

Effectiveness of Non-Pharmacological Interventions among Women with Osteoarthritis

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Abstract: This paper presents an overview on effectiveness of non-pharmacological interventions among women with osteoarthritis.

Keywords: non-pharmacological interventions, osteoarthritis.

1. Introduction

Osteoarthritis (OA) is the most common age-related joint disease affecting >80% people beyond 55 years of age. It is a leading cause of elderly visit to outpatient departments and accounts for almost half of all nonsteroidal anti-inflammatory drug prescriptions. The burden and impact of knee OA in Indian population and extent of public health services usage by people with OA are not known.

India has a high share of population beyond 55 years of age, and as the population ages, the economic impact of OA is expected to increase proportionately. By 2050, India's 60 and older population is expected to encompass 323 million people, a number greater than the total US population in 2012. Despite the prevalence and burden of OA in India, there is little published data on epidemiology and long-term treatment outcomes from the subcontinent. There is little information about the use of health services by people with OA, making it difficult for policy makers and health care administrators to make decisions about resources allocation.

India lacks community-based health centers, health programs, and access to occupational therapists and a healthy environment for the elderly patients to exercise and remain fit. The burden and impact of knee OA in the Indian population, policies, and the use of public health services by the people with OA are not known. Thus, we initiated this multicenter screening and therapeutic study at 3 centers in Bhubaneswar, India, to assess the knee OA burden in our population; to assess the quality of life, health status and functional disability, walking ability, limitation of functions in people living with knee OA; and to compare the effectiveness of hip and leg strengthening exercise programs in these patients.

KOA is one of the most common joint illness worldwide, but the clinical pattern of KOA may be changed in different peoples due to lifestyle and everyday activities (Hawamdeh & Al-Ajlouni, 2013). Patient with KOA complain of dull aching on movement, fatigue, functional limitations, increased health care utilization, costs to society, effect on the health and quality of

life (Hafez et al 2013) Cross et al., 2014; Hubertsson et al., 2013. Hochberg, et al, (2012), Wang et al (2014), Thorstenson, Garellick, Rystedt & Dahlberg (2014) reported that, non-pharmacological interventions are the basis of treatment and should be offered to all patients with KOA as early as possible during the course of their disease. The goal of the management is to relive pain, disability, increase functional capability and improve quality of life.

The components of non-pharmacological therapy are; patient education, physical therapy, exercise, weight reduction, educations of the patients and caregivers (Evcik (2015) added that, areas of patient education involve management of pain, balance between rest & activity, nutrition and maintaining independence in self-care activities. Constructing patient education programs help patients achieve this role by giving them the knowledge and practical skills they need for selfcare. Brooker, Nicol, and Alexander (2011) stated that, patient self-management is vital to osteoarthritis treatment and the nurses can play essential leading role in assisting patients to develop the necessary knowledge and skills to do this. Nurses can offer the education and support for the patient that can lead to better symptom control, management and improvement in overall patient's quality of life. For that, the study will be designed to assess the impact of non-pharmacological nursing intervention protocol on patient's knowledge, compliance and performance of activity of daily living among women with knee osteoarthritis.

2. Methodology

A quasi- experimental research design was utilized in the present study. The study was conducted at SIPS burn and Truma Center. Sixty adult patients with knee osteoarthritis were recruited for the study. The samples were newly diagnosed with osteoarthritis, ambulatory patients, their age ranged from 40 to 60 years and willing to attend the educational sessions. Tools: Four tools were used to assemble data relevant to the study. These were: Tool I: Biosocial-demographic data. This was constructed by the researchers to gather data about patient's age, occupation, education and marital status. Tool II: osteoarthritis's knowledge questionnaire, Tool III: Compliance tool (self-report questionnaire): developed by the researcher to assess patient's performance and compliance to therapeutic regimen, exercise & activities, Tool IV: Barthel scale

(Mahoney&Barthel, 1965): used to assess activities of daily living (ADL).

A. Data collection

Participants socio-demographic data, knowledge level, compliance and Barthel activities of daily living index were obtained as baseline data using tools I, II, III and IV. The intervention protocol was developed by the researcher according to the patient's needs after reviewing the relevant literature. The content of the protocol includes the theoretical and practical part. The intervention protocol has been implemented in 6 sessions, these sessions were repeated for each group (2-4 patients), the time allowed for each session about 20 minutes, including 5 minutes for feedback. • The two theoretical sessions about knowledge related to osteoarthritis, to explain the benefits of specific exercises and to enhance the patients' motivation to exercise and four sessions related to the practical part around how to use assistive devices, moist compresses, carrying objects, joint protection measures and exercise to strengthen muscle. The sessions were done by the researcher in simplified language using pictures, brochure, demonstration and re-demonstration as educational methods. Number of sessions were, according to patients' needs. • Finally, assess knowledge level, compliance and activities of daily living by using the II, III and IV tools immediately after implementation of the protocol and after 2 months for.

3. Results

Study reveals that socio-demographic characteristics of the patients, the most of the patients were married (80%) and their age ranged between 40 and 60 years, with Mean \pm SD 48.2 \pm 4.2. The highest percentages of the patients were illiterate and housewives 62% and 68 % respectively.

The distribution of patients' knowledge level, the mean scores of total and subtotal patients' knowledge before, immediately after and 2 months follow up after implementation of the intervention protocol. Shows that, highest mean score and level of knowledge was after implementation of the protocol also shows a high statistical significant difference between the pre and posttest mean scores for participants' knowledge at $P < 0.05$. High statistical significant differences regarding activities of daily living between before and immediately after follow-up mean scores. Patients activity of daily living improved significantly at post intervention and at follow up $P < 0.05$. more than half of the subject were having a dependent level of performance of daily living activity before protocol implementation while after protocol implementation 55 % of the subjects had an independent level of performance for activity of daily living. Most of the patients were adhered to physiotherapy in the hospital before implementation of the intervention protocol. However, 74% of subjects were adhered to exercise at home after implementation of the intervention protocol with a statistical significant difference at $p = 0.001$

4. Discussion and conclusion

The findings of the current study illustrated that, deficiency of compliance toward home exercises with more than half of the subjects before application of the intervention protocol, while immediately after protocol implementation highest percent of patients comply to home exercise. This finding supported by Hawkeswood & Reebye (2010) who reported that, compliance can be enhanced through qualified disease education and exercise demonstration also Yusuf (2016) added that, it is important to educate the patient about the purpose of OA management to increase therapeutic adherence. Better compliance is associated with better patients' outcome of pain, physical function, and self-perceived effect. Noncompliance to therapeutic regimen may worsen the disease and can prohibit achieving management goals efficiently, resulting in poor health outcome, deteriorate the quality of life and increase the cost of health care (Pisters et al 2010). Individuals with KOA may have limitations that impair their capability to perform activities of daily living, this impairment affects patient's ability to work, function in their community and care for their family and responsibilities. (Snizek, Brady & Marks, 2010).

The results of the current study revealed that, most of the patients had an improvement regarding performance of daily activities immediately after and follow-up periods of the implementation of the intervention protocol, this in line with the finding of Metwaly et. al. (2017) also the finding supported by Murphy, Robinson-Lane & Schepens Niemiec (2016) who reported that, physical activity, exercise, controlling weight and healthy diet and self-management plays a vital role in the management of KOA, helping to strengthen the muscles around the affected joints, control joint ache, inflammation and increasing function.

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