

# Prevalence of Frozen Shoulder: A Cross-Cut Survey

**Md. Belayet Hossain Akanda**

MPT Student, Singhania University, India.

**Corresponding Author:** Belayet Hossain Akanda, MPT Student, Singhania University, India.

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## Abstract

This descriptive type of cross sectional study was conducted to find out pattern of frozen shoulder patients attending to different services in selected hospitals of Dhaka city with a sample size of 100. Non randomized purposive sampling was done. Pretested structured questionnaire was used to get data and verbal consent was taken prior interview. All the data were entered and analyzed by using statistical packages for social science (SPSS) software version 16.0. Mean age of the respondents were  $50.66 \pm 13.406$  year. Among the respondents 52% were female and 48% were male. Result found that most of the respondents (93%) had done investigation and rest of them (7%) did not. Besides 47% of respondents were suffering from left frozen shoulder followed by 45% were right and 8% were both respectively. Result also revealed that majority of the respondents (60%) had movement restriction & muscle spasms and 40% were no muscle spasm. Half of the respondents (52%) were in stage 2 followed by 35% stage 1 and 13% stage 3 respectively. Half of the respondents (49%) had diabetic mellitus and rest of them 51% were absent. All of the respondents received different type of medications, 18% intra-articular steroids and 63% were taken different type of physiotherapy. Of the respondents 98% feel better after treatment and rest of them did not. Study found that advanced age and females were more sufferers in different stage of frozen shoulder. Limitation of movement and muscle spasm were more prominent complain. Physiotherapy treatment should be available.

**Key words:** frozen shoulder; physiotherapy

## Introduction

Human shoulder is the most mobile joint in the body. This mobility provides the upper extremity with tremendous range of motion such as adduction, abduction, flexion, extension, internal rotation, external rotation, and 360° circumduction in the sagittal plane. Furthermore, the shoulder allows for scapular protraction, retraction, elevation, and depression [1]. This type of generalization should be avoided, as one could miss other more serious conditions that need to be treated urgently [2]. Frozen shoulder can be a primary or idiopathic problem or it may secondarily be associated with another systemic illness. Both primary and secondary frozen shoulders have similar clinical presentations but distinct precipitating factors [3]. It presents an idiopathic decreased range of movement in which no systemic diagnosis, precipitating shoulder condition or radiographic explanation can be found [4]. Secondary frozen shoulders are defined as those with a known intrinsic or extrinsic precursor, typically causative of shoulder pain and dysfunction that ultimately leads to global stiffness [5]. Other conditions that have shown an association with frozen shoulder and which might give a clue to the diagnosis are the following: hyperthyroidism, hypothyroidism, Parkinson's disease, cardiac disease and a history of stroke [6]. The incidence of adhesive capsulitis in the general population is 2–5% [11]. It affects females slightly more than males and is usually seen in ages 40–70. The Non dominant arm is more likely to be affected. About 12% of

individuals affected develop the condition bilaterally [12]. Recurrence is rare in the same shoulder [7]. Frozen shoulder, medically referred to as adhesive capsulitis, is a disorder in which the shoulder capsule, the connective tissue surrounding the glen humeral joint of the shoulder, becomes inflamed and stiff, greatly restricting motion and causing chronic pain [8]. The scar tissue may cause the capsule to thicken, contract and limit the movement of the shoulder. The reason why the scar tissue forms is not known [9]. There is also a lack of fluid in the joint, further restricting movement. Frozen shoulder can sometimes develop after a shoulder or arm injury, such as a fracture, or after having surgery to your shoulder area [10]. The patho-physiological process is believed to involve synovial inflammation and fibrosis of the shoulder joint capsule [11]. Symptoms often interfere with everyday tasks such as driving, dressing, or sleeping. Even scratching your back, or putting your hand in a rear pocket, may become impossible. Work may be affected in some cases [12].

## Materials and Methods

Descriptive type of cross sectional study was conducted to assess pattern of frozen shoulder patients attending to different services in selected hospitals of Dhaka city with 100 samples. The study site was Metropolitan Medical Centre Limited (MMC Ltd) Mohakhali, Dhaka and National Institute of Traumatology and Orthopedic Rehabilitation (NITOR),

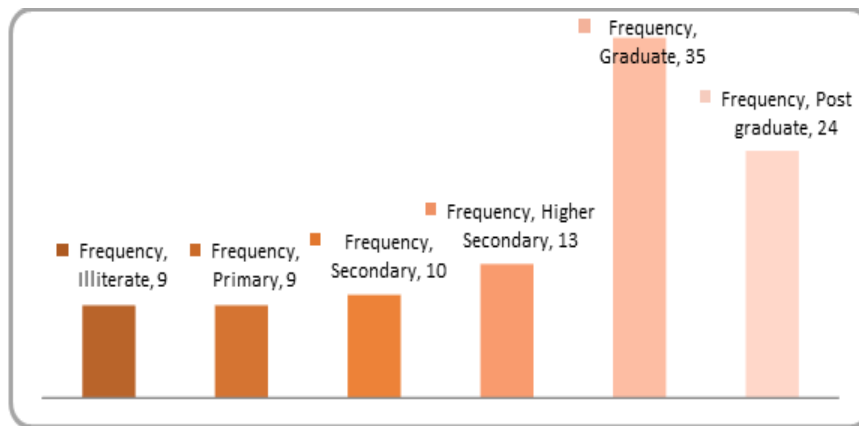
Shere-Banglanagor, Dhaka and Islami Bank Central Hospital Limited (IBCH Ltd), Kakrail, Dhaka and Physiotherapy department of Saic Institute of Medical Science, Dhaka. Study period was 6 months in 2011. Purposive sampling method was used and detail procedure was described prior interview. A pre-tested modified structured questionnaire was used to collect the information on the basis of objectives and variables. The collecting data were editing and analyzed by using statistical packages for social science (SPSS) software version 16.0. Results were presented in table as well as graph. Descriptive statistics such as mean, frequency, percentage were showed.

**Results**

Table 1 shows that 2%, 38%, 49% and 11% of the respondents belongs to age of > 25 years, 26-45 years, 46-65 years and <65 years respectively with mean age 50.66±13.406 year. Among the respondents 52% were female and 48% were male. Of the respondents 58% economic status were middle class, followed by 31% upper class and rest of them 11% were lower class.

Age group	Item	Frequency	Percent
	> 25	2	2
	26-45	38	38
	46-65	49	49
	< 65	11	11
<b>Mean±SD</b>		<b>50.66±13.406</b>	
Sex	Female	52	52
	Male	48	48
Economic status	Upper class	31	31
	Middle class	58	58
	Lower class	11	11
<b>Total</b>		<b>100</b>	<b>100</b>

**Table 1:** Distribution of respondents by socio-demographic characteristic (n=100).



**Figure 1:** Distribution of the respondents by education (n=100).

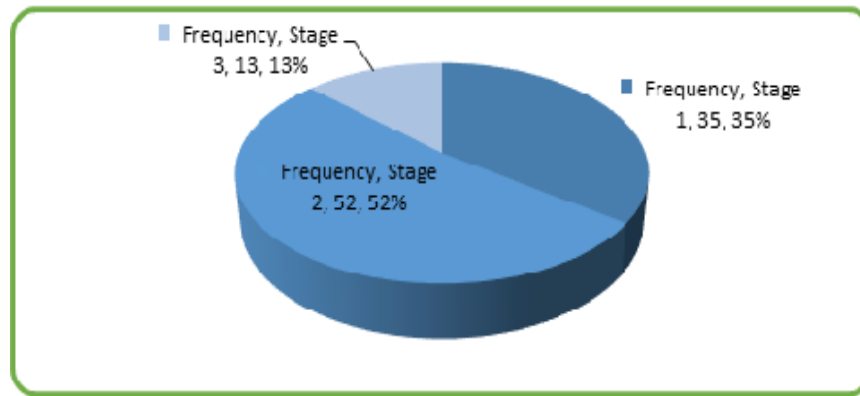
Figure shows that education of the respondents were graduate (35%) followed by 24% post graduate, 13% higher secondary, 10% secondary, 12% primary and 9% illiterate.

Investigations	Items	Frequency	Percent
	Yes	93	93.0
	No	7	7.0
Affected shoulder	Right	45	45.0
	Left	47	47.0
	Both	8	8.0
Movement restricted & muscle spasm	Present	60	60
	Absent	40	40
	<b>Total</b>	<b>100</b>	<b>100.0</b>

**Table 2:** Distribution of the respondents by disease related variables (n=100).

Table 2 shows that most of the respondents (93%) had done investigation and rest of them (7%) did not. Besides 47% of respondents were suffering from left frozen shoulder followed by 45% were right and 8% were both

respectively. Table also reveals that majority of the respondents (60%) had movement restriction & muscle spasms and 40% were no muscle spasm.



**Figure 2:** Distribution of the respondents by the diagnosis (n=100).

Figure 2 shows that half of the respondents (52%) were in stage 2 followed by 35% stage 1 and 13% stage 3 respectively.

Diabetic mellitus	Frequency	Percent
Yes	49	49.0
No	51	51.0
Total	100	100.0

**Table 3:** Distribution of the respondents by associated disease (diabetic mellitus) (n=100).

Table 3 reveals that half of the respondents (49%) had diabetic mellitus and rests of them 51% were absent.

Type of treatment	Items	Frequency	Percent
	Medications	100	100
	Intra articular steroids	18	18
	Physiotherapy	63	63
After treatment	Yes	98	98.0
No	2	2.0	
<b>Total</b>		<b>100.0</b>	<b>100.0</b>

**Table 4:** Distribution of the respondent's treatment related variables (Multiple responses)

Table 4 shows that 100% received different type of medications, 18% intra-articular steroids and 63% were taken different type of physiotherapy. Of the respondents 98% are feeling better after treatment and rest of them 2% are not.

**Discussion**

It is found that 2%, 38%, 49% and 11% of the respondents belongs to age of > 25 years, 26-45 years, 46-65 years and <65 years respectively with mean age 50.66+13.406 years. Among the respondents 52% were female and 48% are male. Of the respondents 58% economic status are middle class, followed by 31% are upper class and rest of them 11% are lower class. Of the respondents 35% are graduate followed by 24% are post graduate, 13% are higher secondary, 10% are secondary, 12% are primary and only 9% are illiterate. These findings were similar to the study carried out by Dias R, et al [13] Study found that most of the respondents 93% are investigation and rest of them only 7% are did not. Among them 47% were shoulder, 45% were right and rest of them only 8% are both respectively. These findings were similar to the study carried out by Grubbs N [7]. Of the respondents 60% movement restricted & muscle spasms were present and 40% were absent. These findings were similar to the study carried out by Ewald, A. et.al. editors [12]. 52% respondents were stage 2 followed by 35% are stage 1 and only 13% are stage 3 respectively. These findings were similar to the study carried out by Naviaser RJ Naviaser [8]. It reveals that half of the respondents 49% have diabetic mellitus and rests of them 51% were not, these findings were similar to the study carried out by Bridgman JF. Periarthritis [14]. Study

shows that 100% received different type of medications, 18% intra articular steroids and 63% were taken different type of physiotherapy. Of the respondents 98% are feeling better after treatment and rest of them 2% were not. These findings were similar to the study carried out by Codman and Stam H E et.al. editors [2, 4, 5].

**Conclusion**

Study found that advanced age and females were more sufferers in different stage of frozen shoulder. Limitation of movement and muscle spasm were more prominent complain. Respondents had taken several types of treatments including medications, infiltrations and physiotherapy. Physiotherapy treatment should be available.

**References**

1. Quillen DM, Wuchner M, Hatch RL. (2004). Acute shoulder injuries. Am Fam Physician. 70(10):1947-1954.
2. Codman E. (1934). Rupture of the supraspinatus tendon and other lesions in or about the subacromial bursa. In: The shoulder. Boston: Thomas Todd. 216-224.
3. Neviasser J. (1945). Adhesive capsulitis of the shoulder: a study of the pathological findings in periarthritis of the shoulder. J Bone Joint Surg. 27:211-222.
4. Stam H (1994). Frozen Shoulder: A review of current concepts. Physiotherapy. 80:588-99.
5. Neviasser RJ, Neviasser TJ (1987). "The frozen shoulder: diagnosis and management." Clinical Orthopaedics. 223:59-64.

6. (1997). Bunker TD Frozen shoulder: unravelling the enigma.” Annals of the Royal College of Surgeons of England. 79:210-213.
7. Grubbs N. (1993). Frozen shoulder: A review of literature. JOSPT. 18(3):479-487.
8. Naviaser RJ Naviaser TJ. (1987).The frozen shoulder diagnosis and management. Clin Orthop and Related Research. 223:59-64.
9. Wadsworth CT. (1986). Frozen shoulder. Phys Therapy. 66(12):1878-1883.
10. Ewald A. (2011). "Adhesive capsulitis: A review". American family physician. 83(4): 417422.
11. Lundberg BJ. (1969). The frozen shoulder. Clinical and radiographical observations. The effect of manipulation under general anesthesia. Structure and glycosaminoglycan content of the joint capsule. Local bone metabolism. Acta Orthop Scand Suppl. 119:1-59.
12. Ewald, A. (2011). "Adhesive capsulitis: A review". American family physician 83 (4):417-422.
13. Dias R, Cutts S, et al. (2005). Frozen shoulder. BMJ. 331:1453-1456.
14. Bridgman JF. (1972). Periarthritis of the shoulder in diabetes mellitus. Ann Rheum Dis. 31:69-71.



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