton JE. Clinical inertia among health care providers in a public health safety-net clinic in the management of type 2 diabetes. Journal of the American Pharmacists Association. 2020 Sep 1;60(5):734-9.
6. Soto C, Strain WD. Tackling clinical inertia: Use of coproduction to improve patient engagement: Journal of Diabetes. 2018 Dec;10(12):942-7.
7. Felson D, Niu J, Sack B, Aliabadi P, McCullough C, Nevitt MC. Progression of osteoarthritis as a state of inertia. Annals of the rheumatic diseases. 2013 Jun 1;72(6):924-9.
8. Varillas AT, Vázquez FL, Pablos DL, Martín ÁP, Negrín FV, de la Cámara AG, ArtroPro Study Group. Can an intervention on clinical inertia have an impact on the perception of pain, functionality and quality of life in patients with hip and/or knee osteoarthritis? Results from a cluster randomised trial. Atencion Primaria. 2012 Feb 1;44(2):65-72.
9. Guzman SJ. A behavioral perspective of therapeutic inertia: a look at the transition to insulin therapy. Diabetes Spectrum. 2020 Feb 1;33(1):38-43.
10. Papaioannou A, McCloskey E, Bell A, Ngui D, Mehan U, Tan M, Goldin L, Langer A. Use of an electronic medical record dashboard to identify gaps in osteoporosis care. Archives of Osteoporosis. 2021 Dec;16(1):76.