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EXPLORING THE RELATIONSHIP BETWEEN LOW BACK PAIN AND FUNCTIONAL CONSTIPATION IN WORKING WOMEN: A POPULATION-BASED CROSS-SECTIONAL STUDY

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ABSTRACT

Introduction: - Low back pain and functional constipation are prevalent health issues affecting individuals worldwide, encompassing various age groups and socioeconomic backgrounds. While both low back pain and functional constipation exhibit distinct clinical presentations and diagnostic criteria, emerging evidence suggests a potential correlation, especially among adult females. Shared risk factors such as sedentary lifestyle, poor posture, hormonal fluctuations, and pelvic floor muscle dysfunction underscore the intricate interplay between these conditions.

Methodology: - This observational study is carried out among the 100 working females which all include the nursing staff, paramedical and healthcare professionals from hospitals. Initially consent was taken from each participant and then the detailed assessment was carried out. The questionnaire was given to the participants and the confidentiality of the data were assured.

Result: - In our analysis: If the Karl Pearson correlation coefficient test indicates a weak positive correlation between functional constipation and low back pain, it suggests that there

is a slight tendency for individuals with functional constipation to experience low back pain more frequently. Understanding the potential correlation between functional constipation and low back pain can provide valuable insights for healthcare professionals in managing patients with these conditions. While a weak positive correlation suggests a possible association.

Conclusion: -By this study we conclude there is a positive correlation, but further research is needed to elucidate the underlying mechanisms and identify potential therapeutic interventions to address both conditions effectively.

Keywords: low back pain, functional constipation, health care professionals, working adult females

INTRODUCTION

Low back pain (LBP) and functional constipation (FC) are prevalent health issues affecting individuals worldwide, spanning various age groups and socioeconomic backgrounds **[1, 2]**.

Anatomically, the low back extends from the 12th rib to the iliac crest and is a common site of pain, often radiating to the buttock region **[3]**. While acute episodes of LBP are frequent and often self-limiting, they may transition into chronic conditions, significantly impacting individuals' quality of life **[4]**.

Chronic LBP is influenced by biological, psychological, and social factors, reflecting the multifaceted nature of pain **[5]**. Despite advancements in pain research, discrepancies between pathological findings and symptomatology highlight the necessity of a multimodal management approach **[6]**.

Similarly, FC, defined by difficulties in stool passage, is a common functional bowel disorder **[7]**. **D**isruptions in physiological functions, such as intestinal motor reactivity and visceral hypersensitivity, contribute to FC, which is often diagnosed by exclusion using the Rome IV criteria **[8]**.

Although LBP and FC have distinct clinical presentations and diagnostic criteria, emerging evidence suggests a correlation, particularly among adult females **[9]**. Shared risk factors, including a sedentary lifestyle, poor posture, hormonal fluctuations, and pelvic floor muscle dysfunction, suggest an intricate interplay between these conditions.**[10]**.

Further research is warranted to clarify the nature of this relationship and to develop targeted interventions **[11]**. Addressing chronic health conditions holistically by integrating biological, psychological, and social determinants is crucial for optimizing patient outcomes **[12]**.

OBJECTIVES

To investigate the correlation between low back pain and functional constipation in adult females, addressing a gap in existing

research and providing insights for comprehensive management strategies.

METHODS

- Study of design: Non-experimental study
- Study type: Correlational study
- Sample size: 100 health care professionals
- Study setting: hospitals, health care centre and physiotherapy clinic
- Study population: Adult females from age 18 – 49 years

• Inclusion criteria

1. Willing to participate
2. Working Adult Females
3. Under age 18-49

• Exclusion criteria

1. Pregnant females
2. Diagnosed constipation
3. Irritable bowel syndrome
4. Endocrine disorder
5. Currently undergoing treatment for any gastrointestinal disorder
6. Currently taking the medication known to affect the gastrointestinal function.

Each participant was informed about the study methodology and written consent form was filled by all the participants and then detail assessment was taken the questionnaire was explained properly than was filled up by the participants and confidentiality of the data was assured.

STATISTICAL ANALYSIS

- Data analysis was done using SPSS version 25.0.
- It was analysed for total of 100 subjects.
- Descriptive analysis was done in a form of mean ± SD.
- Karl Pearson's coefficient of correlation test was used for data analysis.

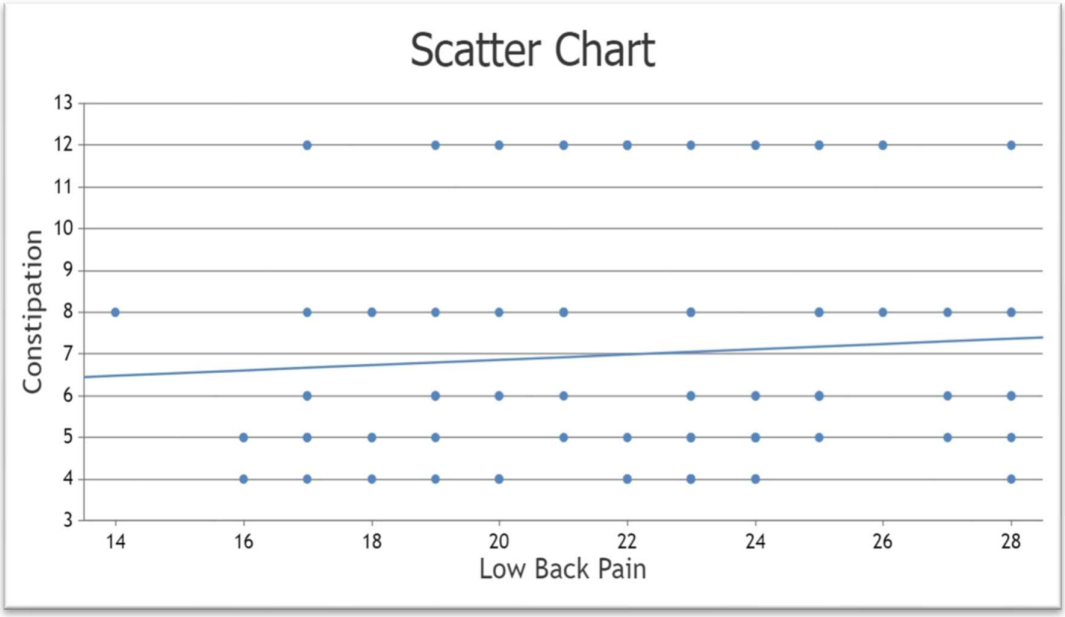
RESULT AND DISCUSSION

Correlation between Low Back Pain and Functional Constipation

Table 1: Correlation between Low Back Pain and Functional Constipation

	N	Mean	Standard deviation	Correlation r-Value
Low back Pain	**100**	**22.17**	**0.33**	**+0.0744**
Functional Constipation	**100**	**7**	**0.28**	

Note: - as the r-value is +0.0744 so there is a weak positive correlation between Low Back Pain and Functional Constipation



Scatter Chart Showing Correlation between Low Back Pain and Functional Constipation

DISCUSSION

Functional constipation and low back pain are two common health issues that can significantly impact an individual's quality of life. While they affect different areas of the body, there may be underlying mechanisms that contribute to their association.

Functional Constipation: Functional constipation refers to difficulty passing stools or infrequent bowel movements without any identifiable underlying cause. Pathophysiologically, it can result from various factors, including slow colonic transit, pelvic floor dysfunction, dietary habits, and lifestyle factors. Factors such as decreased physical activity, inadequate fluid intake, and low-fiber diet can contribute to constipation by affecting bowel motility and stool consistency. Low Back Pain: Low back pain is a common musculoskeletal disorder characterized by pain and discomfort in the lower back region. The pathophysiology of low back pain is multifactorial and can involve musculoskeletal, neural, and psychosocial factors. Common causes include muscle strain, ligament sprain, disc degeneration, spinal stenosis, and poor posture. Correlation Analysis using Karl Pearson Test: Now, let's explore the potential correlation between functional constipation and low back pain using the Karl Pearson correlation coefficient test. Karl Pearson Correlation Coefficient (r): The Karl Pearson correlation coefficient measures the strength and direction of the linear relationship between two variables. A correlation coefficient (r) range from -1 to +1:• +1 indicates a perfect positive

correlation• -1 indicates a perfect negative correlation• 0 indicates no correlation.

A weak positive correlation suggests that as one variable increases, the other variable tends to increase, but the relationship is not strong. Interpretation of Weak Positive Correlation: In our analysis: If the Karl Pearson correlation coefficient test indicates a weak positive correlation between functional constipation and low back pain, it suggests that there is slight tendency for individuals with functional constipation to experience low back pain more frequently. However, the correlation is weak, indicating that other factors may also contribute to the occurrence of low back pain, and functional constipation alone may not be a strong predictor of low back pain. Understanding the potential correlation between functional constipation and low back pain can provide valuable insights for healthcare professionals in managing patients with these conditions. While a weak positive correlation suggests a possible association.

CONCLUSION

By this study we conclude there is a positive correlation, but further research is needed to elucidate the underlying mechanisms and identify potential therapeutic interventions to address both conditions effectively.

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