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Evaluation of Outcome of Subjects with Shoulder Pain- A Retrospective Analysis

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Abstract

Background: Shoulder pain is usually not related with favorable outcome in approximately 40-50% of all cases presenting to the primary health care hospital. Different prognostic factors have been regarded in few of the 16 studies like sex, type of injury, psychological factors, stresses, anatomical factors and impairment of strength. The aim of the present study was to evaluate the predictors of subject outcome with shoulder pain. **Subjects and Methods:** The present retrospective analysis was performed in the orthopedic department for a duration of 2 years. Anterior or posterior drawer tests were used to indicate the shoulder instability. Severe loss of motion was regarded when the patient had loss of more than 50% of the normal physiological motion range. Different treatment modalities were evaluated based on whether the patient needed that type of treatment or not. All the data thus obatined was arranged in a tabulated form and analyzed using SPSS software. Probability value of less than 0.05 was regarded as significant. **Results:** The mean change in quickdash score after treatment was 16.76+/-9.21. The mean number of total visits was 12.43+/-5.28 and the mean visits per week was 2.25+/-0.62. There was a significant change in the quickdash score amongst the subjects. The number of visits to the doctor also showed significant effect. The presence of comorbidities also showed a significant difference amongst the subjects. **Conclusion:** The best predictors found in the study were the quickdash score and the incidence of visits to the health care services.

Keywords: Comorbidities, shoulder, physiological.

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Introduction

Pain in shoulder is a chronic and debilitating condition that people often present with in the health care systems. It has a 1-year prevalence of around 47% in the adult population.[1] It is considered second commonest problem after low back pain in musculoskeletal disorders for those needing medical advice.[2] Shoulder pain is usually not related with favorable outcome in approximately 40-50% of all cases presenting to the primary health care hospital, and some report symptoms even 6 to 12 months after.[3-5] According to a systematic literature review, it was found in 16 studies that indicated the prognosis of shoulder disorders; only six, had fallen into "high quality" category.[6] Strong evidences are found that high level pain and Middle Ages are associated with poor outcomes. There is moderate proof to prove that prognostic factors for this type of pain like duration of pain, and high disability score during the baseline values lead to a poor outcome at primary care centers.[6-8] Different prognostic factors have been regarded in few of the 16 studies like sex, type of injury, psychological factors, stresses, anatomical factors and impairment of strength.[6] However majority of the prognostic factors were only noted at baseline. There is undoubted evidence in the studies that indicates that exercise and education decreases pain and recovers the functional outcome during short-term and long-term follow-up period amongst the subjects with impingement syndrome.[9,10] The aim of the present study was to evaluate the predictors of subject outcome with shoulder pain.

Subjects and Methods

The present retrospective analysis was performed in the orthopedic department for a duration of 2 years. Ethical committee clearance was obtained from the institutional ethical board. To measure and rate disability of upper extremity, the quickdash score was used. It is a 11-value disability scale that varies between 0 representing no disability to 100 representing severe disability. Patients with history of surgery of shoulder, neurological problem, instability, severe motion loss were not included in the study. Anterior or posterior drawer tests were used to indicate the shoulder instability. Severe loss of motion was regarded when the patient had loss of more than 50% of the normal physiological motion range. Patients were partitioned on the basis of treatment they received, frequency of treatment, history, physical evaluation, presence of associated comorbidities and the quickdash score. The variables that were obtained from the medical records were age, height, symptoms duration, pain level and quickdash score. The variables were noted as 0 or 1 on the basis of the presence or absence of symptom. Different

treatment modalities were evaluated based on whether the patient needed that type of treatment or not. All the data thus obatined was arranged in a tabulated form and analyzed using SPSS software. Probability value of less than 0.05 was regarded as significant.

Results

[Table 1] shows the study characteristics of the subjects. There were a total of 130 subjects in the study. There were 50 females and 80 males in the study. The mean height of the subjects was 172.65+/-9.23 cm and the mean weight of 85.30+/-19.77 Kgs. There were 90 subjects who had limited shoulder movement. The mean pain score amongst the subjects was 5.63+/-1.87. There were 15 subjects who were alcoholics, 90 were tobacco chewers. There were 20 subjects with diabetes. The mean change in quickdash score after treatment was 16.76+/-9.21. The mean number of total visits was 12.43+/-5.28 and the mean visits per week was 2.25+/-0.62. There was a significant change in the quickdash score amongst the subjects. The number of visits to the doctor also showed significant effect. The presence of comorbidities also showed a significant difference amongst the subjects.

Table 1: Study characteristics

Category	Variable	Mean+/- SD	Present	Absent	P value
	Change in quick dash score	16.76+/-9.21			
Comorbidities	Alcohol		15	115	
	Tobacco		90	40	<0.05
	Diabetes		20	110	
demographic	Age	53.12+/-11.60			
	Gender		50 females	80 males	
	Height	172.65+/-9.23			
	Weight	85.30+/-19.77			
Physical examination	Limited shoulder movement		90	40	
	Pain	5.63+/-1.87			
Treatment frequency	Total visits	12.43+/-5.28			

Discussion

Studies that regulate which intrusions and issues subsidize to positive outcomes with rehabilitation are widely scattering but with no consistent results. Different interventions like mobilization, treatment modalities and stretching exercises are normally used for managing shoulder impingement syndrome with fewer evidence to support their exact helpfulness.[11] Physicians are often asked with queries regarding the prognostic factors that will alter a subject's outcome. The action of early use of rehabilitation has indicated limited proof in predicting the long-term outcomes. Clinicians have investigated the activities of early self-reported changes in levels of incapacity and pain level amongst subjects with back pain that seek chiropractic care.[12] According to a study by, Axen et al,[12] significant improvement was seen in pain and disability after second visit, that elevated the odds of a positive management outcome by a figure of 2.9 odds ratio when compared with patients with no improvement. This effect was further studied in 2422 subjects that presented with multiple musculoskeletal problems to chiropractors in the United Kingdom over a period of 8-year period.[13] The best predictor of a positive outcome at the tenth visit in those patients with persistent musculoskeletal pain was improvement at fifth visit. These investigators suggest that early chnages may be more critical as predictors in the musculoskeletal diseases than the factors that are measured at baseline.[13] Past studies have shown drastic alterations during early intervention, that was constant with our clinical results.[14] In our study, There were a total of 130 subjects in the study. There were 50 females and 80 males in the study. The mean height of the subjects was 172.65+/-9.23 cm and the mean weight of 85.30+/-19.77 Kgs. There were 90 subjects who had limited shoulder movement. The mean pain score amongst the subjects was 5.63+/-1.87. There were 15 subjects who were alcoholics, 90 were tobacco chewers. There were 20 subjects with diabetes. The mean change in quickdash score after treatment was 16.76+/-9.21. The mean number of total visits was 12.43+/-5.28 and the mean visits per week was 2.25+/-0.62. There was a significant change in the quickdash score amongst the subjects. The number of visits to the doctor also showed significant effect. The presence of comorbidities also showed a significant difference amongst the subjects. There were few limitations of the present study. In retrospective studies, missing data is the most commonly found limitation. Another limitation was that the present study evaluated only a specific group of subjects, there was absence of generalizability of the information.

Conclusion

Shoulder pain is a commonly encountered condition amongst the physicians. The present study evaluated the best factors of subject outcome with shoulder pain. The best predictors found in the study were the quickdash score and the incidence of visits to the health care services.

References

1. Luime JJ, Koes BW, Hendriksen IJM, et al. Prevalence and incidence of shoulder pain in the general population; a systematic review. Scand J Rheumatol. 2004;33:73e81.
2. Pope DP, Croft PR, Pritchard CM, Silman AJ. Prevalence of shoulder pain in the community: the influence of case definition. Ann Rheum

Dis. 1997;56:308e312.
3. Croft P, Pope D, Silman A. The clinical course of shoulder pain: prospective cohort study in primary care. Primary Care Rheumatology Society Shoulder Study Group. BMJ. 1996;313:601e602.
4. van der Windt DA, Koes BW, de Jong BA, Bouter LM. Shoulder disorders in general practice: incidence, patient characteristics, and management. Ann Rheum Dis. 1995;54:959e964.
5. Winters JC, Sobel JS, Groenier KH, Arendzen JH, Meyboom-de Jong B. The long-term course of shoulder complaints: a prospective study in general practice. Rheumatology (Oxford). 1999;38:160e163.
6. Kuijpers T, van der Windt DA, van der Heijden GJ, Bouter LM. Systematic review of prognostic cohort studies on shoulder disorders. Pain. 2004;109:420e 431.
7. Mallen CD, Peat G, Thomas E, Dunn KM, Croft PR. Prognostic factors for musculoskeletal pain in primary care: a systematic review. Br J Gen Pract. 2007;57:655e661.
8. Feleus A, Bierma-Zeinstra SM, Miedema HS, et al. Prognostic indicators for non- recovery of non-traumatic complaints at arm, neck and shoulder in general practicee6 months follow-up. Rheumatology (Oxford). 2007;46:169e176.
9. Hanratty CE, McVeigh JG, Kerr DP, et al. The effectiveness of physiotherapy exercises in subacromial impingement syndrome: a systematic review and meta-analysis. Semin Arthritis Rheum. 2012;42:297e316.
10. Brox JI, Brevik JI. Prognostic factors in patients with rotator tendinosis (stage II impingement syndrome) of the shoulder. Scand J Prim Health Care. 1996;14: 100e105.
11. Struyf F, De Hertogh W, Gulinck J, Nijs J. Evidence-based treatment methods for the management of shoulder impingement syndrome among Dutch-speaking physiotherapists: an online, web-based survey. J Manipulative Physiol Ther. 2012;35:720e726.
12. Axen I, Rosenbaum A, Robech R, Larsen K, Leboeuf-Yde C. The Nordic back pain subpopulation program: can patient reactions to the first chiropractic treatment predict early favorable treatment outcome in nonpersistent low back pain? J Manipulative Physiol Ther. 2005;28:153e158.
13. Bolton JE, Hurst HC. Prognostic factors for short-term improvement in acute and persistent musculoskeletal pain consulters in primary care. Chiropr Man Therap. 2011;19:27.
14. Tate AR, McClure PW, Young IA, Salvatori R, Michener LA. Comprehensive impairment-based exercise and manual therapy intervention for patients with subacromial impingement syndrome: a case series. J Orthop Sports Phys Ther. 2010;40:474e493.

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