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Health Screening Camp-Unique Role of Clinical Pharmacist

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ABSTRACT

Pharmacists have expanded their roles in practice settings and now serve as integral members of an interdisciplinary health care system. Screening and risk assessment services provided by pharmacist are common and routinely performed for a range of chronic disease conditions. Osteoarthritis (OA) is a chronic degenerative disorder of multifactorial etiology requiring medical care and is an important antecedent to disability. The purpose of the camp was screening of Osteoarthritis patients with the objective of 'Knee Help'. Osteoarthritis camp was organised by a team of orthopaedic surgeons which recruited patients of age group between 30yrs-70yrs, both male and female. Inclusion criteria consisted of patients presenting with joint pain and movement restriction whereas, patients who have undergone total knee replacement surgery were excluded respectively. Detailed history interview was conducted to access patients with osteoarthritis and WOMAC Osteoarthritis Index (Western Ontario and McMaster University) was used to access pain and physical function. A total of 105 patients were screened for Osteoarthritis out of which 55 patients were suspected of OA. From the suspected 55 patients, 31were male and 24were female. Most commonest etiologies observed were age factor and anaemic condition as OA being a chronic disease of multifactorial etiology. According to the WOMAC index, patients with mild to moderate assessment of disease were referred to as primary osteoarthritic patients. Age factor being common etiology for Osteoarthritis, contributes to the male dominance for the same. Pharmacist being an integral part of the health care system plays a major role in identification and screening of such chronic conditions to provide better patient care and also as early detection of these chronic conditions increases the opportunity for a number of interventions to be applied that may potentially decelerate the progression of the disease.

Key words: Clinical pharmacist, Osteoarthritis, Health Screening.

INTRODUCTION

Screening is one way of effecting earlier diagnosis and identifying previously undetected disease risk factors [1]. Pharmacists in community pharmacies have reported screening programs for a variety of conditions including Osteoporosis, Cardiovascular disease, Sleep disorders, Breast and Cervical Cancer, and Type 2 Diabetes mellitus. Pharmacists are educated about different chronic conditions and their risk factors and are trained to educate patients about their risk. With the accessibility of pharmacists and pharmacies in urban and rural areas, there exists a great opportunity for promoting a public awareness program for the risk of above mentioned chronic conditions[2].From such chronic conditions, one such commonly occurring condition is Osteoarthritis (OA). Osteoarthritis (OA) is a chronic degenerative disorder of multifactorial etiology characterized by loss of articular cartilage, hypertrophy of bone at the margins, subchondral sclerosis and range of biochemical and morphological alterations of the synovial membrane and joint capsule. It is a leading cause of chronic disability between fourth and fifth decade of life [3].

Globally, OA is the eighth leading cause of disability with the joint most frequently associated with disability being the knee [4, 5]. Osteoarthritis (OA) is the second most common rheumatological problem and is most frequent joint disease with prevalence of 22% to 39% in India[6].The reported prevalence of OA from a study in rural India is 5.78%[7]. Knee Osteoarthritis prevalence increases with age, so that about 11% of all women over the age of 60 years have symptoms due to knee OA. Most knee OA is managed by primary care physicians rather than rheumatologists [8].The prevalence of knee OA increases with age; therefore, the impact ofthis disease will become even more substantial with the aging of the population[9]. Studies have shown that knee OA greatly diminishes health status in the elderly [10]. In Rheumatoid Arthritis, it is estimated that 30-60% of patients are anemic [11].There are few data on the prevalence of anemia in patients with OA, although the prevalence of both conditions is known to increase with age [12, 13].A study on prescribing patterns in the management of arthritis in the department of orthopaedics, the study reveals that out of 75osteoarthritis patients, about 60% are in the age group between 51-65 years [14]. The study reveals that the prevalence of osteoarthritis between the ages of 30 to 65 years [15]. The prevalence of OA increases indefinitely with age, because the condition is not reversible. Men are affected more often than women among those aged <45 years, whereas women are affected more frequently among those aged >55 years. The prevalence of knee pain or symptomatic knee osteoarthritis is high among older people in the Asian region in rural and urban areas [16].

Pathological changes in the late stage of OA include softening, ulceration and focal disintegration of the articular cartilage; synovial inflammation also may occur. Common etiologies associated are age, gender, obesity, genetic factors and bone density and associated risk factors contributing are cigarette smoking and local factors like any trauma or fracture. Typical clinical symptoms are pain, particularly after prolonged activity and weight bearing; whereas stiffness is experienced after inactivity. It is also known as degenerative arthritis, which commonly affects the hands, feet, spine, and large weight-bearing joints, such as the hips and knees. Most cases of osteoarthritis have no known cause and are referred to as primary osteoarthritis and are mostly related to aging. Secondary osteoarthritis is caused by another disease or condition [17]. OA of the hips and knees tends to cause the greatest burden to the population as pain and stiffness in these large weight bearing joints often leads to significant disability requiring surgical intervention [18].

As per the studies conducted for various chronic conditions and their screening, pharmacists can feasibly deliver screening services. The fundamental purpose of screening is early diagnosis and treatment of the individual and, thus, it has a clinical focus. Screening tests are usually administered to individuals in a larger population who have not yet sought medical care, but who may be at high risk for certain adverse health outcomes [19]. Medical screening, in the strictest sense, is a method for detecting disease or body dysfunction before an individual would normally seek medical care.

MATERIALS AND METHODS

Osteoarthritis Camp was organized by a team of orthopedic surgeons, in collaboration with Dept. of Clinical Pharmacy. A village of around 8000 population near Pune city was chosen for the camp. Patients of age group between 30yrs-70yrs both male and female were recruited in the camp. Patients presenting with joint pain and restriction of movements were included in the camp whereas, patients who have undergone total knee replacement in one or both the knees were excluded respectively. The interview at the camp was structured as follows, data was recorded on a standardized predesigned and a pre -tested questionnaire. The questionnaire was targeted to Osteoarthritis patients diagnosed by the pharmacist and possible risk factors such as socio-demographic data and physical activity. A suitable patient history and data collection sheet was designed for collecting details about patient demography like name, age, occupation, residence, contact details, gender, height, weight, medical/ medication history along with personal and social history. All the patients were assessed and diagnosed on the basis of history, symptoms (pain, stiffness, and functional limitations), and signs related to osteoarthritis. Patients who underwent orthopaedic examination also completed the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC). The WOMAC index produces scores for three subscales: pain, stiffness and physical function.The patients were further directed to respective physicians and surgeons for further assessment, radiological confirmation of affected joint and treatment.

RESULTS AND DISCUSSION

In this screening camp, 105 patients were screened and a history interview was conducted. History interview questions included the presenting complaints of the patients, their medical and medication history to rule out any co-morbidity, previous exposure to any trauma or accident, lifestyle habits like diet and working pattern (whether sedentary or travelling).after the history interview, physical examination was conducted to measure the extent of the presented signs and symptoms and also to rule out any joint disability. Physical examination included major joint movements, stiffness in fingers and toes and intensity of pain. It was found that out of 105 screened patients, 55 were suspected of OA and among those, 31 were male and 24 were female.

Male dominance is seen more for OA condition as the male population screened were between the age group of 45-60yrs.Age is the most powerful etiology for OA. According to some studies, the prevalence of osteoarthritis increases indefinitely with age, because the condition is not reversible. Men are affected more often than women among those aged <45 years thus signifying the male dominance in the screening camp of OA.

Among the 24 screened females, it was found that all the females lied in an age group of more than 50yrs making them susceptible for OA and another underlying co-morbidity responsible for OA in women is anaemia. Iron deficiency, which is an important cause of anemia in arthritis patients, is partially preventable. In screening camp we found that female patient with OA are anemic (presented in table 1)

Table 1:Average of Hb level in OA patient

Gender	No. of patient	Avg. Hb value
Male	31	11.6 mg/dl
Female	24	9.7 mg/dl

Amongst the 55 patients suspected with OA, it was found that many patients were obese and were having a sedentary life style. Obesity is one of the strongest and best-established risk factors of OA [20]. Obesity proceeds rather than follow knee osteoarthritis and indeed weight loss prevents development of knee osteoarthritis [21]. Obesity is associated with an elevated risk of an array of chronic diseases. The implications for the musculoskeletal system include both degenerative and inflammatory conditions, with the greatest burden resulting from osteoarthritis [21]. After screening the patients for their demographic details and signs and symptoms, patients were further evaluated using Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) which produces scores for three subscales: pain, stiffness and physical function. Findings of WOMAC scale are mentioned in **Table 2.**

Table 2: WOMAC Index

RESPONSE	POINT	PATIENT NO.
NONE	0	3
MILD	1	31
MODERATE	2	13
SEVERE	3	7
EXTREME	4	0

As evaluated by the WOMAC index, it was found that out of 55 patients, 31 were assessed with mild scale whereas 13 were assessed in moderate scale. Patients falling in mild and moderate scale were presented with primary OA related to aging and also due to their lifestyle changes leading to obesity and posing a risk for OA. On evaluation, it was also found that along with obesity, maximum male patients were chronic bidi smokers. There have been conflicting reports on the role of smoking in OA. Some studies have reported a protective association between smoking and OA, but others in contrast, report that smoking may be associated with a greater risk both of cartilage loss and knee pain in OA [22]. Protective influence of smoking on knee osteoarthritis has been reported from various studies including Framingham study[22]. Patients with severe scale OA were further referred to the physicians and orthopaedic surgeons for further management and treatment.

Pharmacists based screening and management services offer several advantages as they are the first point of contact between patients and the healthcare system and they are suitably equipped to target people less likely to self-refer to other health services. The pharmacist, along with the prescriber has a duty to ensure that patients are aware of the risk factors associated with their condition, management plan and treatment and associated side effects of the

same. With their detailed knowledge of medicine, pharmacists have the ability to relate unexpected symptoms experienced by patients to possible adverse effects of their drug therapy.

CONCLUSION

This screening camp identified that male dominance was more for condition of OA. Most commonly seen etiology in the screened patients was age factor and anaemic condition seen in women. OA being a common condition which represents a major contribution to the burden of physical disability, the only way for reduction of the burden of the disorder is prevention. There is a need to increase awareness regarding osteoarthritis in the community and thus, pharmacists can play an effective role in screening and management of such chronic condition. Pharmacists can play an important role in counseling regarding importance of daily exercise, proper position of the major joints during daily activities and also to control the risk factor such as obesity. Adequate treatment and physiotherapy could make patients to manage the pain, maintain mobility and minimize disability. Screening and risk assessment services provided by pharmacist are common and routinely performed for a range of chronic conditions thus making it beneficial for patients and helping them with better patient care, medication management and also cost effectiveness.

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