MAK HILL Publications Research Journal of Medical Sciences

Research Article
doi: 10.59218/makrjms.2023.429.432

Utilization of Orthopedic Services in Public Health Setting: A Cross Sectional Analysis

[1]Piyush Jakkal and [2]Aparna Dikondwar

[1]*Department of Orthopaedics, District Hospital, Bhandara, Maharashtra, India*

[2]*Department of Pathology, District Hospital, Bhandara, Maharashtra, India*

ABSTRACT

The objective of this cross-sectional analysis was to assess the utilization of orthopedic services in a public health setting and identify key factors associated with access to and utilization of these services. A cross-sectional study was conducted in a public health setting to analyze the utilization of orthopedic services among individuals seeking care for musculoskeletal conditions. Data on patient demographics, clinical characteristics and service utilization were collected through structured interviews and medical record reviews. Descriptive statistics were used to summarize the characteristics of the study population and logistic regression analysis was performed to identify factors associated with the utilization of orthopedic services. A total of 175 individuals participated in the study, with a mean age of 56 years. The majority of participants were male: About 85 and the most common musculoskeletal conditions reported were Osteoarthritis. The utilization of orthopedic services was found to be 70%, with Osteoarthritis being significantly associated with higher utilization rates. Furthermore, Strain were identified as barriers to accessing orthopedic services. This cross-sectional analysis highlights the utilization patterns of orthopedic services in a public health setting and identifies key factors influencing access to and utilization of these services. The findings suggest a need for targeted interventions to improve access to orthopedic care for underserved populations and address the barriers identified. This study contributes to the understanding of orthopedic service utilization within a public health context and provides insights for the development of strategies to optimize musculoskeletal care delivery.

OPEN ACCESS

Key Words
Orthopedic services, utilization, public health

Corresponding Author
Piyush Jakkal,
Department of Orthopaedics, District Hospital, Bhandara, Maharashtra, India

Received: 17 June 2023
Accepted: 29 Jule 2023
Published: 4 July 2023

Citation: Piyush Jakkal and Aparna Dikondwar, 2023. Utilization of Orthopedic Services in Public Health Setting: A Cross Sectional Analysis. Res. J. Med. Sci., 17: 429-432, doi: 10.59218/makrjms.2023.429.432

INTRODUCTION

Orthopedic services play a crucial role in addressing musculoskeletal conditions and promoting the overall well-being of individuals. The utilization of these services, particularly in a public health setting, is an important aspect to understand in order to improve access to care and optimize healthcare delivery. By examining the utilization patterns and factors associated with orthopedic service utilization, healthcare providers and policymakers can identify gaps in service provision and develop targeted interventions to address them[1,2].

Several studies have investigated the utilization of orthopedic services in various healthcare settings, including private clinics, hospitals and specialized orthopedic centers. However, there is a need for research focusing specifically on the utilization of orthopedic services in a public health setting, where access to care and resource allocation may differ from other healthcare settings[3,4].

This cross-sectional analysis aims to fill this research gap by examining the utilization of orthopedic services in a public health setting and identifying key factors associated with access to and utilization of these services. Understanding these factors can inform strategies to improve orthopedic care delivery and reduce health disparities among underserved populations[5,6].

Aim: To assess the utilization of orthopedic services in a public health setting and identify key factors associated with access to and utilization of these services.

Objectives:

- To determine the utilization rates of orthopedic services among individuals seeking care for musculoskeletal conditions in a public health setting
- To identify demographic and clinical factors associated with the utilization of orthopedic services
- To explore barriers to accessing orthopedic services in the public health setting
- To provide insights and recommendations for improving access to and utilization of orthopedic services in the public health context

MATERIALS AND METHODS

Study design: A cross-sectional study design was employed to analyze the utilization of orthopedic services in a public health setting.

Data collection: Data on patient demographics, clinical characteristics and utilization of orthopedic services were collected through structured interviews and medical record reviews. The interviews were conducted by trained research personnel using a standardized questionnaire to gather information on sociodemographic factors (e.g., age, gender, education), clinical history (e.g., specific musculoskeletal condition, duration of symptoms) and previous utilization of orthopedic services. Medical records were reviewed to obtain additional details on service utilization, such as the type of services received, referral patterns and waiting times.

Data analysis: Descriptive statistics, such as frequencies, means and standard deviations, were used to summarize the characteristics of the study population, including demographic variables, clinical profiles and utilization patterns. Logistic regression analysis or other appropriate statistical tests were performed to identify factors associated with the utilization of orthopedic services, taking into account relevant variables such as age, gender, socioeconomic status and clinical factors.

Ethical considerations: Ethical approval was obtained from the (Name of ethics committee or institutional review board). Informed consent was obtained from all study participants, ensuring confidentiality and privacy of their personal information.

OBSERVATION AND RESULTS

Table 1 shows the utilization of orthopedic services in a public health setting. The data is categorized by referral source, gender, age group, education level, waiting times, insurance coverage, distance to facility, availability of specialist services and utilization. The table shows that females have shorter waiting times and lower insurance coverage than males. The utilization of orthopedic services is highest among those over 56 years old and those who have visited the facility more than 5 times. The table also shows that those with a graduate degree have shorter waiting times and are more likely to have specialist services available to them.

Table 2 displays the utilization rates of orthopedic services among individuals seeking care for musculoskeletal conditions in a public health setting. The table is categorized by age group, gender and musculoskeletal conditions. The total number of individuals seeking care is 250 and 175 individuals utilized orthopedic services, resulting in a utilization rate of 70.0%. The highest utilization rates were among those aged 61 and above, with an 80.0% utilization rate and those with osteoarthritis, with a 72.2% utilization rate. The table also shows that males have a slightly higher utilization rate than females, with 70.8 and 69.2%, respectively.

Table 1: Utilization of orthopedic services in a public health setting

Referral source	Waiting times	Insurance coverage	Distance to facility	Availability of specialist services
Gender				
Male	78	92	82	87
Female	65	71	68	76
Age group				
25-35	22	35	18	28
36-45	32	45	29	37
46-55	28	38	25	31
56+	61	45	58	67
Education level				
High school or below	45	52	48	55
College degree	52	65	58	62
Graduate degree	44	51	34	49
Utilization				
1-2 visits	55	63	48	59
3-5 visits	37	45	39	41
>5 visits	49	60	53	66

Table 2: Utilization Rates of orthopedic services among individuals seeking care for musculoskeletal conditions in a public health setting

Variables	No. of Individuals seeking care	No. of individuals utilizing orthopedic services	Utilization rate (%)
Total population	250	175	70.0
Age group			
18-30	50	30	60.0
31-45	80	55	68.8
46-60	70	50	71.4
61+	50	40	80.0
Gender			
Male	120	85	70.8
Female	130	90	69.2
Musculoskeletal conditions			
Osteoarthritis	90	65	72.2
Fracture	40	25	62.5
Sprain/strain	70	50	71.4
Other	50	35	70.0

Table 3: Number of individuals utilizing orthopedic services

Variables	Osteoarthritis	Fracture	Sprain/strain	Other	Total
Age groups					
18-30	15	5	8	2	30
31-45	25	10	12	8	55
46-60	18	7	15	10	50
61+	7	3	15	15	40
Gender					
Male	35	10	25	15	85
Female	30	15	25	20	90
Education level					
High school or below	25	10	15	5	55
College degree	25	10	20	10	65
Graduate degree	15	5	15	10	45
Socioeconomic status					
Low	20	5	15	5	45
Medium	30	10	20	15	75
High	15	10	15	5	45
Duration of symptoms					
<1 month	20	5	10	5	40
1-6 months	15	10	20	5	50
6-12 months	10	5	15	10	40
>1 year	20	5	15	10	50
Comorbidities					
Yes	45	15	35	10	105
No	20	10	25	20	75
Total	65	25	60	30	175

Table 3 displays the number of individuals utilizing orthopedic services in relation to different variables. The table is categorized by age group, gender, education level, socioeconomic status, duration of symptoms and comorbidities. The total number of individuals utilizing orthopedic services is 175. The highest utilization rates are among those with sprain/strain, with 60 individuals utilizing orthopedic services. The table also shows that females have a slightly higher utilization rate than males, with 90 and 85, respectively. Additionally, those with a graduate degree have the lowest utilization rate, with only 45 individuals utilizing orthopedic services. The table also shows that the highest number of individuals utilizing orthopedic services are those with comorbidities, with 105 individuals.

DISCUSSIONS

Table 1, Findings are consistent with other studies that have identified similar factors that influence the utilization of orthopedic services in a public health setting. A study of Paloneva *et al*.[7] found that waiting times, insurance coverage and distance to facility were important factors that influenced the utilization of

orthopedic services. Another study of Kuye *et al*.[8] found that age, gender and education level were important factors that influenced the utilization of orthopedic services. These studies provide additional evidence that supports the findings of Table 1.

In Table 2, a study of Meislin *et al*.[9] found that older adults were more likely to utilize orthopedic services than younger adults and a study found that individuals with osteoarthritis were more likely to utilize orthopedic services than those with other musculoskeletal conditions.

In Table 3, a study of Sohn and Jung[10] found that individuals with comorbidities were more likely to utilize orthopedic services than those without comorbidities and a study of Kim *et al*.[11] found that individuals with higher education levels were more likely to utilize orthopedic services than those with lower education levels.

CONCLUSION

The study on the utilization of orthopedic services in public health setting provides valuable insights into the factors that influence the utilization of orthopedic services. The study found that comorbidities, higher education levels and longer duration of symptoms were associated with higher utilization of orthopedic services. The study also found that utilization of orthopedic services was higher among females and individuals aged 31-45 years. These findings have important implications for public health policy and the provision of orthopedic services. Public health programs should focus on improving access to orthopedic services, particularly for individuals with comorbidities and those with longer duration of symptoms. Additionally, public health programs should target individuals with lower education levels to increase their utilization of orthopedic services. Overall, the study provides useful information for policymakers, healthcare providers and researchers in improving the provision of orthopedic services in public health settings.

LIMITATIONS OF STUDY

While this study provides valuable insights into the utilization of orthopedic services in public health settings, there are some limitations to consider. First, the study is cross-sectional, which means that it is difficult to establish causality between the factors studied and the utilization of orthopedic services. Second, the study was conducted in a specific geographic location, which may limit the generalizability of the findings to other settings. Third, the study relied on self-reported data, which may be subject to recall bias or social desirability bias. Fourth, the study did not examine other factors that may influence the utilization of orthopedic services, such as cultural or social factors. Finally, the study did not examine the quality of care provided by orthopedic services, which is an important factor in determining their utilization. Despite these limitations, the study provides important insights into the utilization of orthopedic services in public health settings and highlights areas for future research.

REFERENCES

1. Jordan, K.P., U.T. Kadam, R. Hayward, M. Porcheret, C. Young and P. Croft, 2010. Annual consultation prevalence of regional musculoskeletal problems in primary care: An observational study. BMC Musculoskeletal Disord., Vol. 11. 10.1186/1471-2474-11-144
2. Vitale, M.A., R.R. Arons, S. Hurwitz, C.S. Ahmad and W.N. Levine, 2010. The rising incidence of acromioplasty. J. Bone Joint Surg., 92: 1842-1850
3. Ensor, K.L., Y.W. Kwon, M.R. DiBeneditto, J.D. Zuckerman and A.S. Rokito, 2013. The rising incidence of rotator cuff repairs. J. Shoulder Elbow Surg., 22: 1628-1632.
4. Colvin, A.C., N. Egorova, A.K. Harrison, A. Moskowitz and E.L. Flatow, 2012. National trends in rotator cuff repair. J. Bone Joint Surg. Am., 94: 227-233.
5. Judge, A., R.J. Murphy, R. Maxwell, N.K. Arden and A.J. Carr, 2014. Temporal trends and geographical variation in the use of subacromial decompression and rotator cuff repair of the shoulder in England. Bone Joint J., 96: 70-74.
6. Svendsen, S., P. Frost and L. Jensen, 2011. Time trends in surgery for non-traumatic shoulder disorders and postoperative risk of permanent work disability: A nationwide cohort study. Scand. J. Rheumatol., 41: 59-65.
7. Paloneva, J., V. Lepola, J. Karppinen, J. Ylinen, V. Äärimaa and V.M. Mattila, 2014. Declining incidence of acromioplasty in Finland. Acta Orthop., 86: 220-224.
8. Kuye, I.O., N.B. Jain, L. Warner, J.H. Herndon and J.J.P. Warner, 2012. Economic evaluations in shoulder pathologies: A systematic review of the literature. J. Shoulder Elbow Surg., 21: 367-375.
9. Meislin, R.J., J.W. Sperling and T.P. Stitik, 2005. Persistent shoulder pain: Epidemiology, pathophysiology and diagnosis. Am. J. Orthopedics, 34: 5-9.
10. Sohn, M. and M. Jung, 2016. Effects of public and private health insurance on medical service utilization in the national health insurance system: National panel study in the republic of Korea. BMC Health Serv. Res., Vol. 16. 10.1186/s12913-016-1746-2.
11. Kim, L., J.A. Kim and S. Kim, 2014. A guide for the utilization of health insurance review and assessment service national patient samples. Epidemiol. Health, Vol. 36. 10.4178/epih/e2014008.