Orthopedics and Rheumatology
Open Access Journal
ISSN: 2471-6804

Juniper Publishers
key to the Researchers

Research Article
Volume 9 Issue 2 – November 2017
DOI: 10.19080/OROAJ.2017.09.555759

Ortho & Rheum Open Access J

Prevalence of Frozen Shoulder among Diabetes Mellitus Patients: a cross cut survey

Easmin Ara Doly*

Chief Physiotherapist, Firoza Bari Disabled Children Hospital, Bangladesh

Submission: November 17, 2017; **Published:** November 28, 2017

***Corresponding author:** Easmin Ara Doly, Chief Physiotherapist, Firoza Bari Disabled Children Hospital, Bangladesh, Email: cnbuhs2013@gmail.com

Abstract

Sufferings of frozen shoulder patients know no bounds. Adding diabetes with frozen shoulder make it more complicated. This short term cross cut survey was conducted to assess prevalence of frozen shoulder among diabetes mellitus patients. Diabetes was confirmed by checking diabetes book or medical records. Frozen shoulder was detected first in the outdoor and later during interview also. Average age of the patient's was 53.16±11.39 years. Half of the patients were graduate. Service holder, businessman, housewife, retired, farmer and day labor were 28%, 24%, 20%, 16%, 8% and 4% respectively. Average monthly family income of the patients was 29908.00±13640.89 BDT. More than half of the patients (53.6%) earned ≤30000 BDT. Prevalence of frozen shoulder among diabetic patients was 14.40%.No statistical association was found between frozen shoulder and gender (p=0.488>0.05).So it is concluding that prevalence of frozen shoulder among diabetes patients is still high enough. Why frozen shoulder is increasing among diabetic patients -can be studied extensively in future.

Keywords: Frozen Shoulder; Diabetes Mellitus

Introduction

Frozen shoulder is a painful condition where pain increases during certain shoulder movement [1]. Affected in early age is rare but initiates after sixth decade of life [2]. Women suffered more than male [3]. It is evidence based that inactive shoulder is slightly more likely to be affected than active shoulder [4,5]. In our day to day practice observing that number of frozen shoulder patients is high among patients with diabetes mellitus. When I apply physiotherapy to them find difficulty to manage and progress is slow. Literature suggests that secondary frozen shoulder may be associated with diabetes mellitus [6]. The prevalence of FS in diabetes patients is reported to be 10%-36% [7,8]. But what is the scenario in our country Bangladesh need to be explored timely because of high rising tendency of diabetes mellitus patients. This cross cut study is an attempt to fill up this knowledge gap.

Materials and Method

This was a cross cut survey like study conducted at Sher-E-Bangla Nagar Orthopedic hospital among 125 pre-diagnosed diabetic patients attending outpatient department for treatment. After diagnosis data were collected when they were referred to physiotherapy department for physiotherapy. Diabetes was confirmed by checking diabetes book or medical records. Sample was conveniently selected at definite time period. Verbal consent was taken before initiation of interview. Assurance was given about confidentiality of information and freedom to withdraw any stage of interview. Rechecking of shoulder movement and radiological evidence was done to over confirm about diagnosis of frozen shoulder.

Results

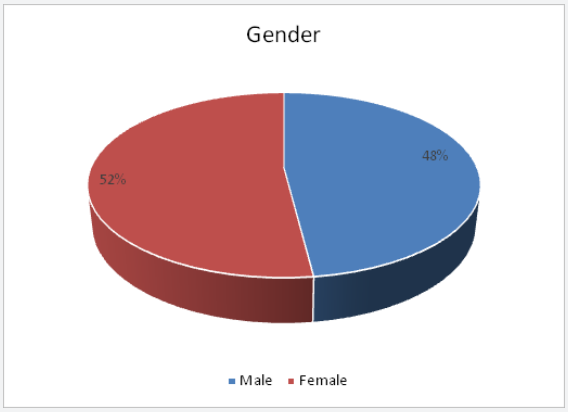

Figure 1: Gender distribution of the patients (n=125). Male and female distribution was 48% and 52%.

Average age of the patient's was 53.16±11.39 years. Nearly half of the patients belonged to 35-50 years age group followed by 36% from 51-65 years of age and 16% from >65 years of age

(Tables 1-3) (Figures 1-3). Results were published as number (%), $\chi 2$ test was performed and $p<0.05$ was level of significance.

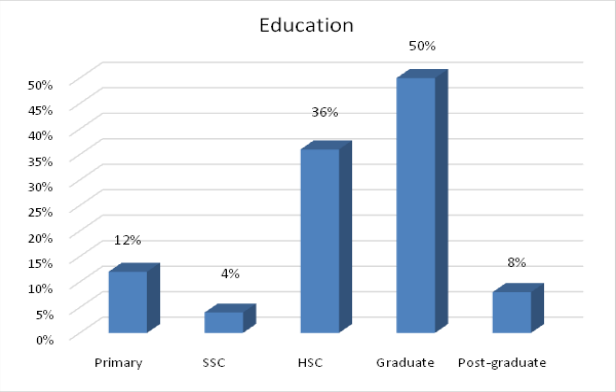

Figure 2: Educational level of the patients (n=125).

Half of the patients were graduate followed by HSC 36%, primary 12% and post-graduate 8%.

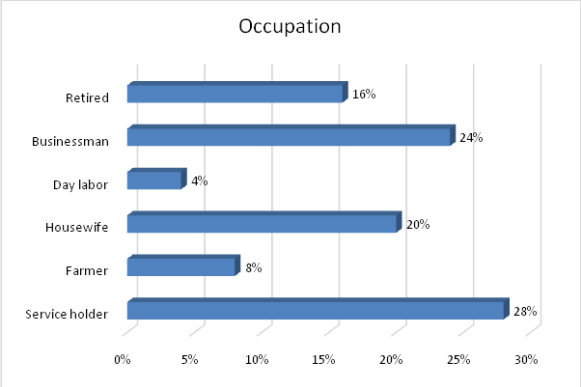

Figure 3: Occupational status of the patients (n=125).

Service holder, businessman, housewife, retired, farmer and day labor were 28%, 24%, 20%, 16%, 8% and 4% respectively. Average monthly family income of the patients was 29908.00±13640.89 BDT. More than half of the patients (53.6%) earned ≤30000 BDT per month and 42.4% family had monthly income 30001-50000 BDT.

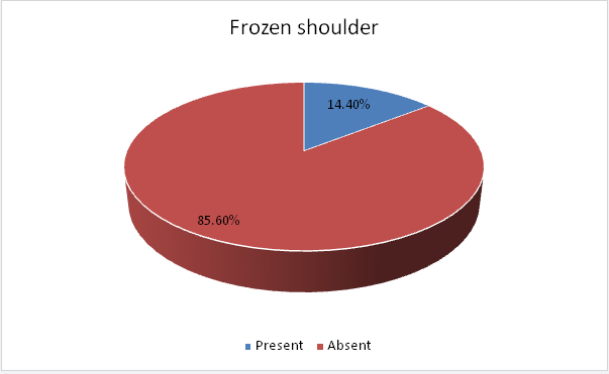

Figure 4: Prevalence of frozen shoulder among diabetic patients (n=125).

Prevalence of frozen shoulder among diabetic patients was 14.40%. No statistical association was found between frozen shoulder and gender (p=0.488>0.05).

Table 1: Age group distribution of the patients (n=125).

Age group in years	Frequency	Percentage
Mean±SD	53.16±11.39	
35-50	60	48
51-65	45	36
>65	20	16
Total	125	100

Table 2: Monthly family income of the patients (n=125).

Monthly Income	Frequency	Percentage
Mean±SD	29908.00±13640.89	
≤30000	67	53.6
30001-50000	53	42.4
>50000	5	4
Total	125	100

Table 3: Association between frozen shoulder and gender (n=125).

Gender	Frozen Shoulder		Total	$\chi 2$	p-value
	Present	Absent			
Female	10(8)	50(40)	60(48)		
Male	8(6.4)	57(45.6)	65(52)	0.481	0.488
Total	18(14.4)	107(85.6)	125(100.0)		

Discussion

Diabetes has multiple complications on nerve, vessel and ultimately musculoskeletal system but how diabetes affect joint structures still it is unclear and researchable. The present study found 14.4% diabetic patients had frozen shoulder. Another study found that prevalence of frozen shoulder in diabetic patients was 17.2% [9] which is quite similar to this present study. Results was similar to study done by Gary S. et al who showed that the prevalence was 12% [10] and Nilüfer et al. [11] who showed that the prevalence was 24% and Richard et al. [1] who found that the prevalence was 19%.

Another study confirmed that the point prevalence of frozen shoulder in patients with long-lasting type 1 diabetes was 59% and the lifetime prevalence was 76% [12]. So it is clear from the above findings that prevalence of frozen shoulder among diabetic patients is high in different parts of the world which is really a burning issue to discuss and intense study. The present study showed that male and female affected equally but Hussain et al. [9] found female are affected more than male but why it is happening need to be study in depth. As a cross sectional study design it was difficult to gather details information about associated diseases or complications but in future I will try to conduct case control or follow up study. If large scale can be done the result will be more precise.

Conclusion

It is concluded that prevalence of frozen shoulder among diabetic patients is high that means one among seven diabetic patients are suffering from frozen shoulder.

How to cite this article: Easmin A D. Prevalence of Frozen Shoulder among Diabetes Mellitus Patients: a cross cut survey. Ortho & Rheum Open Access 2017;9(4): 555759. DOI: 10.19080/OROAJ.2017.09.555759.

References

1. Dias R, Cutts S, Massoud S (2005) Clinical Review of Frozen shoulder. BMJ 331(7530): 1453.
2. Ivio E Inzucchi (2008) Diabetes mellitus. Lee Goldman/ Saunders Elsevier. Cecil Medicine, (23rd edn), pp. 1123-1178.
3. Alvin C Powers (2008) Diabetes mellitus. Fauci/McGraw-Hill's. Harrison's principle of internal medicine, (17th edn), pp. 1289-1316.
4. Rizk TE, Pinals RS (1982) Frozen shoulder. Semin Arthritis Rheum 11: 440-452.
5. Reeves B (1976) The natural history of the frozen shoulder syndrome. Scand J Rheumatol 4(4): 193-196.
6. Shaffer B, Tibone JE, Kerlan RK (1992) Frozen shoulder. A long term follows up. J Bone Joint Surg Am 74(5): 738-746.
7. Pal B, Anderson J, Dick WC, Griffiths ID (1986) Limitation of joint mobility and shoulder capsulitis in insulin- and non-insulin-dependent diabetes mellitus. Br J Rheumatol 25(2): 147-151.
8. Bunker TD Anthony PP (1995) The pathology of frozen shoulder. A Dupuytren-like disease. J Bone Joint Surg Br 77: 677-683.
9. Hussain MAA (2010) Prevalence of Frozen Shoulder among Diabetic Patients. Medical Journal of Babylon 7(1-2): 291-301.
10. Gary S Perlmutter, Kenneth Sabbagg, William Apruzzese, Enrico Cagliero, David M Nathan (1995) Adhesive capsulitis of the shoulder: a comprehensive study. Massachusetts general hospital, university of California at Los Angeles medical center. 1995: 100-102.
11. Balci N, Balci MK, Tüzüner S (1999) Shoulder Adhesive Capsulitis and Shoulder Range of Motion in Type II Diabetes Mellitus Association with Diabetic Complications. J Diabetes Complications 13(3): 135-140.
12. Juel NG, Brox JI, Brunborg C, Holte KB, Berg TJ (2017) Very High Prevalence of Frozen Shoulder in Patients with Type 1 Diabetes of More than 45 Years' Duration. The Dialong Shoulder Study. Archives of Physical Medicine and Rehabilitation 98(8): 1551-1559.

DOI: 10.19080/OROAJ.2017.08.555759

How to cite this article: Easmin A D. Prevalence of Frozen Shoulder among Diabetes Mellitus Patients: a cross cut survey. Ortho & Rheum Open Access 2017;9(4): 555759. DOI: 10.19080/OROAJ.2017.09.555759.