

Quality of sleep in female shoulder impingement syndrome

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Abstract

Background: The rotator cuff muscle most regularly associated to shoulder impingement is the supraspinatus tendon. The anterior acromion itself, spurs of the anterior acromion or acromioclavicular joint, or the clavicular ligament superiorly are chronically trapped between the humeral head inferiorly and the supraspinatus tendon and sub acromial bursa in the shoulder impingement syndrome.

Objective: The purpose of the study is to evaluate quality of sleep in female shoulder impingement syndrome sleep.

Methodology: 269 diagnosed female patient with shoulder impingement syndrome from DHQ (Jhelum) were selected on the basis on inclusion and exclusion criteria. Sleep quality of female patients were assessed by using questionnaire psqi (Pittsburg sleep quality index)

Results: Results show that out of 269 participants 71% female participants with shoulder impingement syndrome are having difficulty in sleep (poor sleep) and 29% female are having good sleep. female having age 34-49(44.24) have highest percentage of all age group female with age 50-65 show (39.03) percentage and age group of 18-33 shows (16.73) lowest percentage

Conclusion: The majority of females having shoulder impingement syndrome reported poor sleep quality. As a result,

individuals with the SIS may benefit from the medications for pain relief and sleep aids that mostly focus on sleep disturbance.

Keywords: shoulder impingement syndrome, sleep quality, pain, female, insomnia

INTRODUCTION:

Charles Neer is credited with creating the idea of shoulder impingement syndrome when his study was published in 1972³. However, the phrase "shoulder impingement" currently refers to a collection of words that essentially describes pain in the shoulder area brought on by the rotator cuff's mechanical "impingement" as it travels beneath the coraco-acromial ligament. If untreated, rotator cuff impingement may lead to either a partial or full rupture of the rotator cuff tendon².

Although impingement symptoms may appear after trauma, the pain usually develops up on a person over the course of weeks or months. Usually, the lateral midhumerus receives pain regional pain syndrome.² radiating from the anterolateral acromion. The majority of the time, patients report nighttime pain, which is made worse by laying on the affected shoulder or sleeping with the arm raised. Pain develops when performing regular daily tasks like combing one's hair or reaching up into a cabinet⁴.

Patients with shoulder condition frequently experience nocturnal shoulder pain, which negatively impacts their sleep. Indeed, one of the main effects of shoulder pain is having trouble getting to sleep and staying asleep⁸

.There is widespread agreement that sleep and pain are reciprocal. A decrease in sleep quality raises the possibility of developing pain and also makes current pain worse⁹.

Patients typically complain about night pain rather than a loss of shoulder function, which might have short-term effects on sleep (such as insomnia and lack of sleep). Shoulder pain and lengthy forced positions during the night have a negative impact on the quality of sleep¹¹.

SIS is complex and linked to a number of diseases, including obesity, diabetes, arterial hypertension, and thyroid disorders. The majority of rotator cuff lesions (85%) and/or impingement syndromes are the most common causes of shoulder pain in the general population. SIS is a mechanical irritation of the subacromial structures-based persistent

Maintaining optimal health and functioning requires getting enough sleep, which is a key indicator of physical health-related functioning. Numerous adverse health effects, including depression and impaired cognitive and social functioning, are correlated with inadequate sleep. High levels of comorbidity exist between chronic pain and sleep that is insufficient in quantity or quality, as in sleep disorders. Furthermore, there is a reciprocal relationship between pain and sleep that decreases pain thresholds and elevates spontaneous pain when sleep is short or interrupted sleep⁶.

Sleep issues are recognised to frequently coexist with shoulder disorders. There is, however, a dearth of information regarding the consistency of sleep, frequency of awakenings, and difficulties falling asleep because these have not been researched in relation to their characteristics.¹

METHODOLOGY:

All the participants were informed about the procedure. Diagnosed patients were taken from physiotherapists from the physiotherapy department in District head quarter (DHQ) Jhelum. All participants were selected according to the inclusion and exclusion criteria. Inclusion criteria include presence of chronic SIS, age between 18 to 65, female. Patients were excluded from the study that have (history of sleep disorder, history of direct trauma to the shoulder, patients with frozen shoulder or, acromioclavicular arthritis, patients with secondary shoulder pain, resulting from referred pain from cardiac and pulmonary disorders, malignancies, infections, primary fibromyalgia). Sleep quality was evaluated by using PSQI questionnaire. The PSQI consists of 19 self-rating questions each having a grading from 0 to 3 which are grouped into seven subcategories. The subcategories are subjective sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbance, use of sleeping medications, and daytime dysfunction. The seven subcategories are then summed to yield a global PSQI score, which has a range from 0 to 21; higher scores are indicative of poorer sleep quality. A final score of 5 or less than 5 points are considered excellent sleep while a score more than 5 is considered bad sleep quality calculated at 95% confidence level.

ETHICAL CONSIDERATION

This study was approved by institutional review board (IRB) of University of Lahore. Oral and written informed consent was taken from all selected participants. Before data collection they were informed that their information kept confidential and anonymous throughout the study. All the participants would be volunteers and their identity would not be revealed in results during publications.

Data analysis

Data will be entered and analyzed using statistical package for social sciences (SPSS) software version 20. For descriptive analysis, mean and standard

deviation will be calculated for quantitative variables whereas frequency and percentage will be calculated for qualitative variables. For inferential statistics, Goniometer and VAS SCALE are used. All results will be calculated at 95% confidence interval and $p\text{-value} < 0.005$ will be considered as a significant value

RESULTS:

Results show that out of 269 participants 71% female participants with shoulder

impingment syndrome are having difficulty in sleep (poor sleep) and 29% female are having good sleep. Female having age 34-49(44.24) have highest percentage of all age group female with age 50-65 show (39.03) percentage and age group of 18-33 shows(16.73) lowest percentage **Table #1 Descriptive analysis of PSQI variables**

Variables	Responses	n%
Age of population(year)	18-33	45(16.7)
	34-49	119(44.2)
	50-65	105(39.0)
Subjective sleep quality	very good	15(5.6)
	fairly good	180(66.9)
	fairly bad	55(20.4)
	very bad	19(7.1)
Sleep latency	0(not during the past month)	93(34.6)
	1-2(less than once a week)	67(24.9)
	3-4(once or twice a week)	35(13.0)
	5-6(three or more times a week)	74(27.5)
Sleep duration	>7 HOURS	89(33.1)
	6-7 HOURS	107(39.8)
	5-6 HOURS	28(10.4)
	<5HOURS	45(16.7)
Sleep efficiency	>85%	90(33.5)
	75%-84%	163(60.6)
	65%-74%	12(4.5)
	<65%	4(1.5)
Sleep disturbance	0(not during the past month)	47(17.5)
	1-9(less than once a week)	79(29.4)
	10-18(once or twice a week)	116(43.1)
	19-27(three or more times a week)	27(10.0)
Use of medication	not during the past month	209(77.7)
	less than once a week	31(11.5)
	once or twice a week	5(1.9)
	three or more times a week	24(8.9)
Day time dysfunction	0(not during the past month)	1(0.4)
	1-2(less than once a week)	135(50.2)
	3-4(once or twice a week)	93(34.6)

	5-6(three or more times a week)	40(14.9)
Total score	6-21 (poor sleep)	191(71.0)
	1-5(good sleep)	78(29.0)
Overall sleep quality	6-21 (poor sleep)	191(71.0)
	1-5(good sleep)	78(29.0)

Discussion

Sleep quality in some conditions of musculoskeletal and shoulder conditions such frozen shoulder was assessed in previous studies

Since shoulder impingement syndromes are among the top representatives of causes for chronic pain, the associations of chronic pain with psychosomatic features are likewise manifest in shoulder impingement, as well. Accordingly, Cho et al¹⁹

In this study, we specifically targeted female population with shoulder impingement syndrome and check their quality of sleep by using questionnaire PSQI (Pittsburg sleep quality index). we found that 71% female with shoulder impingement syndrome are having difficulty in falling sleep and 21% female with shoulder impingement are having good sleep. Female in age group 34-49 have highest percentage of poor sleep 81% as well as good sleep 38% age group 18-33 have 36% female with poor sleep and 9% with good sleep age group 50-65 poor sleep 74% good sleep 31%. Mean age was 44 with std deviation 10.275

Considering the sleep medication it was found that Medication not during the past month have highest percentage 77% and lowest percentage of use of medication is in once or twice a week 1% while 11% in less than once a week and three or more times a week is 8%. Use of medication was not common in our females Thus, in addition to pain medications, cognitive-behavioral therapies and poor sleep quality should be taken into account in those

patients.and the patients' capa city to manage ongoing discomfort.

Hamilton et al. demonstrated a potential relationship between psychological distress and exhaustion and sleep duration and quality in 89 women with FMS. According to a different study, even once pain and sadness are taken into account, people with FMS are still thought to have worse sleep issues than those with rheumatoid arthritis (RA).²⁰

Shoulder pathologies can worsen sleep quality, especially in older individuals. Different sleeping positions may predispose to different shoulder pathologies and shoulder pain. In order to decrease discomfort and impairment and improve the quality

of sleep, it may be helpful to recommend proper and acceptable sleeping postures.²¹

Our Results show that The majority of females having shoulder impingement syndrome reported poor sleep quality. As a result, individuals with the SIS may benefit from the medications for pain relief, relaxation and sleep aids that mostly focus on sleep disturbance

CONCLUSION: Results show that the majority of females having shoulder impingement syndrome reported poor sleep quality. As a result, individuals with the SIS may benefit from the medications for pain relief, relaxation and sleep aids that mostly focus on sleep disturbance

Conflict of interest:

There was no any conflict of interest.

Financial Statement:

No funding's were given by any authorities, it was a project thesis of doctor of physical therapy.

Data Availability:

Data will be provided on the demand by corresponding author.

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