A prospective observational study on prevalence of osteoarthritis with malnutrition in Kanigiri constituency, West Prakasam, Andhra Pradesh

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Abstract

Osteoarthritis is the generally widespread type of rheumatic disease and leading the reason for inability which leads limits the physical activity due to severe joint pains with the involvement of hips and knees. Malnutrition is observed more among the rural area people because of delayed daily lack of hygienic food and supplements. To investigate the risk factor, pervasiveness and treatment design for patients with osteoarthritis and ailing health, to review the socio demographic data of the patient. It is a non-experimental prospective observational study. Results show that 30-60 years age collection was generally influenced and females were for the most part influenced by osteoarthritis. Among them the pace of housewife was 45%. They are more helpless. Adequacy of treatment, balancing and substitute treatment was acceptable. Level of progress or contented with treatment was roughly 53%. Percentage of improvement or satisfied with treatment was approximately 53%. In all out accomplishment, around 19% aim of treatment is not fulfilled because of certain causes and 28% have no improvement. Osteoarthritis is definitely not a reparable illness however with regular physical exercises, treatment can reduce the symptoms. In the study proved that female are more affected than male. Numerous of the people having malnutrition and health care system in this area

Key Words: *Osteoarthritis, Malnutrition, Rheumatic disease*

1. Introduction

Osteoarthritis is the most well known sort of rheumatic syndrome and leading a reason for inability which leads limits the physical activity due to severe joint pains with the involvement of hips and knees [1]. Knee pain is a common musculoskeletal symptom among working-age people. The prevalence of knee pain varies from 10 to 60%, depending on age, occupation and the definition of knee pain, yet only few epidemiological studies exist on knee pain and its risk factors [2]. In the majority of earlier studies the standard outcome has been radiographically evaluated osteoarthritis (OA), possibly due to the advantage of an objective definition of the disease [3]. Malnutrition is more among the rural area people because of delayed daily lack of hygienic food and supplements. Kanigiri is a provincial region of west Prakasam district consists of 6mandals which having Fluorine high in their soil and the people living there by doing agriculture but it depend on the rain because there is poor water source in this constituency. There are no proper facilities for people's health and less hospitals that are not able to afford the money for private hospitals. Day by day the cases are increasing and no proper nourishment, poor health care facilities leading to complications. Lower education has been shown to be associated with knee pain in some studies but not in others [4]. In a study on 55-year-old Swedish residents, knee pain was more frequent among those with moderate work load compared with those with light or heavy work [5]. In another study, those with physically demanding work, such as carpenters, miners and construction workers had a higher prevalence of knee pain compared to those with physically less demanding work [6]. Prevalence increases with age and so this number can only increase as our population ages and treatments for life threatening conditions improve. The cost to the health system is substantial, measured in Australia at A$624 million in 1994, with 48% of these costs incurred in hospitals and 9% for pharmaceuticals [7]. This comparatively small percentage for pharmaceuticals is not surprising, as there is no preventive or curative drug treatment available for osteoarthritis, and medical practitioners are left simply with various analgesic options for the pharmaceutical management of the disease [8]. Despite a recently described decrease in the use of paracetamol and non-steroidal anti-inflammatory drugs (NSAID) in osteoarthritis, paracetamol, ibuprofen, and aspirin remain the three most commonly used ‘‘over the counter’’ drugs for any indication [9]. To our knowledge, there have been no prospective studies. In the present study we undertook a prospective assessment of the patterns treatment, malnutrition, occupation, gender, age with area wise suffering of people from osteoarthritis [10]. The purpose is to understand the people at early age they are suffering with bone related health problem and using analgesics as well as fluorine is also causing decreased cartilage and bone strength.

2. Method

In this study (01-10-2018 to 08-04-2019), history, utilization of over the counter (OTC) prescription and clinical records of patients of osteoarthritis in those territories were studied during the time-frame. Demographic information, clinical technique, therapy design and related difficulties were separated from the patient's clinical records or by meeting. In certain patients determination of osteoarthritis infection was recorded in their clinical documents and they were given prescription. Around 300 patient's data information was gathered for this exploration work **IEC/ARMN/PP5/2018/H/3** dated on 24-09-2018.

2.1 Source of Data

The patient's demographical data, clinical data, therapeutics data and various other relevant and necessary data were obtained from the medical records and other relevant information sources that are documented, including laboratory investigations. All the records were having with the patients; we didn't ask them for any investigations, collected data from existing medical records with them.

2.2 Study design

Non-experimental prospective observational study

2.3 Study Site

Kanigiri Constituency which contains 6 mandals, a rural area from west prakasam district, Andhra Pradesh

2.4 Study Duration

Study was conducted over a period of 6 months from October 2018 to April 2019

2.4.1Inclusion criteria

Those people who are suffering from bone and nutrition related problems were incorporated in the study

2.4.2 Exclusion criteria

Those who are suffering from hypertension, diabetes, renal failure were excluded in the study

2.5 Data analysis

The data collected were analyzed and calculated to assess the possibilities like gender distribution, age, area, occupation, level of pain, malnutrition, treatment pattern were done.

Statistical Analysis

Standard statistics were used to describe patient demographics. Statistical analysis was done based on chi square test and MS excel 2007.

3. Results and Discussion

There were 300 sample was taken. All met with inclusion criteria as the study protocol. 59% males had osteoarthritis. Greater part of patients in the age group of 40-60 years 2% patients were seen in age group less than 2 years. In this study we have seen 6 areas in Kanigiri constituency. In this report 45% of housewives had osteroarthritis

3.1 Table 1: Gender distribution

Gender	Number	Percentage (%)
Male	178	59.33
Female	122	40.67

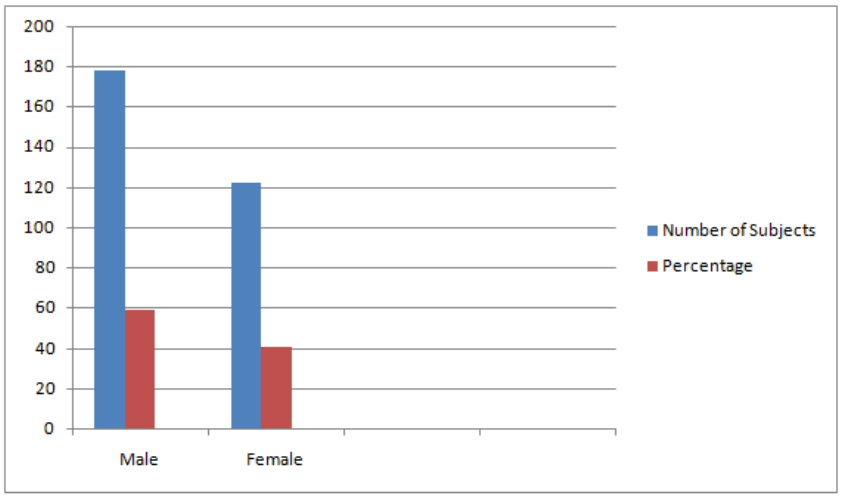

Figure 1: Gender Distribution

Gender distribution presented in the above table 1 and figure 1. The total no. of patients was 300. Among 300 patients, males are 178 (59%) and females are 122 (41%).

3.2 Table 2: Age

Age distribution (years)	Number (300)	Percentage (%)
0-20	5 (4M+1F)	1.67
20-40	143 (86M+57F)	47.67
40-60	124 (69M+55F)	41.33
> 60	28 (19M+9F)	9.33

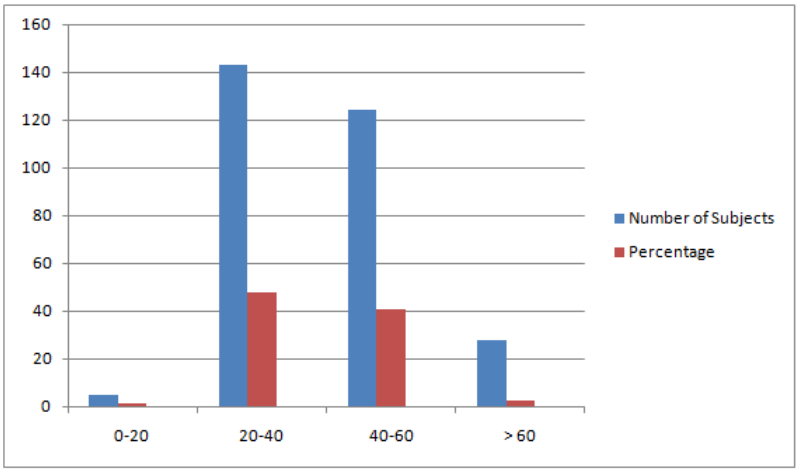

Figure 2: Age Distribution

Age distribution presented in the above table 2 and figure 2. The total no. of patients was 300. According to age group 0-20 was 5 (2%), 20-40 age groups were 143 (48%), 40-60 age group were 41% and > 60 years of age 28 (9%).

3.3 Table 3: Area

Area	Number	Percentage (%)
Kanigiri	34 (22M+12F)	11.31
HM Padu	62 (43M+19F)	20.67
CS Puram	14 (5M+9F)	4.67
Pamuru	44 (18M+26F)	14.6
PC Palli	120 (74M+46F)	40.0
Veligandla	26 (16M+10F)	8.66

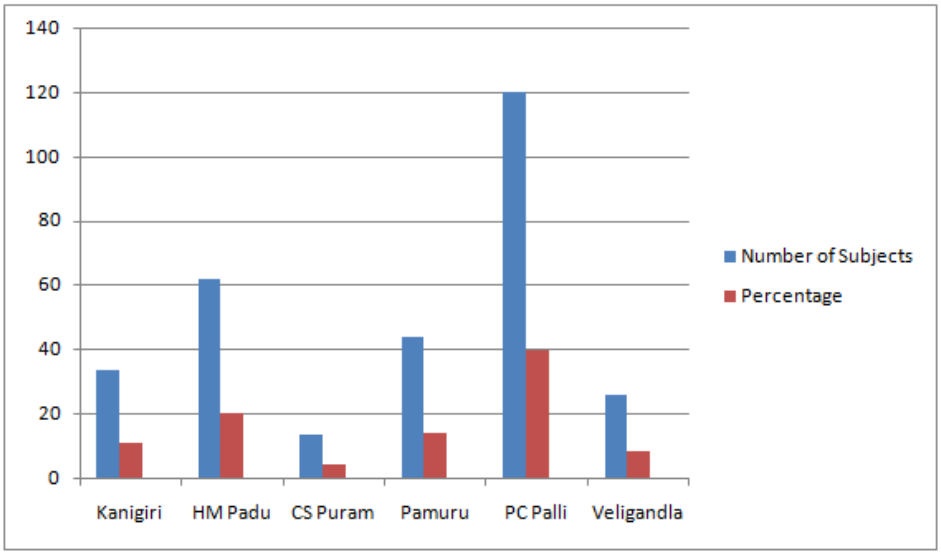

Figure 3: Areas in Kanigiri Constituency

Area wise distribution presented in table 3 and figure 3. According to area wise Kanigiri were 34 (11.31%), HM Padu was 62 (20.67%), CS Puram was 14 (4.67%), Pamuru were 44 (14.6%), PC Palli was 120 (40.0%) and Veligandla were 26 (8.66%).

3.4 Table 4: Occupation

Occupation	Number	Percentage (%)
House wife	95 (0M+95F)	31.67
Farmers	86 (84M+2F)	28.66
Daily wage Earners	78 (62M+16F)	26.0
Business	22 (18M+4F)	7.33
Job Holders	19 (14M+5F)	6.34

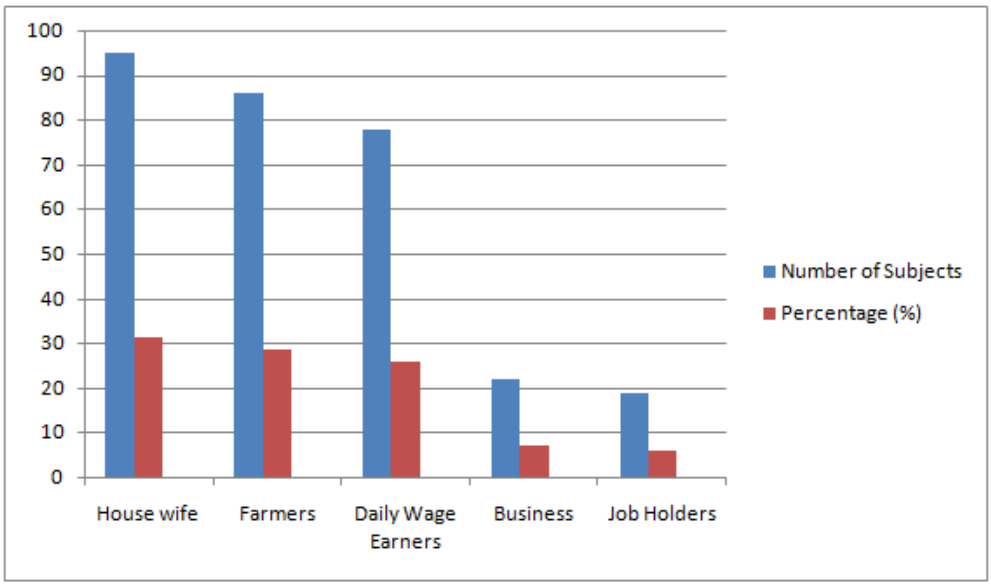

Figure 4: Occupation

Occupation wise distribution presented in table 4 and figure 4. According to occupation housewives were 135 (45%), farmers were 66 (22%), daily wage earners were 58 (19%), business persons were 22 (7%) and job holders were 19 (6%).

3.5 Table 5: Level of Pain

Level of pain	Number	Percentage (%)
Mild	46 (28M+18F)	15.33
Moderate	82 (57M+25F)	27.33
Severe	148 (83M+65F)	49.34
Extremely Severe	24 (10M+14F)	8.0

Level of pain distribution presented in table 5 and figure 5. According to level of pain, mild pain was 46 (15%), moderate pain was 82 (27%), severe pain was 148 (49%) and extremely severe pain was 24 (8%).

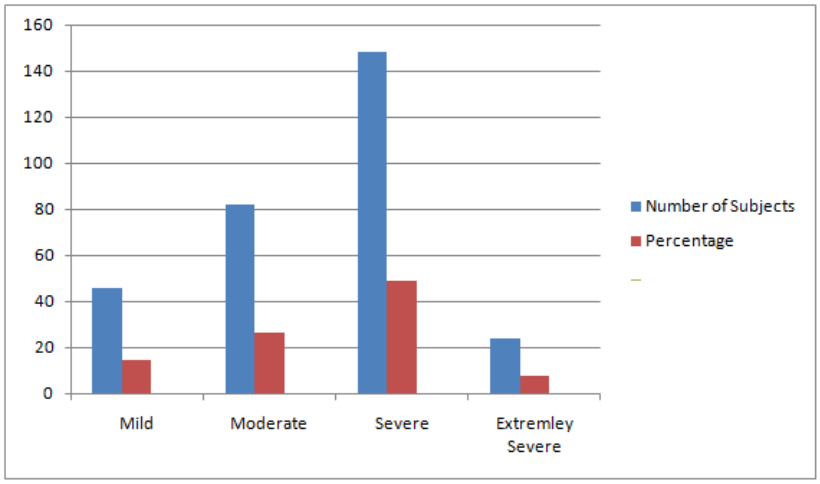

Figure 5: Level of Pain

3.6 Table 6: Malnutrition

Malnutrition	Number	Percentage (%)
Calcium	94 (43M+51F)	31.33
Vitamin D	68 (29M+39F)	22.67
Protein	127 (99M+28F)	42.33
Other	11 (7M+4F)	3.67

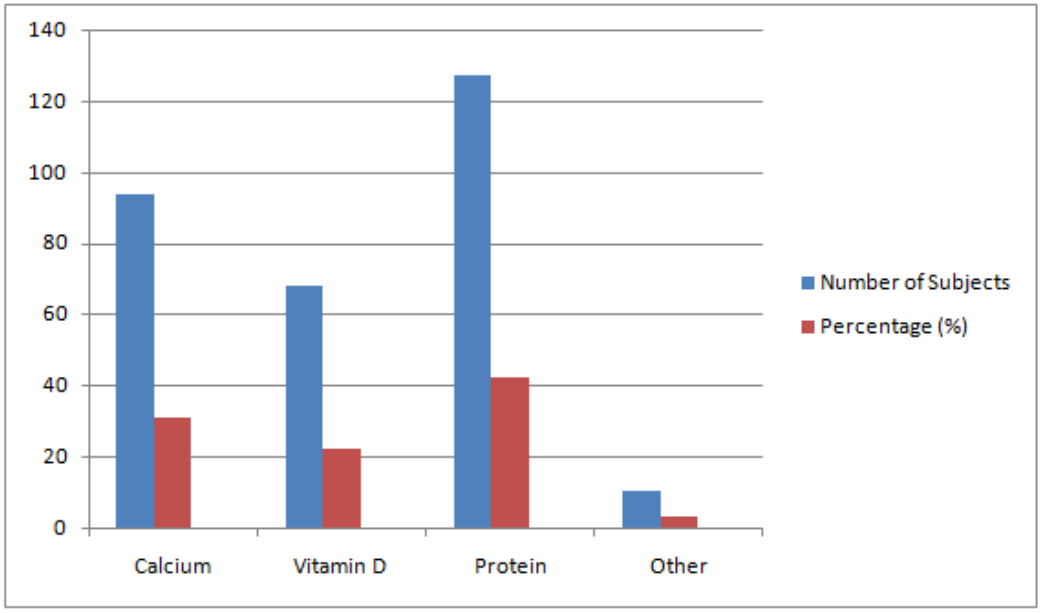

Figure 6: Malnutrition

Malnutrition presented in table 6 and figure 6. According to malnutrition, calcium deficiency was 94 (31%), vitamin D was 68 (23%), protein deficiency was 127 (42%) and other deficiencies were 11 (4%).

3.7 Table 7: Treatment Pattern

Treatment	Number	Percentage (%)

OTC Medication	142 (85M+57F)	47.33
Doctor	32 (14M+18f)	10.67
RMP	103 (71M+32F)	34.33
Other Sources	23 (8M+15F)	7.67

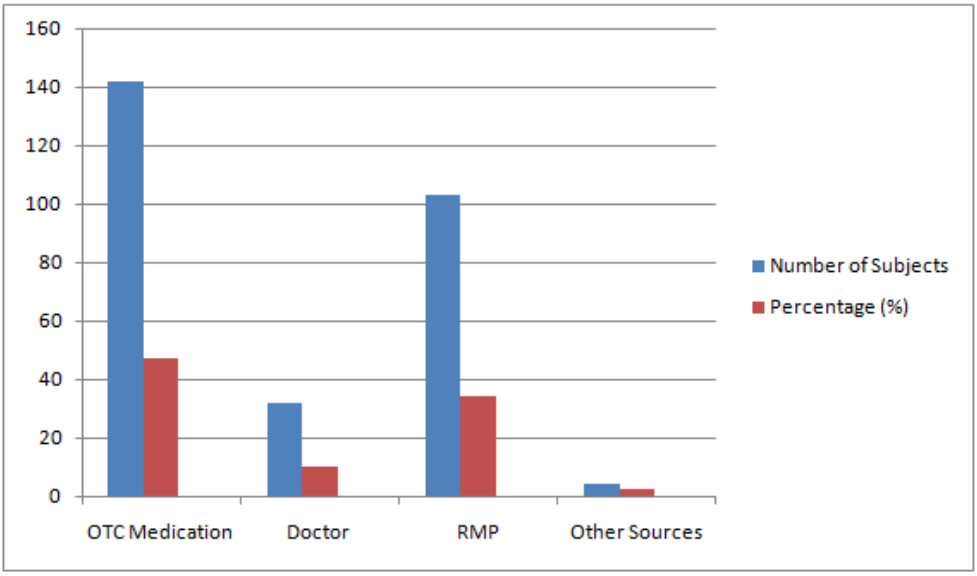

Figure 7: Treatment Pattern

Treatment pattern was presented in table 7 and figure 7. According to treatment pattern, OTC medication was 142 (47%), visiting doctors were 32 (11%), going to RMP was 103 (34%) and other sources like using someone's medication prescribed for others were 23 (8%). Among them the pace of housewife was 45%. They are more helpless. Viability of treatment and reciprocal and alternative treatment was acceptable[6]. Level of progress or satisfied with treatment was around 53%. In complete accomplishment, around 19% aims of treatment are not fulfilled because of certain causes and 28% have no improvement.

4. Conclusion

Osteoarthritis is a disease which cannot be cured but with regular physical exercises, treatment can reduce the symptoms. In the study proved that female are more affected than male. Numerous of the people having malnutrition and lack of proper health care system in this area. This study has the limitations because all the collected information from the prescriptions and medical records of the patients which information obtained. Furthermore studies are required and need large number of sample size is required for accurate analysis of osteoarthritis with the malnutrition status in the prevalence of the study.

5. Competing interest

The author declares that they have no competing interests.

6. Funding

Nil

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