

EPIDEMIOLOGY OF ORTHOPAEDIC OUTDOOR PATIENTS IN A TERTIARY CARE HOSPITAL, GMC KATHUA, INDIA

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Abstract

Background: The orthopaedic speciality forms an essential component of the healthcare system both in public and private sector. Due to the increase in life expectancy and changed lifestyle, the various orthopaedic problems have become more prevalent over the past decades. A study regarding all these parameters provides a useful information regarding the diseases in a population and gives data to the concerned department and hospital to build infrastructure, generate manpower to provide better patient care. **Materials and Methods:** The study was retrospective, conducted on 8800 patients presenting to the orthopaedic OPD, between March 2022 to August 2022. The patient diagnosis was made and statistical analysis of the patient data was done. **Result:** Overall back pain incidence was greatest as an orthopaedic problem in all patients, followed by neck pain. Spine related problems were more common in patients with sitting job, drivers, housewives and students. 32 % patients were having history of trauma, males constituted 52%, backpain seen in 24.4%, followed by neck pain in 16.3%, knee osteoarthritis in 9%, fractures in 15 % patients. **Conclusion:** The current study was aimed to know about the orthopaedic problems faced by the patients in our geographical area and to compare these with the existing literature to use it an educational tool in research and to formulate treatment strategies for the benefit of patients and to promote healthy and diseases free lifestyle.

INTRODUCTION

The Orthopaedic speciality forms an essential component of the healthcare system both in public and private sector. Due to the increase in life expectancy and changed lifestyle, the various orthopaedic problems have become more prevalent over the past decades. The orthopaedic injury pattern and other musculoskeletal problems vary from region to region, lifestyle, racial factors, environment, associated comorbidities, age, gender, occupation, socioeconomic status and so on. The patients visiting the orthopaedic outpatient department include, patients with musculoskeletal conditions, fractures, soft tissue injuries, deformities, osteoarthritis, sports injuries, diabetic foot ulcers, etc. Some patients visiting the orthopaedic OPD require admission for surgery, get discharged and advised to follow up to check for complications, fracture healing, rehabilitation etc.^[1] Unlike other ailments, orthopaedic problems take time to heal, thus causing delay in the recovery and restoration of the daily activities, and occupational work leading to financial burden on the patients and their dependents. The patient treatment outcome

depends on patient's compliance, education, attitude, doctor's skills and communication, physiotherapy, etc. A study regarding all these parameters provides a useful information regarding the diseases in a population and gives data to the concerned department and hospital, provides baseline data to compare with other similar studies all over the world, thereby improving health services and patient care.^[2,3]

The study was taken to know the prevalence, pattern, magnitude of a particular type of problem type of orthopaedic problems like fractures, degenerative disorders, arthritis, sports injuries, neglected / quack treated patients with trauma, dislocations, bone infections, deformities, metabolic bone conditions, etc so as to collect data, plan and make protocol regarding patient load, facilities, investigations, diagnosis and treatment, risk factors, provide cost effective and useful drugs, know other areas to improve for better patient care.

MATERIALS AND METHODS

The study was retrospective conducted in the Orthopaedics department GMC Kathua, Jammu and

Kashmir, India over the patients visiting the OPD in the time period between March 2022 to August 2022 over 8800 patients, out of 9200 patients. 400 patients with non-specific complaints were excluded from the study. The study was approved by the Institutional Ethical Committee vide letter no. IEC/GMCK/124Pharma. In every patient, relevant history, examination, investigations were done to establish a diagnosis. Data regarding patient's age, sex, chief complaints, duration of symptoms, occupation, whether consulted previously, mode of trauma in trauma related cases, dietary history, family history was collected.

RESULTS

In the present study, out of approximately 9200 patients, 8800 were included in the study. 400 patients with other non-specific ailments were excluded. Males constituted 52% (n = 4576) and

females were 48% (n = 4224). The results are shown in the table below. It was observed that in higher aged female patients, osteoporosis was common. Joint arthritis was common in females. Fractures were more in males. Overall back pain incidence was greatest as an orthopaedic problem in all patients, followed by neck pain. Spine related problems were more common in patients with sitting job, drivers, housewives and students. 32 % patients were having history of trauma. Males constituted 52%, back pain seen in 24.4%, followed by neck pain in 16.3%, knee osteoarthritis in 9%, fractures in 15 % patients.

Certain associations like smoking, alcohol, lack of exercise, sleep, stress, overwork was also seen in patients suffering with orthopaedic conditions. Almost patients presenting to us had a demand of analgesics. Pain was the major symptom in most of the patients.

Table 1: Age and gender wise distribution of the illnesses/orthopaedic problems (old follow ups plus new cases).

Diagnosis/orthopaedic problem	Age range (years)	Gender (male/female no.)	No of patients (old follow ups plus new) / percentage (%)
Back pain	15-85	M= 1142, F=1004	2146(24.4)
Neck pain	16-55	M= 772, F=662	1434 (16.3)
Knee osteoarthritis	35-65	M=440, F=352	792 (9)
Fractures	1.5-80	M=780, F=540	1320 (15)
Soft tissue injuries/ligament sprains	15-65	M= 511, F=397	908 (10.3)
Neuropathies	45-65	M= 80, F=96	176 (2)
Joint stiffness	15-70	M= 242, F=202	444 (5.05)
Infective cases	10-65	M= 233, F=203	436 (4.95)
Osteoporosis	55-85	M= 216, F=400	616 (7)
Arthritis (rheumatoid arthritis)	25-60	M= 102, F=162	264 (3)
Congenital problems, like CTEV deformity	1 to 2 days-6 months	NA	71 (0.8)
Deformities/quack treatment/neglected cases	8-55	NA	79 (0.9)
Other patients	NA	M= 88, F=24	112 (1.28)

Table 2: Occupation wise distribution

Occupation	No.	Percentage (%)
Sitting job	906	10.3
Drivers	144	1.7
Housewives	1950	22.1
Students	2195	24.9
Labourers	1805	20.5
Farmers	1500	17.1
Others	300	3.4

Table 3: Patient distribution, whether history of trauma or other causes

Etiology	No. of patients	Percentage (%)
Trauma	2816	32
Non-trauma	5984	68

Table 4: Associated comorbidities in patients

Comorbidities	No. of patients	Percentage(%)
Hypothyroidism	530	6.02
Hypertension	1452	16.5
Obesity	378	4.29
Diabetes	1026	11.65
Patients without above comorbidities	5414	61.5

Table 5: Comparison of our results with existing literature

	Present study(2024)	Rathod G, et al. (2022) ^[16]	Kumar et al(2018) ^[17]	Syed et al, ^[5] (2019)	Gupta et al(2019), ^[14]
Place, Country	Kathua, Jammu India	Mumbai, India	West Bengal, India	Jeddah, Saudi Arabia	Bihar, India
Study duration	6 months	6 months	3 months	4 years	1 year

Study type	Retrospective study	Retrospective study	Prospective study	Retrospective study	Prospective study
Patients no.	8800	1605	200	23495	800
Gender					
Male (%)	52	50.72	62	82.5	63.7
Females (%)	48	49.28	38	17.5	36.3
Low back pain (%)	24.4	27.29	29	25.9	28.9
Neck pain (%)	16.3	6.92	9	4.8	8.7
Arthritis (%)	12	26.23	15.5	10.6	16.1
Knee Osteoarthritis & Rheumatoid arthritis					
Fractures (%)	15	2.37	3.5	11	3.6
Soft tissue injuries/ligament sprains(%)	10.3	9.84	NA	6.4	NA
Neuropathies(%)	2	0.62	NA	NA	NA
Joint stiffness(%)	3.05	10.03	NA	1.8	NA
Infective cases(%)	4.95	NA	NA	NA	NA
Osteoporosis(%)	7	NA	NA	NA	NA

DISCUSSION

The orthopaedic problems are increasing over time. In our study, the majority of the patients had musculoskeletal disorders.

It was observed that spine related low backache due to mechanical cause mainly, degenerative disc disease, arthritis were the major contributors of orthopaedic ailments in our patients. These results were in agreement with previous studies of Syed MA et al, Speed CA et al.^[4-6]

Neck pain was also on higher side due to the use of mobile phones, wrong posture, sitting job for prolonged hours. It was seen in 16.3% patients. Our results were in accordance with the literature study, Miakotko L et al.^[7]

In our study, it was observed that among traumatic patients, RTA was the major cause of limb fractures, especially two wheelers, followed by patients with fall, forearm fractures and leg fractures were also seen in patients with history of assault. Most RTA fractured patients had lower limb fractures. This was consistent with studies of Mehta et al. and Ngaroua et al.^[8,9]

A study given by Gururaj et al. revealed that road traffic accidents were the leading cause of injuries (52%), followed by falls (13%), assault (3%).^[10] Huda et al. also found the same RTA (48.13%), followed by fall (29.5%), assault in 5.4%.^[11] This was consistent with other studies Sharma et al. and Wick et al.^[12,13]

Wrist fractures were common in middle aged women and elderly. Trochanteric and neck femur fractures were common in elderly and osteoporotic patients. Children presenting to our OPD had mostly a complaint of trauma. But commonest congenital problem in children was CTEV (0.4%) These results were similar to the study by Gani et al.^[1]

Spine injuries were seen in patients with fall from height. Lacerated wounds and tendon injuries were seen in labourers, mechanics. Neglected and quack treated patients from far flung areas with a history of trauma / swelling / infection presented 3 to 4 weeks late for checkup. Soft tissue like tendon / ligament injuries were seen in the young males involved in

sports/ trainees or preparing for various recruitment examinations, seen in 10.3% cases. In a study given by Gupta et al, soft tissue injury was 34.6%, and in a study by Gani et al, 6% patients suffered soft tissue injuries.^[1,14]

These patients presented late about 3 weeks to 4 weeks after trauma or any underlying wound infection. Among musculoskeletal disorders, gouty arthritis was seen more commonly found in middle aged male patients. Multiple Joint pains were seen in females with associated hypothyroidism. Obesity is also a contributor of osteoarthritis of hip and knee, Woolf AD et al.^[15]

Frozen shoulder was seen in most of the patients with diabetes mellitus. Combine association of both was seen in 75.2 % patients. Rheumatoid arthritis was greater in females than males. Kneeosteoarthritis was slightly higher in males.

Ankylosing spondylitis was seen in young males. Students / drivers/ clerical job patients had spine related complaints. It was also observed that quack based treated patients had many complications like compartment syndrome, osteomyelitis, contractures, deformities like limb length discrepancy.

Bone infection like osteomyelitis, suppurative arthritis, tuberculosis of joints, Pott's spine was observed in 4.95 percent patients. This was consistent with the study conducted by Gani et al.^[12]

Limitations of our study

It was a generalized study without focussing on a single parameter, retrospective in nature, it can't predict the natural history, course, outcome of a particular diseases. It is not suitable for a rare disease. Moreover, the study is of subjective nature in some parameters which can create bias, in case the information provided in history is not adequate and correct.

CONCLUSION

The current study was aimed to know about the orthopaedic problems faced by the patients in our geographical area and to compare these with the existing literature. This epidemiological study acts

as a tool to formulate policies regarding distribution of illnesses, measures to rectify the parameters related to the patient, hospital staff, infrastructure, diagnostic and therapeutic facilities, provide knowledge through mass education, identifies the particular areas to focus upon, like to reduce road accidents, discourage quack based treatment, report to speciality hospital on time. It also adds data to the literature. This will reduce the burden of disease and save lives in the interest of mankind.

REFERENCES

- Gani A, Bhat S, Gupta A. Pattern and prevalence of orthopaedic outdoor patients at a tertiary level care hospital in Jammu, India. *J K Sci*. 2016;42:558-9.
- Muralikuttan, KP, Afra'a M, Sankaran- Kutty M, Sim AJ. A critical analysis of orthopedic workload in a teaching hospital in the United Arab Emirates as a stimulus for improving patient care. *Saudi Med J*. 1998;19:36-40.
- Huda N, Gupta P, Pant A, Iqbal A, Jul-fiqar M, Khan MZ, et al. Pattern of Orthopaedic injuries among patients attending the emergency department in a tertiary care hospital—An analytical study. *Acta Medica Int*. 2014;1:10.
- Speed CA, Crisp AJ. Referrals to hospital-based rheumatology and orthopaedic services: seeking direction. *Rheumatology*. 2005;44:469-7.
- Syed MA, Azim SR, Baig M. Frequency of orthopedic problems among patients attending an orthopedic outpatient department: a retrospective analysis of 23 495 cases. *Ann Saudi Med*. 2019; 39(3):172-7.
- Centers for Disease Control and Prevention. Prevalence of self-reported arthritis or chronic joint symptoms among adults—United States, 2001. *Morb Mortal Wkly Rep*. 2002;51:948-50.
- Miakotko L. The impact of smartphones and mobile devices on human health and life. 2016. Available at: <https://www.nyu.edu/classes/keefe/waoe/miakotkol.pdf>. [Accessed on April 20, 2018].
- Mehta SP. An epidemiological study of road traffic accident cases admitted in Safdarjang hospital, New Delhi. *Indian J Med Res* 1968;56:456-66.
- Ngaroua D, Neossi NM, Amvene JM, Mefire AC, Eloundou NJ. Epidemiology and pattern of road traffic injuries in Ngaoundéré, Cameroon: A retrospective hospital based study prior to the implementation of a formal trauma registry. *Health Sci Dis* 2014;15:2.
- Gururaj G, Girish N, Issac NK, Subhakrishna DK. Final Report of the Project “Health Behaviour Surveillance” Submitted to the Ministry of Health and Family Welfare. Government of India; 2004.
- Huda N, Parekh P, Rehman M, Afzal M, Siddiquie HQ. Demographic distribution of fractures at a tertiary care hospital in Western U.P. (India) a retrospective study. *J Orthop Traumatol Rehabil* 2012;5:1.
- Sharma BR, Harish D, Sharma V, Vij K. Road-traffic accidents – Ademographic and topographic analysis. *Med Sci Law* 2001;41:266-74.
- Wick M, Müller EJ, Ekkernkamp A, Muhr G. The motorcyclist: Easy rider or easy victim? An analysis of motorcycle accidents in Germany. *Am J Emerg Med* 1998;16:320-3.
- Gupta AA, Mishra SK, Uikay S, Maravi D. A study—Incidence and pattern of musculoskeletal injuries among patients attending the emergency of tertiary health care center in Central India. *J Orthop Dis Traumatol* 2019;2:11-4.
- Woolf AD, Pfleger B. Burden of major musculoskeletal conditions. *Bull World Health Organ*. 2003;81:646-56.
- Rathod G, Borole P, Shetty C, Raut N, Britoo N, Gawali V. A cross-sectional study of diseases prevailing in an orthopaedic OPD at a tertiary care hospital in the Mumbai metropolitan region. *Int J Res Orthop* 2022;8:171-6.
- Kumar A, Dalai C, Banerjee S. Distribution of illness of orthopaedic outpatient department in a tertiary care teaching hospital in West Bengal: a cross sectional study. *Acta Orthop Scand Suppl*. 2018;452:52-9.