The Prevalence of Shoulder Pain and Awareness of Frozen Shoulder Among the General Population in Assir Region

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ABSTRACT

Study Design: Cross sectional

Background: The slow development of restricted motion at the shoulder joint with nonspecific radiographic findings is defined by frozen shoulder (FS), adhesive capsulitis, or periarthritis. As the disease advances, patients typically complain of significant shoulder pain and an inability to sleep on the affected side. Frozen shoulder can be classified into three clinical stages: freezing, frozen, and thawing. With moderate to severe shoulder pain and stiffness, the freezing stage usually lasts two to nine months.

Methods: In this cross - sectional study data was collected by the purposely constructed questionnaire. Questionnaire composed of the demographic items and items related to the Prevalence of shoulder pain and Awareness of frozen shoulder Questionnaire was constructed after the series of discussions between the panel of experts this panel composed of from subject specialist, researcher, language expert. Cronbach alpha of the questionnaire was calculated.

Results: Out of total 505 respondents, 59.4% were male while 40.6% were females,39.2 were belongs to the age group of 18-44 years, 44.6% were employed 31.7% were students and rest were un employed. 39.8% have post graduate level of education, 59.4% have monthly income 6000-1000 SAR. 69.31% have awareness regarding frozen shoulder,38.615 have believed that above 60 will be highly effected from these diseases.

Conclusion: At regular intervals, awareness campaigns should be launched with a focus on the female populations among those with diabetes to inform them of the symptoms, risk factors, and rising prevalence of FS. Patients with diabetes who have suspected FS should undergo initial screening and shoulder radiographs because early detection improves treatment outcomes while late detection worsens them.

Keywords: Shoulder, Awareness, Pain, Education

INTRODUCTION

The slow development of restricted motion at the shoulder joint with nonspecific radiographic findings is defined by frozen shoulder (FS), adhesive capsulitis, or periarthritis. As the disease advances, patients typically complain of significant shoulder pain and an inability to sleep on the affected side. Frozen shoulder can be classified into three clinical stages: freezing, frozen, and thawing. With moderate to severe shoulder pain and stiffness, the freezing stage usually lasts two to nine months. The stiffness of the frozen stage grows. The component of pain is reduced during this stage, which lasts on average 4 to 14 months.

The thawing stage lasts about 5 to 24 months and results in gradual symptom relief and range of motion restoration[1].

FS primarily affects the elderly, with a female preponderance. Although the exact prevalence of FS is unknown, authors have stated that it affects 2%–5% of the general population[1]. Long-term shoulder immobility (minor upper-limb injuries, overuse injury, surgery, and/or neurosurgery) or systemic diseases (diabetes, thyroid problems, osteoporosis, Dupuytren'scontracture, cardiovascular disease, and stroke) are associated with a higher risk. Parkinson's disease and human immunodeficiency virus (HIV) infection have also been linked to FS[2,3].

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The shoulder joint is responsible for the majority of upper-limb function. Previous research has found a relationship between the length of DM-related shoulder pain and blood sugar control. Social, genetic, and environmental factors have also been implicated in this disease[3-5]. The American Shoulder and Elbow Surgeons (ASES) Evaluation Form was used to determine the prevalence of shoulder pain and related functional limitations among patients with uncontrolled diabetes at Security Forces Hospital[6,7].

Frozen shoulder, affects 2–5% of the general population and is most common in those between the ages of 40 and 60. Women are more likely than men to be impacted[1-4]. In 6–17 %t of individuals, both shoulders can be damaged at the same time or one side can be affected initially and the other side a few years later[8] Comorbid variables had a substantial impact on pain and functioning in patients with adhesive shoulder capsulitis, as evaluated by shoulder-specific and general health instruments. When shoulder discomfort and dysfunction are reduced, general health may improve as well. After surgical release in refractory adhesive shoulder capsulitis, functional outcome as determined by SF-36 improved clinical and general health condition for the majority of patients[9].

There are several surveys available to quantify complaints among chronic disease patients[10]. A validated questionnaire with 29 parameters has been used in Nordic nations to assess the severity and duration of subjective somatic and psychological problems over the previous 30 days. The main aim of the study is to find out the prevalence of shoulder pain and Awareness of frozen shoulder among the general population in Assir region.

METHODS

In this cross - sectional study data was collected by the purposely constructed questionnaire. Questionnaire composed of the demographic items and items related to the Prevalence of shoulder pain and Awareness of frozen shoulder Questionnaire was constructed after the series of discussions between the panel of experts this panel composed of from subject specialist, researcher, language expert. Cronbach alpha of the questionnaire was calculated. The study was conducted in the Aseer region of Saudi Arabia.

After collection of data, data was coded and entered in the SPSS ver.20 software for analyses descriptive statistics (mean standard deviation, frequencies and %tages were computed), to measure the significance differences chi-square test was used at 5% level of significance. Data was collected from general public. Ethical approval was obtained from King Khalid university, Saudi Arabia. The study duration was from January-2022 to April-2022.

RESULTS

The cronbach alpha of the questionnaire was 0.82.

Table 1: Demographics

		Freq.	%
Gender	Male	300	59.4%
	Female	205	40.6%
Age(in years)	Less than 18	145	28.7%
	18-44	198	39.2%
	45-64	95	18.8%
	65-96	67	13.3%
Occupation	Employed	225	44.6%
	Un employed	120	23.8%
	Student	160	31.7%

Education level	Primary school	45	8.9%
	High school	109	21.6%
	Post graduate or above	201	39.8%
	College	150	29.7%
Monthly income(In SAR)	Less than 5000	100	19.8%
	6000-10000	300	59.4%
	More than 10000	105	20.8%

As per table 1, out of total 505 respondents, 59.4% were male while 40.6% were females,39.2 were belongs to the age group of 18-44 years, 44.6% were employed 31.7% were students and rest were un employed. 39.8% have post graduate level of education, 59.4% have monthly income 6000-1000 SAR.

Table 2: Habits and diseases

		Freq.	%
Smoker	Yes	189	37.43%
	No	200	39.60%
	Former smoker	116	22.97%
Doing regular exercise	Yes	289	57.23%
	No	216	42.77%
Do you have Diabetes?	T1DM	151	29.90%
	T2DM	189	37.43%
	No	165	32.67%
Duration of having DM?	Less than 1 year	125	36.76%
	1- 5 years	125	36.76%
	6- 10 years	50	14.71%
	above 10 years	40	11.76%

As per table 37.0% were smokers,57.23% were doing exercise, 29.9% have T1DM, 37.43% have T2DM, 36.76% have less than 1 year of DM.

Table 3: Education

		Freq.	%
Do you know about frozen shoulder?	Yes	350	69.31%
	No	155	30.69%
Which age groups are most commonly affected by Frozen Shoulder?	Less than 20	85	16.83%
	20-40 year	95	18.81%
	60 – 40 year	130	25.74%
	60-80 year	195	38.61%
Are you aware of signs / symptoms of Frozen Shoulder	Yes	250	49.50%
	No	255	50.50%
What are they?	Shoulder pain	110	21.78%
	Shoulder's ROM starts decreasing	45	8.91%
	Shoulder swelling	75	14.85%
	Shoulder redness	23	4.55%
	Stiffness	45	8.91%
	All	252	49.90%
Which sex is more likely to be affected in Frozen shoulder ?	Male	250	49.50%
	Female	255	50.50%

	Diabetes Mellitus	200	39.60%
Which of the following do you think a risk factors of Frozen Shoulder ?	Thyroid Disease(Hyperthyroidism/Hypothyroidism)	125	24.75%
	Autoimmune diseases	80	15.84%
	Immobilization for long time	45	8.91%
	Hyperlipidemia Age	36	7.13%
	Shoulder trauma	49	9.70%
Do you think Depression increases the risk of getting Frozen Shoulder ?	yes	400	79.21%
	No	105	20.79%
Do you think Anxiety increases the risk of getting Frozen Shoulder?	yes	450	89.11%
	No	55	10.89%

As per table 3, 69.31% have awareness regarding frozen shoulder, 38.615 have believed that above 60 will be highly effected from this diseases, 49.0% believed that there were multiple symptoms, 79.21% and 89.1% agreed that depression and anxiety will enhance the chance of shoulder diseases.

Table 4: Gender wise comparison of knowledge

	Do you know about frozen shoulder?			
Gender	Yes		No	Total
Male	200		100	300
Female	150		55	205
Total	350		155	
p<0.05				

Table 4 depicted that we have observed significant difference while comparing gender with awareness regarding the frozen shoulder (P<0.05).

DISCUSSION

The main aim of this study was to find out the Prevalence of shoulder pain and Awareness of frozen shoulder among the general population in Assir region. The prevalence of frozen shoulder was higher among the middle-aged and elderly research participants than it had been previously for the general population. With a cumulative incidence of 2.4 cases per 1,000 person-years, frozen shoulder affects an estimated 2% of the general population in Europe and the US. In the UK, the annual incidence of frozen shoulder in the general population is 1.4 per 1,000 people, and in the US, the 1-year prevalence of frozen shoulder in people over 65 is 0.35%. The most frequent method of giving drugs, nutrition, and fluids to hospital patients in China is intravenous infusion; in 2016, 93.1% of patients in urban hospitals in China received intravenous medication delivery. There is growing proof that diabetes and hypertension increase the risk of developing frozen shoulder. Particularly, those with diabetes get frozen shoulder 2–5 times more frequently than people without the condition[11-14]. In the current study, patients with diabetes who were middle-aged or older had a higher chance of acquiring frozen shoulder.

Pain and reduced range of motion in one or both shoulders are the most common symptoms. Shoulder pain not only reduces quality of life, but it also causes handicap in everyday tasks and may interfere with metabolic management directly[8].
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Future interventional trials or prospective cohort studies should be done to confirm the causality of the findings of this investigation, which could aid in the development of innovative techniques to reduce diabetes suffering and promote a high quality of life. This study is new and fills a gap in the present literature.

In this study, we discovered that patients with frozen shoulder had little co morbidity. Variables related to current neck pain intensity, fear avoidance, and anxiety were found to be the most significant in the dimensions of underlying pain and disability, personal factors, and health status in patients with cervical radiculopathy[15] One of the most common complaints frozen shoulder is pain, which can be very severe.

The shoulder complex can carry huge loads, moves in multiple planes of motion, and is quite flexible. Unsurprisingly, there are many possible reasons of shoulder pain, which is widespread in the general population. An increasing body of research suggests that some employees may be more susceptible to shoulder diseases, especially those who have jobs that expose them to repetitive vigorous work, heavy loads, vibration, overhead work, and heavy loads. Any preventative workplace endeavor must take into account both categories of risk factors because psychosocial workplace elements are also strongly related to them[16,17]. The mechanism of injury, perceived disability, medication use, and referral patterns all show that there is a gender gap in workers with shoulder injuries. Clinicians may be better able to tailor their care for injured workers based on their sex if they are aware of these differences. To help with lowering the cost of disability, expedited surgical programs should work to reduce these differences.

CONCLUSION

At regular intervals, awareness campaigns should be launched with a focus on the female populations among those with diabetes to inform them of the symptoms, risk factors, and rising prevalence of FS. Patients with diabetes who have suspected FS should undergo initial screening and shoulder radiographs because early detection improves treatment outcomes while late detection worsens them. Additionally, doctors should update their clinical knowledge of this association because it is crucial to the identification and treatment of FS in diabetic patients. Larger, multicenter studies are required to examine FS in these populations in greater detail.

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