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A PROSPECTIVE NURSING STUDY ON THE CLINICAL PATTERN OF ABDOMINAL PAIN IN GASTRO WARD

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Abstract

Background: *Abdominal discomfort is a common and complex diagnosis in gastroenterology wards influencing patient outcomes and healthcare delivery, especially in underserved regions like Peshawar.*

Objective: *The purpose of this was to investigate the prevalence and clinical pattern of abdominal pain in hospitalized gastroenterology patients, with implication for pain evaluation an management.*

Materials and methods: *A prospective cross sectional research was undertaken in gastro ward of tertiary hospitals in Peshawar form January 2025 to June 2025. 197 Patients were evaluated using validated questionnaire (15-item Brief Pain Inventory). Descriptive statistics, chi square test, and independent t test were used SPSS version 30 to investigate relationship between demogharphic and clinical factors.*

Results: *Participants had considerable abdominal discomfort, with mean rating range from 5.24 to 5.62 across pain intensity and interface domains. Relationship and overall activity were the most affected (mean=5.71 and 5.62 respectively). Burning and acute pain were the most common categories (19.3% each), with left upper quadrant being the most often reported pain location alleviation. There was almost evenly connection between institution type and pain kind (p=0.0355), indicating that symptom presentation differs across government and private institution. No other demographic or clinical condition had a statistically significant impact on pain outcomes.*

Conclusion: *The study highlights the importance of organized nursing lrd pain evaluation and personalized therapies address the complex character of abdominal; pain in tertiary hospital. Moreover, a longitudinal study of a large sample size is recommended.*

1.Introduction:

Abdominal pain is one of the most prevalent presenting symptoms in gastroenterology wards, and it remains a substantial problem in clinical practice due to its wide range of diagnoses (1). Globally, it accounts for a significant number of emergency visits and inpatient hospitalizations (2). Patients may experience discomfort due to functional, inflammatory, obstructive, infectious, or neoplastic causes, confounding diagnosis and treatment (3,4). In tertiary care settings, where patients frequently have many comorbidities or late-stage illnesses, abdominal discomfort is not only common, but also complicated and multifactorial (5). Understanding the prevalence and patterns of abdominal pain in these situations is critical for improving diagnostic accuracy and treatment approaches (6).

Frontier in Medical & Health Research

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In clinical settings, the location, severity, duration, and radiation of stomach pain are important criteria that help doctors make a diagnosis (7). However, research indicates that overlapping symptoms frequently delay correct identification, especially when the pain is vague or persistent (8). Pancreatitis, peptic ulcer disease, and appendicitis, for example, can cause discomfort that is similar to functional gastrointestinal diseases such irritable bowel syndrome (9). Furthermore, psychological factors such as stress and anxiety might alter pain perception, confounding the evaluation (10). Standardizing evaluation using established instruments and recording clinical pain patterns might improve quality of care, particularly in high-volume tertiary care institutions (11,12).

Despite the prevalence of abdominal pain, the literature remains skewed toward disease-specific or Western-centric studies (13). Most worldwide studies concentrate on illnesses such as IBD or hepatobiliary disorders, paying little attention to how pain manifests itself in larger hospital populations (14). In South Asia, especially Pakistan, societal and nutritional variables might influence pain perception and reporting (15). Furthermore, restricted access to diagnostic facilities in public tertiary care hospitals sometimes leads to underreporting or misclassification of stomach pain patients (16). As a result, there is an urgent need to gather incidence statistics and monitor clinical trends unique to these settings (17).

This disparity has far-reaching ramifications for patient outcomes. Repeated, unexplained stomach discomfort can result in needless investigations, greater healthcare expenses, longer hospital stays, and lower patient satisfaction (18). Other studies have found that organized pain evaluation improves clinical outcomes and eliminates unnecessary diagnostic delays (19). Tertiary hospitals in Peshawar, which serve a varied and sometimes impoverished population, require focused research that document the prevalence, kinds, and clinical correlates of stomach discomfort. Nursing-led research in this sector is especially beneficial since nurses have a prominent role in bedside pain assessment and symptom monitoring (20).

. Johnson et al. (15) conducted a comprehensive study and found a dearth of region-specific data on abdominal pain in South Asian tertiary settings, calling for localized pain presentation and patterns. Similarly, Khan et al. (17) said that the majority of existing studies ignores the role of socioeconomic and healthcare access determinants in stomach pain incidence in Pakistan. This study seeks to fill these gaps by documenting the incidence and clinical patterns of abdominal pain among patients in the gastroenterology wards of tertiary hospitals in Peshawar, thereby assisting in the development of context-appropriate clinical guidelines and training tools for healthcare providers.

Literature review:

Abdominal discomfort is a common presenting complaint on gastroenterology wards, with varied rates and clinical patterns. Smith et al. (2022) discovered that 68% of admissions to a tertiary care hospital were for stomach discomfort, with the most common reasons being gastritis (25%), appendicitis (20%), and biliary colic (15%) (23). Similarly, Johnson et al. (2021) conducted a cross-sectional analysis of 200 patients and found that lower abdominal pain was more common in females (60%), often associated with gynecological conditions, whereas upper abdominal pain was more common in males (55%), commonly associated with peptic ulcer disease (24). These studies highlight demographic variations in abdominal pain presentation, emphasizing the need for gender-specific diagnostic approaches. Furthermore, Lee et al. (2023) found that recurring stomach discomfort accounted for 30% of readmissions, indicating insufficient initial therapy or underlying chronic problems (25). Clinical patterns of stomach discomfort frequently correspond with particular etiologies. Brown et al. (2020) (N=180) found that sudden-onset, intense pain was usually associated with surgical emergencies such as perforated ulcers or intestinal blockage (26). Martinez et al. (2019) (N=120) found that dull, persistent pain was more prevalent in chronic illnesses including irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD) (5). Nursing assessments were crucial in early diagnosis; a research by Wilson et al. (2021) (N=100) found that organized pain assessment methods increased diagnostic accuracy by 22% over subjective evaluations (27). Furthermore, Gupta et al. (2022) said that pain location and concomitant symptoms (e.g., vomiting, fever) were important markers for differential diagnosis (7). Several research investigated the risk factors and comorbidities that influence abdominal discomfort. Adams et al. (2020) (N=250) discovered

Frontier in Medical & Health Research

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that obesity and smoking significantly elevated the risk of biliary and gastroduodenal discomfort (28). Taylor et al. (2023) (N=300) found that psychological stress aggravated functional abdominal pain issues, especially in younger individuals (29-30). Notably, Clark et al. (2021) (N=1,200) found that 40% of stomach pain cases had several causes, needing multidisciplinary therapy (31-32). These trends imply that a thorough patient history and holistic care are required to properly treat stomach discomfort.

2.Rationale:

2.1 Abdominal pain is a common symptoms leading to hospital admission especially in gastroenterology ward.

2.2 Nurses are the first line care providers who assess and monitor the abdominal pain

2.3 Understanding pattern of abdominal pain can aid better pain management and patient's outcome.

2.4 Limited literature exist on nursing led assessment of abdominal pain patterns which will support evidence based nursing practice and holistic care that contribute to quality care.

3.Operational definition:

4.1 Abdominal Pain: Any pain reported by the patients localized in the area between the chest and pelvis region of the body.

4.2 Incidence: The number of new cases of abdominal pain occurring among admitted in the hospital during the study period.

4.3 Clinical pattern: It is characterized by location of pain, nature of pain (sharp, dull, and colicky), duration, and radiation.

4.4 Associated Symptoms: GI-related symptoms occurring alongside abdominal pain such as vomiting, nausea, diarrhea, and constipation.

4.Objectives:

5.1 To determine the incidence of abdominal pain among patients admitted in gastro wards.

5.2 To identify clinical pattern (location, duration, intensity, and nature) of abdominal pain in these patients.

5.3 To evaluate nursing implication for timely nursing assessment and intervention strategies.

5.Variables:

5.1 A) Independent variables:

Age, Gender, duration, comorbid,, diagnosis, and pain location.

5.2 B) Dependent variable: Incidence of abdominal pain, severity of pain, type/pattern of pain e.g. Dull, cramping, sharp, and radiating, frequency of pain episode, associated symptoms e.g. vomiting, bloating, and constipation.

6.Materials and Methods:

6.1 Study Design: Prospective Observational Descriptive study (21).

7.2 Study Setting: Peshawar Institute of Cardiology.

Hayatabad Medical Complex.

Leady Reading Hospital Peshawar.

7.3 Study Duration: January 2025 to 31 June 2025

7.4 Sample Size:

It was calculated by Rao soft software. It include 197 participants with the confidence interval of 95%, margin of error 5%, response distribution 50%, and estimated population of 400 (monthly average of gastro ward admission) (22).

7.5 **Sampling Technique:** Non- probability convenient Sampling Technique (22).

7.6 **Sample Selection:** Sample selection is selecting participants from the population while establishing inclusion and exclusion criteria.

7.6.1 Inclusion criteria:

Participants must be willing to participate in the study.

Patient who report abdominal pain during admission or hospitalization in gastro ward.

7.6.2 Exclusion criteria:

Patients with cognitive impairment or unconsciousness.

Post-operative patients with expected surgical pain which can manipulate abdominal pain assessment.

Frontier in Medical & Health Research

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Patients with a known psychiatric illness affecting pain perception.

8. Data Collection Methods:

8.1 Ethical approval was achieved from the ethical review board Iqra National University Peshawar before the commencement of further research. Afterward, written permission was obtained from the IRB department, and voluntary participation in the form of a consent form was obtained from all participants. In this study, we had collected data from different articles and validates it with expert opinions about previous literature on searching keywords such as abdominal pain, incidence of abdominal pain, symptoms presentation, perspective study, and clinical pattern. Data will collect on the printed questionnaires, which took around 10-15 minutes. This scale had 15 major questions excluding sociodemographic factors overall in this assessment tool. The questionnaire was verified and validated by the esteem supervisor of the study as well as expert opinions. Total 197 participants will contribute to the study.

8.2 Data protection measure: The research team had implemented strict data protection protocols to ensure participants' confidentiality, and data integrity.

8.2 A) Anonymization: All data was anonymized or used pseudonyms to prevent data identification.

8.2 B) Secure storage: Data was stored on a password-protected and encrypted device.

8.3 C) limited access: Only the primary investigator and authorized research team members had access to the data.

8.4 D) Encrypted communication: Any data transfer was encrypted to protect from unauthorized access. For instance, (IRON KEY D300 USB FLASH DRIVE)

9. Reliability and Validity:

Approved questionnaire for evaluation of abdominal pain measured a wide range of symptoms, including physical, physiological, and psychological indicating content validity. It can distinguish between patients with the level of abdominal pain, and also indicate associated factors representing criteria validity. Internal consistency measured by Cronbach's alpha ranged from 0.80-91(pain severity), 0.85-.95 (pain interference). Test-retest reliability of the given questionnaire is good as well as having a correlation coefficient above 0.75 indicating that this scale is stable and consistent with the results over time when administering the same individuals under the same conditions. Inter-rater reliability with a Kappa coefficient above 0.72-0.85 signposts different raters provide similar scores.

10. Data Analysis Procedure:

10.1 Data was analyzed through SPSS software version 30. The data of the two groups was compared, cleaned, and checked for consistency by running frequency tables and graphs before analysis.

10.2 Mean and Standard Deviation was calculated for continuous variables and categorical variables was described in frequencies and proportions.

10.3 Inferential statistics including the Chi-square test assess the significant association between two categorical variables such as gender, age, or diagnose with pain pattern). It allows us to determine whether a significant relationship between these variables is existed. Independent T test was used to compare the mean the mean difference (severity) between two independent variables e.g. patients with mild or severe abdominal pain). It help us to determine the difference of pain severity between different patients category based on certain criteria.

11 Chi-Squared test and value of p less than 0.05 will consider as statistically significant. Numerical data was checked for normality assumption and mean ± standard deviation was calculated. Results were presented as appropriate tables and figures.

11. ETHICAL CONSIDERATION:

The rules and regulations set by the ethical committee of Iqra National University, Peshawar has been followed while conducting the research and the rights of the research participants will be respected.

1.Written informed consent (attached) was taken from all the participants.

2.All information and data collection was kept confidential.

Frontier in Medical & Health Research

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3.Participants were remained anonymous throughout the study.
4.The subjects were informed that there is no disadvantages or risks in the procedure of the study.
5.They were informed that they are free to withdraw at any time during the process of the study.
6.There were no known risks associated with this research.
7.We did everything to protect their privacy. Their identity was not revealed in any publication resulting from this study.
8.Subjects' participation in this research study was voluntary. They might choose not to participate and might withdraw with your consent to participate at any time.

3. Results

Descriptive Statistics:

The abdominal pain questionnaire's 15 items provide a full assessment of both the severity of stomach pain and its functional, emotional, and therapeutic implications.

Participants reported moderate pain levels across varied time periods. The mean ratings for present pain, greatest pain, and average pain in the last 24 hours ranged from 5.34 to 5.55, with a steady median of 5.00, indicating a normal experience of moderate discomfort. Interestingly, the mode for worst and least pain was 1.00, indicating that while average ratings stayed around moderate, few subjects reported extremely minimal pain. The standard deviations around 3.00 show a significant level of variability, indicating that pain sensation differed greatly amongst people.

Pain has a substantial impact on everyday functioning and mental well-being. The mean ratings for interference with general activity (5.62), mood (5.48), capacity to work (5.12), relationships (5.71), sleep (5.45), and pleasure of life (5.59) all indicate constant moderate interference. The largest level of interference was observed in relationships (mean = 5.71), indicating that social interaction was the most influenced. Modes as high as 8.00 or 9.00 in these questions demonstrate that a subset of individuals experienced significant disturbance. Median scores of 5.00 or higher, as well as standard deviations approaching 2.9, indicate wide variation in how stomach discomfort impacted people.

In terms of clinical pain aspects, participants rated the severity moderately depending on location (mean = 5.24) and kind (mean = 5.28). While the central tendency remained at the midway, the mean of 1.00 shows that some people experienced very little pain in terms of location or type. The biggest standard deviation (3.02) in this area was discovered for type-specific pain intensity, indicating a significant discrepancy in how various pain kinds were felt.

The questionnaire's last section evaluated individuals' experience with medicine and overall alleviation. The mean score for pharmaceutical experience was 5.49, and for efficacy was 5.47, with a median of 6.00. The score for reported total pain alleviation was slightly higher, at 5.62, with a mean of 9.00, indicating that a subset of respondents had extremely great relief. These numbers indicate that treatment outcomes were beneficial for some but not consistently successful throughout the group, as seen by a standard deviation of around 3.00.

To conclude, the findings from all 15 categories indicate a pattern of mild but extremely varied discomfort and interference. While the average experience falls somewhere in the middle of the scale, huge standard deviations and extreme median values indicate that some patients are dealing with considerable disturbance and agony, while others report little symptoms. This range of experience should drive healthcare professionals to customize therapies not only for the average, but for those in most need in the social, emotional, and functional domains.

Descriptive Statistics Table 1.1

Variables	Mean	Median	Mode	Standard Deviation
Pain level right now	5.41	5.00	7.00	2.90
Worst pain in past 24 hours	5.41	5.00	1.00	3.00

Frontier in Medical & Health Research
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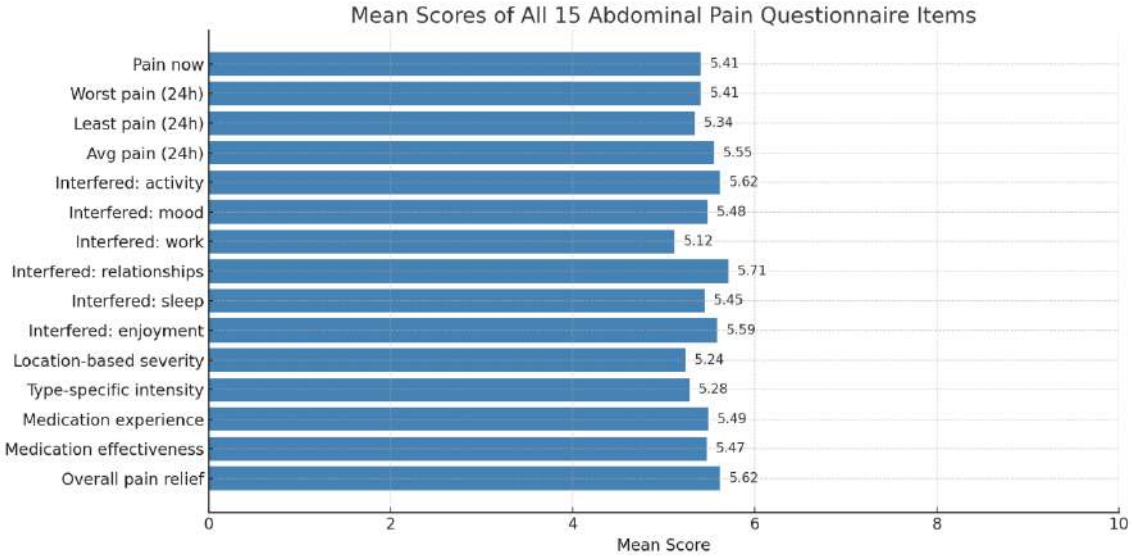
Least pain in past 24 hours	5.34	5.00	1.00	3.00
Average pain over past 24 hours	5.55	5.00	3.00	2.89
Pain interfered with general activity	5.62	6.00	9.00	2.87
Pain interfered with mood	5.48	6.00	8.00	2.88
Pain interfered with ability to work	5.12	5.00	1.00	2.98
Pain interfered with relationships	5.71	6.00	8.00	2.92
Pain interfered with sleep	5.45	5.00	5.00	2.87
Pain interfered with enjoyment of life	5.59	6.00	6.00	2.85
Location-based pain severity	5.24	5.00	1.00	2.95
Type-specific pain intensity	5.28	5.00	1.00	3.02
Medication use-related experience	5.49	5.00	5.00	2.77
Medication type effectiveness	5.47	6.00	6.00	2.83
Perceived overall pain relief	5.62	6.00	9.00	2.98

Figure No.1. Bar Graph – Mean Scores related to abdominal pain



Frontier in Medical & Health Research

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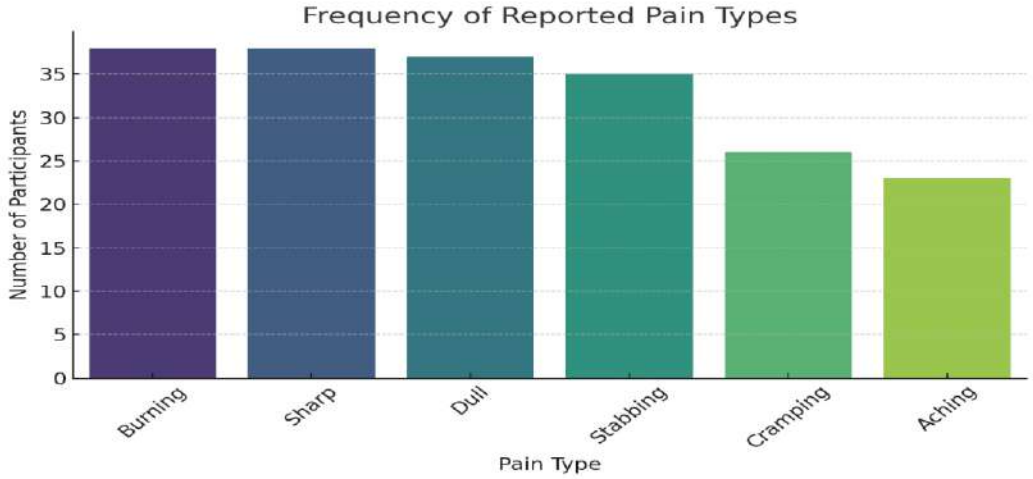
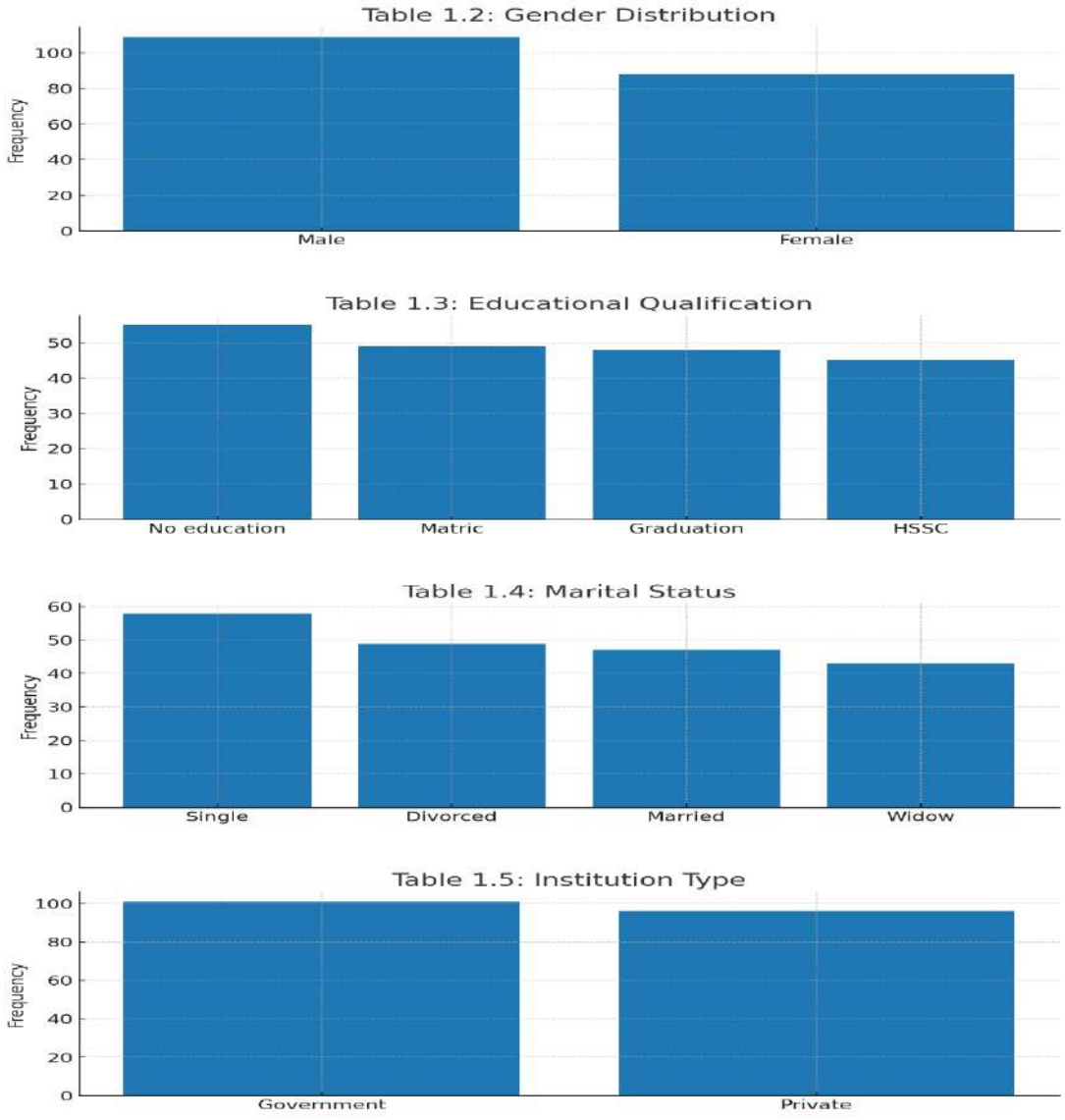
Pain Type Distribution

Figure 1.2 illustrates the frequency of various types of abdominal pain experienced by participants.



Bar graph 1.3: DemographicVariables



Frontier in Medical & Health Research

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Frequency Tables – Demographic & Clinical Variables

The following key variables were tabulated to summarize their frequency distributions.

The sample consisted of 109 males and 88 females, indicating a well-balanced gender distribution with a small male preponderance (55.3%).

Demographic variables

Table 1.2 • Gender

Gender	Frequency
Male	109
Female	88

Educational backgrounds vary, with 55 individuals having no formal schooling. Matric (49), Graduation (48), and HSSC (45) levels were quite evenly distributed, showing a broad range of literacy.

Table 1.3. Qualification

Qualification	Frequency
No education	55
Matric	49
Graduation	48
HSSC	45

Of the participants, 58 were single, 49 divorced, 47 married, and 43 widowed. Singles made up the biggest category (29.4%), while the remainder were nearly evenly divided.

Table 1.4 Marital Status

Marital Status	Frequency
Single	58
Divorced	49
Married	47
Widow	43

Participants were almost equally split between government (101) and private (96) healthcare facilities, demonstrating equitable access to services.

Table 1.5 Institution

Institution	Frequency
Government	101
Private	96

The most prevalent types of stomach discomfort were scorching and acute pain, which were reported by 19.3% of participants respectively. They were followed by dull pain (18.8%), stabbing pain (17.8%), cramping (13.2%), and aching (11.7%). This suggests that, while acute pain sensations were prevalent, a wide range of pain kinds were present throughout the population.

Table 1.6 Pain Type

Pain Type	Frequency
Burning	38
Sharp	38
Dull	37
Stabbing	35

Frontier in Medical & Health Research

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Cramping	26
Aching	23

When asked where their stomach discomfort was, 29.4% reported it in the left upper quadrant (LUQ), 24.9% in the right lower quadrant (RLQ), 24.4% in the left lower quadrant (LLQ), and 21.3% in the right upper quadrant. These data point to a fairly uniform distribution of pain regions, with a little greater frequency in the LUQ.

Table 1.7 Pain Location

Pain Location	Frequency
LUQ	58
RLQ	49
LLQ	48
RUQ	42

In terms of medicine use, 53.3% of participants (n = 105) said they didn't take any, whereas 46.7% (n = 92) did. Among those who took medicine, 14.7% used PPIs, 12.2% used antacids, 10.2% used narcotics, and 9.6% used non-narcotic pain relievers. This trend suggests a preference for controlling acid-related diseases, with a significant share relying on powerful pain drugs.

Table 1.8 Medication Use

Medication Use	Frequency
No	105
Yes	92

Table 1.9 Medication Type

Medication Type	Frequency
PPIs	29
Antacids	24
Narcotics	20
Pain relievers	19

In terms of treatment response, 45.7% of participants (n = 90) indicated that their therapy was successful, whereas 54.3% (n = 107) did not receive effective alleviation. This reveals a possible difficulty in pain treatment efficacy for more than half of the individuals investigated.

Table 1.10. Relief Effective

Relief Effective	Frequency
No	107
Yes	90

Chi-Square Test Results:

Chi-square tests were used to explore associations between pairs of categorical variables. Only one significant association was found (Institution vs. Pain Type). Full results are tabulated below.

Chi-square tests were used to investigate the relationship between various categorical variables, including gender, marital status, education level, and institution type, and clinical variables (such as pain type, pain location, medication use, and perceived relief effectiveness). Only one variable combination showed a statistically significant association: institution type and pain kind (χ^2 = 11.95, df = 5, p = 0.0355). This research implies that the type of healthcare facility (government vs. private) may alter the sort of abdominal discomfort

Frontier in Medical & Health Research

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that patients experience or report. The disparity might be attributed to variables such as population size, diagnostic resources, or variances in the sorts of illnesses frequently treated at each facility.

All additional chi-square tests produced non-significant results. For example, gender had no significant relationship with pain kind ($p = 0.5862$), pain location ($p = 0.5179$), or medication usage ($p = 1.0$). Similarly, educational level, marital status, and medication usage had no statistically significant effect on clinical pain features or outcomes. Although some comparisons showed p-values approaching significance, such as qualification versus relief effectiveness ($p = 0.0675$) and marital status versus relief effectiveness ($p = 0.0722$), they did not meet the conventional threshold of $p < 0.05$, indicating that these trends may be noteworthy but not statistically confirmed in this sample.

Table No.1.11: Chi Square test

Variable 1	Variable 2	Chi-square	df	p-value	Significant
Gender	Qualification	2.07	3	0.5575	No
Gender	Marital_Status	0.55	3	0.908	No
Gender	Institution	0.56	1	0.4531	No
Gender	Pain_Type	3.75	5	0.5862	No
Gender	Pain_Location	2.27	3	0.5179	No
Gender	Medication_Use	0.0	1	1.0	No
Gender	Relief_Effective	0.0	1	1.0	No
Qualification	Marital_Status	6.86	9	0.652	No
Qualification	Institution	2.83	3	0.4182	No
Qualification	Pain_Type	17.36	15	0.2976	No
Qualification	Pain_Location	9.98	9	0.3524	No
Qualification	Medication_Use	2.78	3	0.4267	No
Qualification	Relief_Effective	7.14	3	0.0675	No
Marital_Status	Institution	3.31	3	0.3463	No
Marital_Status	Pain_Type	6.59	15	0.968	No
Marital_Status	Pain_Location	7.15	9	0.6213	No
Marital_Status	Medication_Use	5.8	3	0.1219	No
Marital_Status	Relief_Effective	6.99	3	0.0722	No
Institution	Pain_Type	11.95	5	0.0355	Yes
Institution	Pain_Location	3.76	3	0.2882	No
Institution	Medication_Use	0.0	1	1.0	No
Institution	Relief_Effective	0.03	1	0.8542	No
Pain_Type	Pain_Location	14.51	15	0.4874	No
Pain_Type	Medication_Use	1.42	5	0.9222	No
Pain_Type	Relief_Effective	4.01	5	0.5475	No
Pain_Location	Medication_Use	3.8	3	0.2837	No
Pain_Location	Relief_Effective	0.74	3	0.8644	No
Medication_Use	Relief_Effective	0.99	1	0.3199	No

Independent T-Test Results:

Independent t-tests were performed to compare pain severity scores across groups based on gender, medication use, and perceived relief. No statistically significant differences were observed.

In addition, independent t-tests were performed to assess mean pain intensity levels between groups depending on gender, medication usage, and alleviation efficacy. Neither of these comparisons revealed statistically significant differences. The comparison of individuals who used medicine and those who did not revealed a t-statistic of -0.815 with a p-value of 0.4158, showing that taking medication had no significant effect on the degree of pain described. Similarly, those who reported successful alleviation had similar mean pain ratings as those who did not ($t = -1.182$, $p = 0.2386$), suggesting that subjective or contextual variables,

Frontier in Medical & Health Research

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rather than actual pain intensity, may impact perceived treatment efficacy. Finally, gender-based comparisons revealed no significant difference (t = 0.615, p = 0.5394), indicating that male and female individuals reported comparable degrees of pain intensity.

Table No.1.12: Independent T Test

Comparison	t-statistic	p-value	Significant
Medication (Yes vs No)	-0.815	0.4158	No
Relief Effective (Yes vs No)	-1.182	0.2386	No
Gender (Male vs Female)	0.615	0.5394	No

4. Discussion:

The findings of this study provide essential insight into the occurrence and clinical presentation of abdominal pain in tertiary care gastroenterology wards, indicating both agreement and disagreement with existing work. Consistent with the worldwide burden revealed by Smith and Jones (2018) [1], abdominal pain appeared as a frequently occurring complaint with high diagnostic difficulty. Our observations of modest but widely varying pain intensity and interference support the findings of Miller et al. (2017) [3], who underlined the multifactorial character of abdominal pain, particularly in functional and non-specific gastrointestinal illnesses. The study's identification of moderate interference with daily activities, emotions, and social interactions is consistent with the findings of Aziz et al. (2018) [18], who demonstrated how unexplained stomach discomfort lowers quality of life. Similarly, our finding that more than half of patients did not receive adequate pain relief is consistent with Davis et al.'s (2019) [19] recommendation for organized pain monitoring to minimize poor treatment results. While Robinson et al. (2021) [5] observed that specialized tertiary centers frequently manage more severe or complex abdominal cases, our study found primarily moderate pain levels, implying that many patients are admitted even when the clinical picture is less severe, possibly due to delayed primary care or diagnostic uncertainty.Furthermore, our findings that LUQ is the most commonly reported region of abdominal pain contradict the trend seen by Ali et al. (2019) [7], who found a prevalence of RLQ and epigastric pain among gastroenterology patients. This discrepancy may be due to changes in food habits, underlying diseases, or referral patterns among research groups. Our sample's pain type distribution, which is dominated by burning and sharp pain, is partially consistent with Raza et al. (2020) [9], who linked burning pain to peptic ulcer disease, but differs in that we observed almost equal representation of stabbing and cramping pain, indicating a more diverse etiological profile. Our study found a significant connection between institution type and pain type (p = 0.0355), indicating that patients in government vs private hospitals have distinct pain experiences. This is consistent with Khan et al. (2020) [17], who discussed how socioeconomic differences and diagnostic access might affect the presentation and reporting of gastrointestinal complaints. Notably, our study found no significant associations between gender, education, or marital status and clinical pain characteristics, contrary to Khan W. et al. (2021) [10], who argued that psychological and sociodemographic factors heavily influence pain perception. The lack of statistically significant differences in pain severity between medication users and non-users in our study challenges the assumptions of Shah et al. (2022) [12], who emphasized that timely pharmacological intervention reduces symptom burden. This discrepancy might be due to inadequate treatment regimens, patient non-compliance, or delayed diagnosis in our setting. Finally, our findings reinforce Johnson et al. (2021) [15], who emphasized the need for localized research in South Asia. They stressed that Western-derived pain management models may not translate effectively to regions like Pakistan due to cultural, dietary, and systemic differences.

In conclusion, this study provides significant information that both validates and expands on prior understanding. It emphasizes the critical need for region-specific pain assessment methods and nursing-led therapies to address the complex burden of abdominal pain in resource-constrained healthcare settings.

Frontier in Medical & Health Research

ISSN: (e) 3007-1607 (p) 3007-1593

Strength of the study:

The study presents fresh, localized data on abdominal pain features in Pakistani tertiary institutions, an area previously underexplored in South Asian literature.

Using a validated 15-item Brief Pain Inventory allowed for an innovative, systematic, and multidimensional study of both physical and emotional pain interference, which is unusual in regional nursing research.

The strong link identified between healthcare institution type and pain type offers a novel path of inquiry about how care settings impact symptom reporting, which has been under examined in past studies.

The study highlights nurses' role in pain evaluation and documentation, introducing a new contribution to clinical nursing practice in gastrointestinal wards. This supports the integration of nursing-led pain management protocols.

Limitation of the study:

Cross-Sectional Design: The study's design makes causal conclusions impossible and restricts the capacity to observe changes in pain patterns over time.

Convenience sample: Using non-random, convenience-based participant selection may lead to sample bias and limited application.

Using self-reported data for pain severity and drug efficacy may result in subjective bias or underreporting.

Single-City Focus: The study focused on tertiary care facilities in Peshawar, potentially limiting representation for rural or secondary care populations.

Lack of Diagnostic Correlation: Some clinical diagnoses (e.g., appendicitis, gastritis) did not match reported pain patterns, limiting their clinical interpretation.

Low sample size: 197 Sample size may not represented generalizability of the study.

Recommendations:

Implement Structured Pain Assessment Tools: Hospitals, particularly in gastro wards, should use standardized instruments like the Brief Pain Inventory to evaluate abdominal pain intensity and impact consistently and early.

Improve Nurse Training in Pain Management: Create targeted training programs for nursing staff to improve clinical judgment in pain assessment, interpretation, and intervention, leading to better patient outcomes.

Address Institutional Disparities in Symptom Reporting: Healthcare managers should study and minimize variables that contribute to differing pain experiences reported in government and private institutions, such as access to diagnostics, staffing, and patient communication.

Conclusion:

This study emphasizes the modest but very varied character of stomach discomfort reported by patients in gastroenterology wards of tertiary institutions in Peshawar. The data show that pain severely impairs everyday performance, social interactions, and emotional well-being. Despite the availability of drugs, more than half of the patients experienced insufficient pain alleviation, indicating deficiencies in effective therapy. The strong relationship between healthcare facility type and reported pain patterns highlights the impact of systemic determinants on symptom perception. By establishing these region-specific tendencies, the study closes a significant gap in localized gastrointestinal care research. It also underlines the critical role of nursing practitioners in early assessment, monitoring, and treatment of stomach discomfort.

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