“Understanding Patient’s Experiences of Post-Spinal Headache after Lumbar Puncture : A Mixed-Method Sequential Exploratory Study in Peshawar”

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Introduction

Lumbar puncture is a common diagnostic and therapeutic procedure performed in the lateral decubitus or C-shape position for CSF examination (1).

The spinal needle is inserted into the space between the L3 and L4 vertebrae (2). Despite its clinical importance, post-lumbar puncture headache observed frequently, significantly affecting patient well-being and recovery (3).

The cumulative index of headache was observed 23.35% at Agha Khan University Hospital, Karachi (4). In Pakistan and the broader South Asian region, few studies have explored PLPH in diagnostic lumbar puncture settings, and none have combined patients’ lived experiences with quantitative examination of procedural risk factors **Maria Jabeen et al.** (2025).

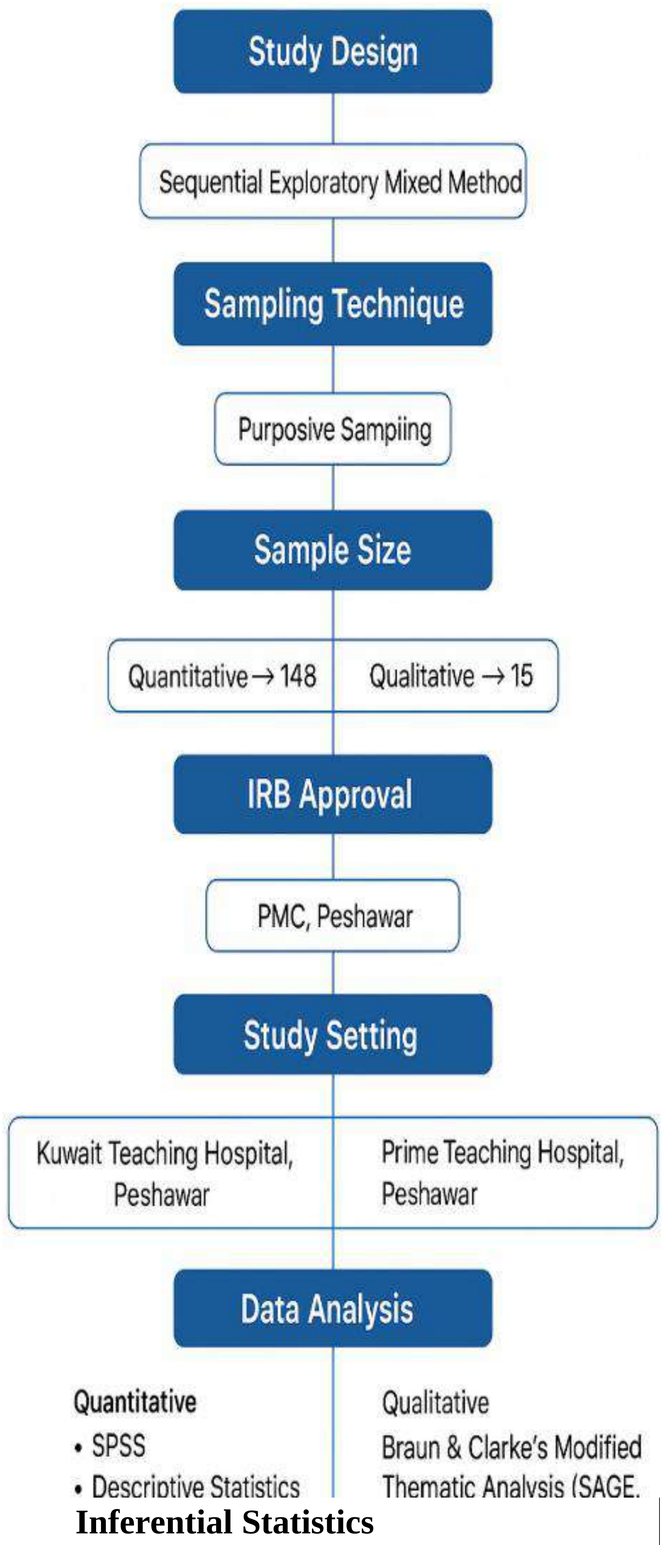
Moreover, while modifiable predictors such as needle type, number of puncture attempts, and operator skill are regularly discussed in meta-analyses and cohort studies (e.g. Amorim et al., 2012; Barati-Boldaji et al., 2023), the translation of these findings into local clinical practice remains unclear.

Aims & Objectives

1.1 The study aimed to first explore the challenges faced by post-spinal headache after lumbar puncture and identify gaps in care.

1.2 The second objective was to determine the prevalence, clinical features, and procedural risk factors of PLPH to reduce its frequency and improve patient’s outcome.

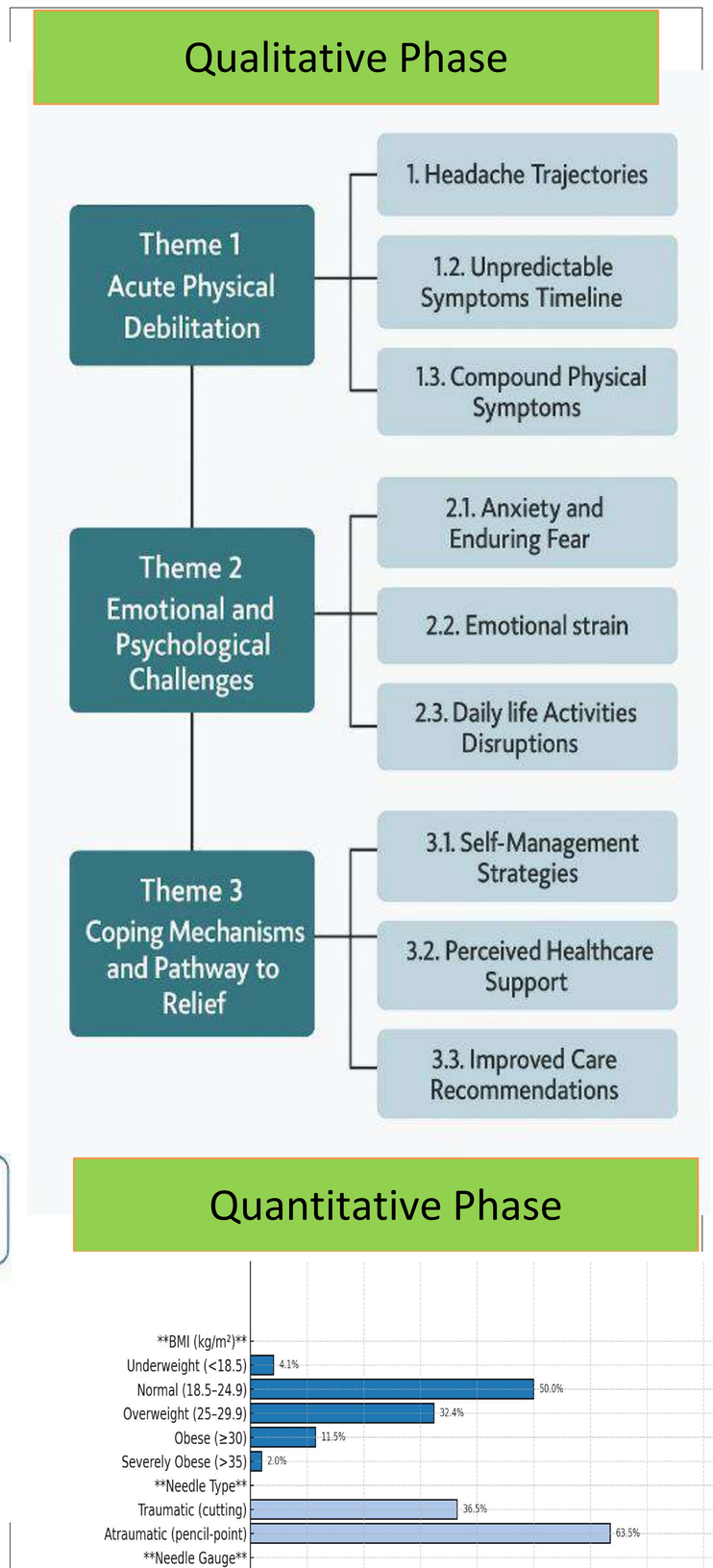
Methodology



Chi-Square Table

Variable	Comparison	χ^2	p-value	Interpretation
Needle Type	Traumatic vs. Atraumatic	8.24	0.004	Atraumatic needles ↓ PLPH risk (*)
Operator Experience	Intern/Resident vs. Consultant	6.18	0.045	Consultants ↓ PLPH risk (*)
Number of Attempts	Single (1) vs. Multiple (>1)	5.92	0.015	Multiple attempts ↑ PLPH risk (*)
Patient Position	Sitting vs. Lateral Decubitus	1.87	0.172	No significant association
Hydration Status	Adequate vs. Inadequate	3.10	0.078	Trend but not significant
Gender	Male vs. Female	0.67	0.413	No association

Results



Conclusion/Recommendations

PLPH profoundly affects patient’s physical, psychological, and emotional health occurring in mild(7.4%), moderate(9.5%), and severe (29%) cases typically within 6 to 24 hours and lasting a mean of 2.4±1.1 days (mean age 25 ± 5).

Using atraumatic needles, minimizing puncture attempts, and enduring effective nurse-patient communication with proper counseling can reduce symptoms of PLPH. Future researchers should employ longitudinal study with a large sample size randomized controlled trail (RCT).

References

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