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Irritable Bowel Syndrome (IBS) and Its Relationship with Sleep Disturbances

Literature Review (2018–2025)

Introduction

Irritable Bowel Syndrome (IBS) is a functional gastrointestinal disorder characterized by recurrent abdominal pain, bloating, and altered bowel habits in the absence of structural abnormalities.

IBS is highly prevalent worldwide and represents a significant burden on healthcare systems.

In recent years, increasing attention has been given to the association between IBS and sleep disturbances, as many patients report poor sleep quality.

Sleep plays a critical role in pain modulation, immune regulation, and psychological well-being.

Therefore, disturbances in sleep may worsen gastrointestinal symptoms and negatively affect quality of life.

The main objective of this literature review is to examine recent scientific evidence on the prevalence of sleep disturbances among IBS patients, explore proposed mechanisms linking both conditions, and identify gaps in current research.

Search Strategy

A literature search was conducted using PubMed, Google Scholar, and Cochrane databases.

Keywords included “irritable bowel syndrome,” “IBS,” “sleep disturbance,” “sleep quality,” and “insomnia.”

The review focused on studies published between 2018 and 2025.

Inclusion criteria were human studies, clearly defined IBS diagnosis based on Rome criteria, and assessment of sleep outcomes.

Exclusion criteria included studies without primary data, non-English publications, and articles not addressing sleep disturbances.

Prevalence of Sleep Disturbances in IBS

Recent systematic reviews and meta-analyses indicate that sleep disturbances are highly prevalent among individuals with IBS.

A large meta-analysis including more than 60,000 participants reported that approximately 35–40% of IBS patients experience significant sleep problems.

Compared to healthy controls, IBS patients demonstrated a markedly higher risk of poor sleep quality.

Similarly, population-based studies have consistently shown higher rates of insomnia and non-restorative sleep among IBS populations.

These findings suggest that sleep disturbances represent a common and clinically relevant comorbidity in IBS.

Sleep Quality and IBS Symptom Severity

Several cross-sectional and observational studies have examined the relationship between sleep quality and IBS symptoms.

Poor sleep quality has been associated with increased abdominal pain, bowel discomfort, and fatigue.

Tools such as the Pittsburgh Sleep Quality Index (PSQI) have demonstrated that IBS patients report shorter sleep duration, frequent awakenings, and reduced sleep efficiency.

However, some studies rely on self-reported measures, which may introduce recall bias.

Despite this limitation, results consistently indicate that impaired sleep is linked to greater symptom severity and reduced quality of life in IBS patients.

Specific Sleep Disorders Associated with IBS

Beyond general sleep disturbances, specific sleep disorders have been investigated in IBS populations.

Insomnia is one of the most commonly reported conditions, characterized by difficulty initiating or maintaining sleep.

Additionally, studies suggest a possible association between IBS and obstructive sleep apnea, although evidence remains limited.

Differences in sleep disturbance patterns across IBS subtypes, such as IBS-C and IBS-D, have been suggested; however, findings remain inconsistent.

Nevertheless, these studies highlight the importance of screening for sleep disorders in IBS management.

Mechanisms Linking IBS and Sleep Disturbances

The relationship between IBS and sleep disturbances is believed to involve multiple mechanisms.

The gut–brain axis plays a central role in regulating gastrointestinal function and sleep processes.

Dysregulation of the hypothalamic–pituitary–adrenal (HPA) axis may contribute to both stress sensitivity and sleep disruption in IBS patients.

In addition, alterations in gut microbiota have been proposed to influence sleep through immune and neurochemical pathways.

Despite growing interest, most mechanistic studies remain observational and require further experimental validation.

Critical Analysis

Overall, findings across studies are largely consistent in demonstrating poorer sleep among IBS patients.

Strengths of the literature include large sample sizes and the use of validated diagnostic criteria.

However, several limitations persist.

Many studies rely on subjective sleep measures, while objective assessments such as polysomnography are rarely used.

Sample heterogeneity and lack of longitudinal designs limit causal interpretation.

Additionally, potential confounding factors, including anxiety and depression, are not always adequately controlled.

Gap in Literature

Despite substantial evidence of association, important gaps remain.

There is a lack of longitudinal studies examining the causal relationship between sleep disturbances and IBS progression.

Objective sleep assessments are underutilized, and IBS subtype-specific analyses are limited.

Furthermore, few intervention studies evaluate whether improving sleep quality can directly alleviate IBS symptoms.

Addressing these gaps is essential to inform evidence-based clinical interventions.

Conclusion

In conclusion, recent literature demonstrates a strong association between IBS and sleep disturbances.

Poor sleep quality is common among IBS patients and is associated with increased symptom severity and reduced quality of life.

While proposed mechanisms highlight the role of the gut–brain axis, further research using objective and longitudinal methods is needed.

Integrating sleep assessment into IBS management may improve patient outcomes and guide future therapeutic strategies.

References

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