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PREVELANCE OF DE-QUERVAIN'S TENOSYNOVITIS IN PREGNANT AND POSTPARTUM WOMEN OF FAISALABAD

Fartashia Zainab

Lyallpur Institute of Management & Sciences

drfartashiazaianb09@gmail.com

Rubab Bibi

Lyallpur Institute of Management & Sciences

drrubabbibi@gmail.com

Rida Nisar

The University of Faisalabad (TUF)

ridanisar430@gmail.com

Dr. Amna Noor

HOD, lyallpur institute of management & sciences

amna121panzer@gmail.com

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Corresponding E-mails & Authors*:

Dr.Amna noor

amna121panzer@gmail.com

Abstract

Background: An inflammatory disorder called De Quervain's Tenosynovitis affects the sheath that surrounds tendons and is most frequently seen in the hands and wrists. In this study, the prevalence of De-Quervain's Tenosynovitis is examined in pregnant and postpartum women who are especially susceptible because of the physiological and bio-mechanical pressures that come with these conditions.

Aim of the study: The aim of this research was to determine the prevalence of De-Quervain's Tenosynovitis in pregnant and postpartum women in Faisalabad by using DASH, PRWE score and Finkelstein test.

Material and Methods: 132 subjects are selected according to the inclusion and exclusion criteria. A written informed consent is taken from the subjects in the language best understood by them. The study subjects is explained about the procedure. The test is performed on both hands. A positive test is indicated by pain over the abductor pollicis longus and extensor pollicis brevis tendons at the wrist and is indicative of a Para tendonitis of these two tendons. The data is collected and statistically analyzed. Results are analyzed through Microsoft Excel and Statistical package for social sciences (SPSS) version 27.

Results: This study shows that the prevalence of De-Quervain ' s tenosynovitis by performing Finkelstein test was positive in 46.7% of pregnant participants and 40.4% of postpartum participants. While the prevalence appeared slightly higher during pregnancy, the difference was not statistically

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significant ($\chi^2(1) = 0.524$, $p = 0.469$), indicating that the maternal status (being pregnant or not) alone does not have a significant association with the condition.

1. INTRODUCTION

The painful condition known as De Quervain's tenosynovitis affects the tendons on the wrist's thumb side. Since the tendons pass through a small tunnel at the wrist, it involves inflammation of the tendons and their sheaths, particularly the extensor pollicis brevis (EPB) and abductor pollicis longus (APL). Pain and swelling are caused by this inflammation, especially when using the thumb and wrist for lifting or grasping (Sharif et al., 2024).

Tenosynovitis thickens the tendon sheath, which is typically 3 to 4 mm thick, particularly above the styloid process. The patient feels discomfort when he moves his thumb or wrist because the tendon adhesions reach farther distally than they do proximally. Additionally, the carpometacarpal joint (CMC) is swollen and painful. This disorder can be diagnosed with a positive Finkelstein test (Reada, B., et al. 2020). DQT is linked to the dominant hand use in middle age and has been reported to occur up to six times more often in women than in men. A lady in her 50s or 60s who overuses her wrist or thumb while doing repetitive motion-intensive jobs like typing and lifting is the most prevalent DQT sufferer (Afshar and Tabrizi, 2021). Pregnant or nursing women are considered to have pregnancy- related DQT, making them another somewhat younger group of patients with the diagnosis (Bae, K. J., et al. 2023).

Pregnant women frequently complain of hand and wrist issues. Pregnancy-related hand and wrist issues may be triggered or made worse by hormonal fluctuations, fluid retention, and weight increase. Patients may complain of both specific and non-specific issues, which could lower the quality of life for expectant mothers. The hazards to the fetus's health and the effect on the mother's symptoms must be considered in every treatment (Afshar, A. and A. Tabrizi 2021).

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New mothers are a particularly vulnerable group because of the particular physiological and biomechanical strains associated with pregnancy and postpartum

caring, even though tenosynovitis can occur in a variety of populations (Vella et al., 2024). The hormonal and anatomical changes that occur during pregnancy, along with the movements necessary for caring for a newborn, provide an environment that promotes the development of the condition (Vella et al., 2024).

Few epidemiological studies have been conducted on PRDQT patients, despite the fact that it is known that PRDQT typically resolves on its own after birth or nursing cessation. The information required to consult pregnant or lactating women who are complaining of radial wrist discomfort or to forecast the incidence of PRDQT is currently lacking because there are only a few case series involving a small number of patients that have been documented. Studies with a large number of pregnant or lactating women are expected to yield more pertinent results because PRDQT is objectively thought to occur significantly less frequently than DQT (Bae, K. J., et al. 2023).

The results of multiple studies indicate that DQ is self-limited and resolves after lactation stops (Afshar and Tabrizi, 2021). The patient is at risk for De Quervain illness if they retain fluids throughout the third trimester of pregnancy and pick up the baby repeatedly in specific positions that are necessary for nursing and child care. A positive Finkelstein test, thickened first extensor retinaculum, and discomfort and tenderness across the radial styloid are the hallmarks of de Quervain disease (Afshar and Tabrizi, 2021).

De Quervain disease during pregnancy and caring is a self- limiting disorder that can be effectively treated non-surgically with corticosteroid injections into the first extensor compartment, non-steroidal anti-inflammatory drugs, and thumb splinting (Bae et al., 2022)

The goal of this research is to determine the Prevalence of De-Quervain Tenosynovitis is Pregnant and Postpartum women of Faisalabad by using Finkelstein test and Visual analogue scale.

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2. METHOD

This is cross-sectional study. Sample size is 132. That is, a total of 132 pregnant and postpartum females will be included in the study on the basis of our screening criteria.

Study settings of this research are various hospitals of faisalabad, including (Rabia Trust Hospital, Aziz Fatima Hospital, Mujahid Hospital, Mian Trust Hospital).

Data collection tools/questionnaire used in this research are consent form, screening form, finkelstein test and visual analogue scale to quantify pain intensity.

Inclusion Criteria	Exclusion Criteria
• Pregnant Women (Štuhec and Vauhnik, 2024)	• Females with history of wrist or hand fracture
• Postpartum females (Štuhec and Vauhnik, 2024)	• Any preexisting musculoskeletal disorder affecting thumb or wrist
• 20 to 35 years of age (Onyemaechi et al., 2021)	• Any neurological condition affecting thumb or wrist
• Women reporting thumb or wrist pain during pregnancy or postpartum (Onyemaechi et al., 2021)	• Any systemic or infectious condition affecting thumb or wrist

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3. Results

Frequency Distribution for Age Groups:

Age groups	Frequency	Percent	Valid Percent	Cumulative Percent
20-25	41	31.1	31.1	31.1
26-30	47	35.6	35.6	66.7
31-35	44	33.3	33.3	100.0
Total	132	100.0	100.0	

Frequency Distribution of the Actual Maternal Status:

Actual maternal status	Frequency	Percent	Valid Percent
Pregnancy	75	56.8	56.8
Pospartum	57	43.2	43.2
Total	132	100.0	100.0

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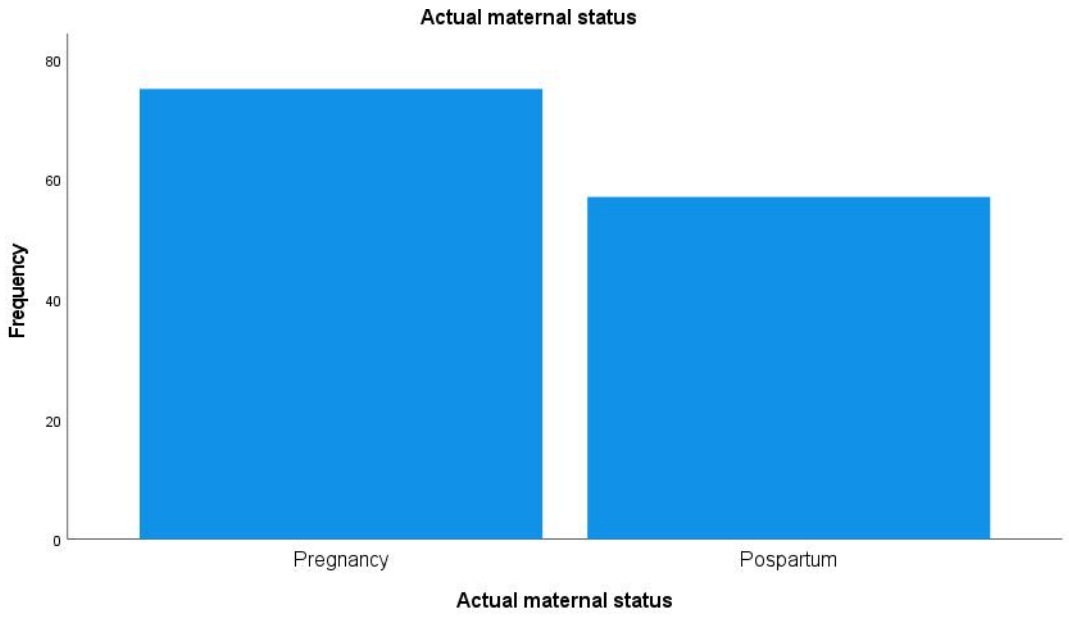
A Comparative Analysis of Pregnancy and Postpartum Frequencies

Distribution of Pain Experiences during Pregnancy and Postpartum



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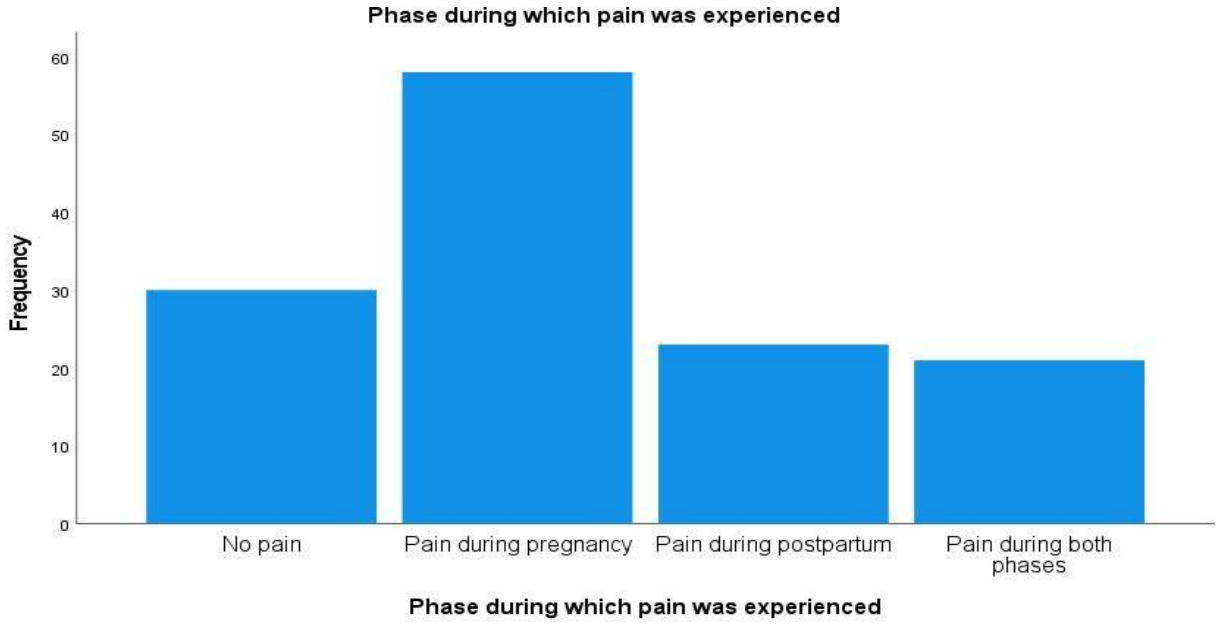
Bar chart for phase during which pain was experienced

Visual Analogue Scale Pain Assessment Results



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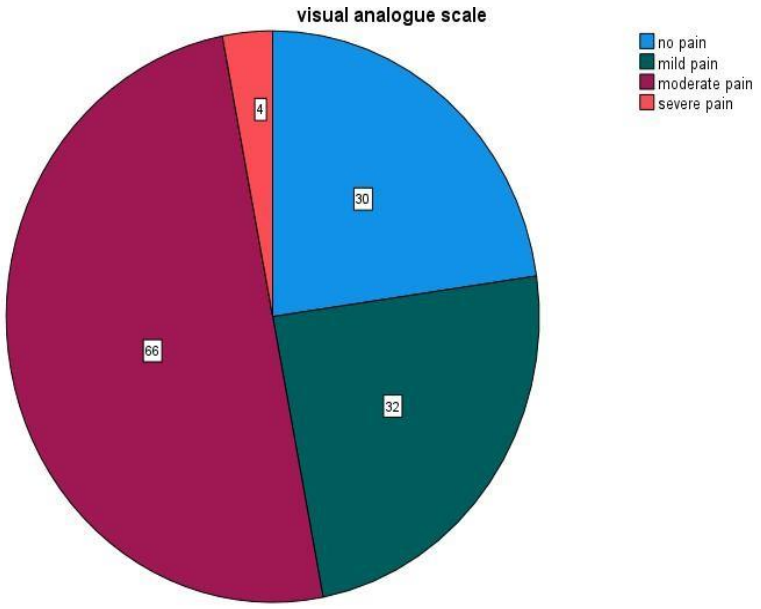
Pie chart illustrating pain based on visual analogue scale



Analysis of De Quervain Tenosynovitis Cases

De-Quervain Tenosynovitis	Frequency	Percent	Valid Percent	Cumulative percent
Positive	58	43.9	43.9	43.9
Negative	74	56.1	56.1	100.

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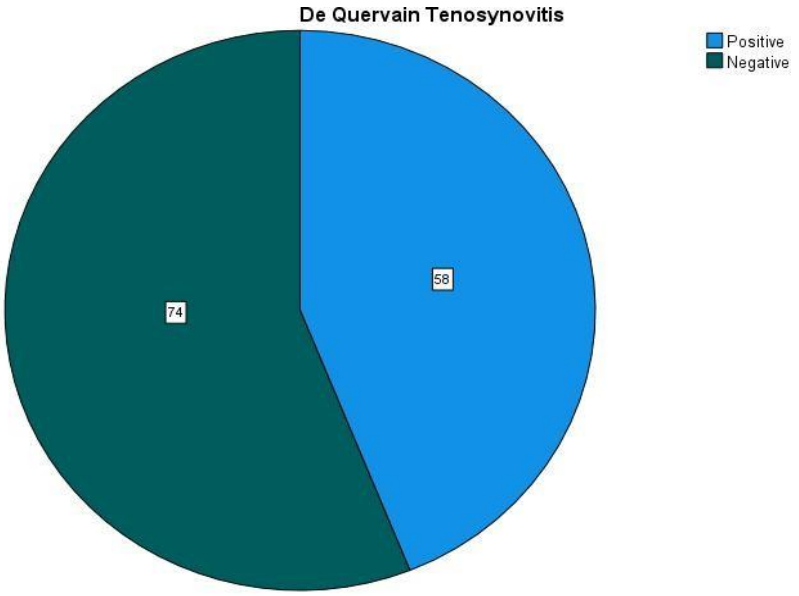
				0
Total	132	100.0	100.0	

Frequency distribution for De Quervain Tenosynovitis

Pie-chart illustrating De Quervain Tenosynovits



Prevalence of De-Quervain's Tenosynovitis Among Pregnant and Postpartum women

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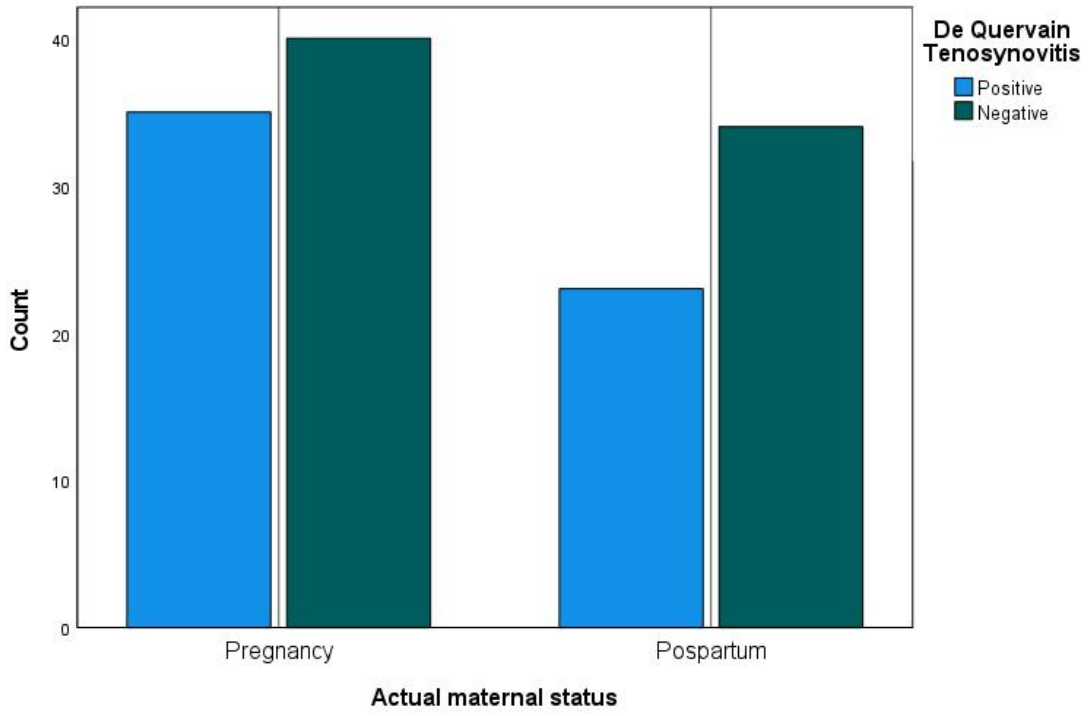
Bar chart of Actual maternal status X De Quervain Tenosynovitis



Association Between Age Group and De-Quervain's Tenosynovitis Chi Square Test:

Age groups X De Quervain Tenosynovitis Crosstabulation

		De-Quervain tenosynovitis		total	chi square	P value
age group	20-25	positive	Negative			
		17	24	41	0.395	0.821

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	26-30	20	27	47		
	31-35	21	23	44		
total		58	74	132		

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Association between Visual Analogue Scale and De-Quervain's Tenosynovitis

Chi Square Test:

De-Quervain tenosynovitis				total	Chi square	P v a l u e
visual analogue scale		positive	negative			
	no pain	0	30	30	31.847	.0 0 0

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	mild pain	21	11	32		
	moderate pain	32	34	66		
	severe pain	4	0	4		
Total		58	74	132		

Visual analogue scale X De-Quervain's Tenosynovitis

4. Discussion

The present study found a slightly higher prevalence of De Quervain's tenosynovitis among pregnant women (46.7%) than postpartum women (40.4%); however, this difference was not statistically significant (p = 0.469). These findings suggest that both pregnancy and the postpartum period are associated with a considerable risk of developing De Quervain's tenosynovitis. Similar findings have been reported by Onyemaechi et al. (2021) and Štuhec and Vauhnik (2024), who described pregnancy-related hormonal changes, fluid retention, and repetitive thumb and wrist movements during infant care as important contributing factors. Although the prevalence was slightly higher during pregnancy in the present study, the absence of a statistically significant difference indicates that maternal status alone may not be the primary determinant of the condition. Early

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identification and preventive physiotherapy interventions may therefore help reduce pain and improve hand function in both pregnant and postpartum women.

5. Conclusion

The study concludes that De Quervain's Tenosynovitis is a relatively common musculoskeletal issue which is more common in pregnant women than in the postpartum women of Faisalabad. The prevalence of De-Quervain's Tenosynovitis was also investigated by developed questionnaire and PRWE score.

6. Recommendations

- Health professionals should educate pregnant and postpartum women about the risk factors, symptoms, and prevention of De Quervain's Tenosynovitis through antenatal and postnatal care sessions.
- Routine musculoskeletal screening, especially for wrist pain, should be incorporated into maternal health checkups to detect De Quervain's Tenosynovitis early.
- Physiotherapists and midwives should provide guidance on proper baby- holding, breastfeeding, and lifting techniques to reduce strain on the wrist.
- Physiotherapy services should be made more accessible in maternity wards and clinics for early management of musculoskeletal issues, including De Quervain's Tenosynovitis.
- Hospitals and maternal health centers should educate on wrist care exercises and joint protection.

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