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Review article

Gastroduodenal disorders of gut-brain interaction: Practical implications of Rome V in Latin America

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Abstract

Introduction: Rome V redefines aspects of the conceptual framework and classification of disorders of gut-brain interaction (DGBIs). In gastroduodenal disorders (GDDs), it introduces changes with important implications for clinical practice, including improved characterization of functional dyspepsia (FD), greater differentiation of its symptom-based subtypes, and updated definitions of other GDDs. The objective is to review the principal updates introduced by Rome V for GDDs, with particular emphasis on FD, and to discuss their clinical applicability in Latin America. **Results:** Rome V places greater emphasis on the subtypes of FD, specifically postprandial distress syndrome (PDS) and epigastric pain syndrome (EPS), and broadens the spectrum of PDS by including additional meal-related symptoms that were not previously considered part of its definition. These changes improve diagnostic characterization and support a symptom profile–guided therapeutic approach. Rome V reinforces the concept of positive diagnosis and the rational use of ancillary investigations, including upper gastrointestinal endoscopy; furthermore, it distinguishes *Helicobacter pylori*-associated dyspepsia from FD and updates the classification of other GDDs. **Conclusions:** Rome V consolidates a more precise and individualized clinical approach to GDDs. Its recommendations are consistent with the recent Latin American Consensus on FD and can be adapted to different healthcare settings through a more detailed clinical assessment of patients.

Keywords

Rome V, dyspepsia, postprandial distress syndrome, epigastric pain syndrome, gut-brain axis, *Helicobacter pylori*, Latin America.

INTRODUCTION

The publication of Rome V represents a new stage in the evolution of disorders of gut-brain interaction (DGBIs), previously referred to as *functional gastrointestinal disorders*. Rather than introducing an entirely new conceptual framework, Rome V refines previously established concepts and incorporates advances in the understanding of the pathophysiology, clinical characterization, and management of these disorders. These updates are particularly relevant to gastroduodenal disorders (GDDs), in which symptom generation results from complex interactions among gastrointestinal sensorimotor function, gut-brain signaling, immune activation, psychosocial factors, and the intestinal microbiota[1,2].

Over the past several decades, the approach to DGBIs has evolved from a diagnostic strategy based on exclusion toward a model centered on the recognition of characteristic symptom patterns, positive diagnosis, and individualized treatment. Within this framework, Rome V emphasizes the importance of symptom subtypes, promotes more judicious use of ancillary testing, and supports more individualized therapeutic selection[2,3].

Among gastroduodenal DGBIs, functional dyspepsia (FD) represents a particularly relevant example of how these concepts can be translated into clinical practice.

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Although FD continues to be used as an umbrella diagnosis, Rome V places greater emphasis on characterizing patients according to the predominant symptom subtype, particularly postprandial distress syndrome (PDS) and epigastric pain syndrome (EPS). This approach has important implications for diagnosis, symptom interpretation, and treatment selection[2].

The present article reviews the principal updates introduced by Rome V in GDDs, with particular emphasis on FD (**Table 1**), and examines their implications for clinical practice in Latin America.

POSITIVE DIAGNOSIS AND RATIONAL USE OF ANCILLARY TESTING

The diagnosis of gastroduodenal DGBIs should be based on an appropriate clinical assessment, recognition of characteristic symptom patterns, and selective use of ancillary testing. In this context, Rome V reinforces the concept that FD can be diagnosed in most patients through a positive clinical approach, without the need to exhaustively exclude every potential structural cause[2,3].

Upper gastrointestinal endoscopy remains an important diagnostic tool; however, under Rome V, its use is incorporated into a broader diagnostic approach that takes into account the clinical and epidemiologic context. Although endoscopy is useful for distinguishing uninvestigated dyspepsia from FD and for excluding clinically relevant organic disease, the diagnosis should not depend exclusively on demonstrating a normal endoscopic examination. In patients without alarm features or significant risk factors, Rome V proposes a more pragmatic approach in which recognition of symptom patterns and clinical assessment constitute the foundation of diagnosis[2].

The decision to perform endoscopy should always be interpreted within the epidemiologic context of the individual patient and the local population. This consideration is particularly relevant in Latin America, where regional

Table 1. Principal Rome V updates in gastroduodenal disorders and their clinical implications

Area evaluated	Rome IV	Rome V	Clinical implication
Terminology in FD	FD remained the primary diagnosis, with PDS and EPS considered subtypes.	Greater emphasis is placed on characterizing patients according to the PDS and EPS subtypes.	Promotes more precise clinical characterization and facilitates treatment selection.
Definition of PDS	PDS was defined primarily by postprandial fullness and early satiation.	Meal-related epigastric pain or burning, nausea, abdominal bloating, and belching may form part of the PDS spectrum when associated with its cardinal symptoms.	Improves pathophysiologic coherence and strengthens the relationship between symptom classification and treatment.
Relationship between PDS and EPS	Frequent overlap existed between the two subtypes.	Many patients previously classified as having overlap may now be interpreted as falling within the PDS spectrum.	Reduces diagnostic ambiguity and promotes a more practical therapeutic approach.
H. pylori-associated dyspepsia	Recognized as a concept.	The distinction between *H. pylori*-associated dyspepsia and FD is reinforced, with reassessment recommended at least 6 months after successful eradication.	Promotes more accurate classification before establishing a diagnosis of FD.
Role of upper gastrointestinal endoscopy	Often considered necessary to confirm FD.	Not routinely required in low-risk patients without alarm features.	Promotes a more pragmatic diagnostic approach based on the clinical context.
Physiologic testing	Primarily used in specialized centers.	Continues to provide mechanistic information but is not required in most cases.	Reinforces the feasibility of symptom-based diagnosis in routine practice.
Nausea and vomiting disorders	Recognition of CNVS, CVS, and CHS.	Greater diagnostic refinement and differentiation from FD and gastroparesis.	Improves diagnostic accuracy in patients with predominant nausea or vomiting.
Belching disorders	Recognition of gastric and supragastric belching.	Incorporation of inability to belch as a distinct disorder.	Facilitates recognition of a condition that is likely underdiagnosed.
Rumination syndrome	Independent diagnosis.	Continued emphasis on effortless regurgitation and rechewing or reswallowing of regurgitated material.	Facilitates differentiation from vomiting disorders and guides behavioral treatment.

FD: functional dyspepsia; EPS: epigastric pain syndrome; PDS: postprandial distress syndrome; CHS: cannabinoid hyperemesis syndrome; CNVS: chronic nausea and vomiting syndrome; CVS: cyclic vomiting syndrome. Table prepared by the author.

differences in the prevalence of *Helicobacter pylori,* gastric cancer risk, and the frequency of other organic diseases presenting with dyspeptic symptoms may justify a lower threshold for endoscopy than that used in some Western populations. Similarly, abdominal ultrasonography may be useful in selected patients when biliary disease or other structural conditions that could account for upper abdominal symptoms are suspected[4-6].

Advanced physiologic testing may provide valuable functional information in selected circumstances. Assessment of gastric accommodation and emptying, antroduodenal motility, and other aspects of gastroduodenal function may help elucidate the mechanisms underlying symptoms in patients with refractory presentations or diagnostic uncertainty. Nevertheless, these tests are not required to establish the diagnosis in most patients with FD and should be regarded as complementary tools rather than prerequisites for clinical decision-making[2].

This approach is particularly relevant in routine clinical practice, where access to specialized investigations varies considerably across countries and health care systems. By prioritizing recognition of symptom patterns and judicious use of diagnostic resources, Rome V provides a framework that can be adapted to different clinical settings without compromising diagnostic rigor[3].

CLINICAL RELEVANCE OF FUNCTIONAL DYSPEPSIA SUBTYPES

Rome V emphasizes the need to move beyond the umbrella diagnosis of FD and characterize patients according to their predominant symptom subtype. The Rome V committee recommends describing patients according to the PDS or EPS categories whenever possible, recognizing that these subtypes differ not only in their clinical presentation but also in their predominant pathophysiologic mechanisms and therapeutic approach[2,4].

Epidemiologic studies report that PDS is the predominant subtype, accounting for 60% to 67% of cases, whereas EPS accounts for 15% to 28%. This distribution is clinically relevant because much of the evidence regarding treatment focuses on treatment response in patients with FD without specifying the subtype or predominant symptom[5,6].

Among the principal updates introduced by Rome V, the reinterpretation of the relationship between PDS and EPS represents one of the most relevant changes. Traditionally, PDS was defined by the presence of postprandial fullness and early satiation, whereas EPS was characterized by epigastric pain or burning. Although this distinction was conceptually useful, many patients in clinical practice presented with symptoms belonging to both categories[2]. Rome V adopts a broader view of PDS. In addition to postprandial fullness and early satiation, meal-related epigastric pain, epigastric burning, nausea, abdominal bloating, and belching may form part of the PDS symptom spectrum when they occur in association with its cardinal postprandial symptoms. This reinterpretation suggests that these manifestations may share common pathophysiologic mechanisms, including impaired gastric accommodation and delayed gastric emptying, abnormal postprandial sensory responses, and alterations in gut-brain signaling[2].

Although Rome V allows many patients previously considered to have PDS/EPS overlap to be reclassified within the PDS spectrum, this does not imply that the two subtypes are invariably mutually exclusive. When epigastric pain or burning is clearly meal-related and occurs in association with postprandial fullness or early satiation, it should be interpreted as part of PDS[2,4].

From a practical perspective, the current emphasis on PDS and EPS in Rome V encourages clinicians to move beyond the diagnosis of FD as a single entity and identify the predominant symptom subtype. This distinction provides a more useful framework for treatment selection and for interpreting therapeutic response[2].

INDIVIDUALIZED TREATMENT ACCORDING TO SYMPTOM PROFILE

The emphasis placed by Rome V on subtype-based differentiation has direct therapeutic implications. Subtypes reflect differences in clinical presentation and, likely, in the underlying mechanisms; therefore, treatment selection should be guided by the predominant symptom profile[2,4].

In patients with EPS, acid suppression remains a reasonable first-line therapeutic strategy, particularly in the presence of epigastric burning and concomitant reflux symptoms; however, the overall efficacy of proton pump inhibitors in patients with FD who are not stratified by subtype is modest. This observation may be explained, at least in part, by the predominance of PDS in epidemiologic and clinical studies, in which postprandial motor disturbances appear to play a more important role than acid-related mechanisms[7,8].

In patients with predominantly pain-related symptoms that persist despite initial treatment, central neuromodulators may be beneficial for improving visceral pain. Tricyclic antidepressants have the most consistent evidence in this setting and are generally considered first-line central neuromodulators for patients with EPS. By contrast, selective serotonin reuptake inhibitors have not demonstrated efficacy, which may be explained by their lack of an effect on circulating norepinephrine concentrations associated with pain attenuation[9-11].

The broader conceptualization of PDS in Rome V has even greater therapeutic implications. By incorporating

into the PDS spectrum patients previously considered to have overlap between subtypes, therapies targeting impaired gastric accommodation, delayed gastric emptying, and abnormal postprandial responses assume increasing importance[2].

In this context, prokinetic agents continue to play an important role in the treatment of patients with PDS, particularly when postprandial fullness, early satiation, or suspected gastroduodenal motor dysfunction predominates. Available agents include domperidone, metoclopramide, cinitapride, itopride, acotiamide, levosulpiride, and, more recently, prucalopride[11-13]. Several recent network meta-analyses suggest that a number of these agents may improve dyspeptic symptoms, supporting the relevance of gastroduodenal motor disturbances in the pathophysiology of a subset of patients with postprandial symptoms[11-13].

From a practical standpoint, the choice of prokinetic agent should take into consideration both efficacy and safety profile, as well as local availability. Metoclopramide may be effective, but its long-term use is generally limited by the risk of extrapyramidal adverse effects; therefore, when alternatives are available, other prokinetic agents are generally preferred for longer treatment courses[11].

Among these alternatives, itopride exerts its effects through D2 dopamine receptor antagonism and acetylcholinesterase inhibition, thereby enhancing acetylcholine availability in the gastrointestinal tract; its safety profile and available clinical evidence support its use as a therapeutic option in patients with PDS[11,14]. Acotiamide warrants particular consideration because of its effects on mechanisms closely associated with PDS, including impaired gastric accommodation and postprandial motor dysfunction[11,15]. Levosulpiride, in turn, has demonstrated efficacy in comparative studies and is of particular interest because its benefits may result from both peripheral prokinetic effects and central dopaminergic modulation, underscoring that the distinction between central and peripheral neuromodulation is not always absolute[9,11,12].

In the case of prucalopride, the available evidence is derived primarily from studies in gastroparesis. Although meta-analyses suggest benefits in terms of gastric emptying and associated symptoms, its role in FD and PDS should be interpreted cautiously, as a potential option for selected patients rather than as an intervention equivalent to prokinetic agents with more direct evidence in FD[11,16].

Some therapies occupy an intermediate position between traditional prokinetic agents and central neuromodulators. Buspirone and tandospirone may improve symptoms through both peripheral and central effects. Through their action on 5-HT1A receptors, these agents may enhance gastric accommodation while simultaneously modulating gut-brain signaling pathways; these properties make them attractive options for patients with early satiation and postprandial fullness, although the evidence remains inconclusive[11,17,18].

Mirtazapine is a central neuromodulator of the tetracyclic class, and its clinical utility extends beyond visceral pain modulation, as it may be beneficial in patients with early satiation, nausea, reduced appetite, low body weight, or unintentional weight loss. Several studies have demonstrated improvements in symptom severity, nutritional intake, and body weight, making it a particularly valuable option for patients with PDS and nutritional compromise[11,19-21].

Rather than promoting a rigid algorithm, Rome V supports individualized treatment selection according to the predominant symptom profile and the clinical characteristics of each patient. This approach is consistent with the shift toward increasingly personalized medicine that characterizes the current management of DGBIs[2,4].

HELICOBACTER PYLORI-ASSOCIATED DYSPEPSIA

Rome V also incorporates the concept of *Helicobacter pylori*-associated dyspepsia. Although a proportion of patients with dyspeptic symptoms have *H. pylori* infection, Rome V emphasizes that the mere presence of the bacterium should not automatically lead to a diagnosis of FD. Instead, patients with dyspeptic symptoms and documented infection should receive eradication therapy and subsequently undergo reassessment[2,22]. Sustained symptom resolution for at least 6 months after successful eradication supports a diagnosis of *H. pylori*-associated dyspepsia; conversely, persistence of symptoms despite successful eradication suggests a diagnosis of FD[2].

From a clinical perspective, the symptomatic benefit of eradication is modest. Several meta-analyses have reported numbers needed to treat of approximately 15, suggesting that only a limited proportion of patients will experience clinically significant symptomatic improvement attributable to eradication therapy. Nevertheless, eradication therapy remains indicated because its benefits in preventing peptic ulcer disease and reducing gastric cancer risk extend beyond symptom control[22-24].

The mechanisms underlying symptomatic improvement after eradication are not fully understood and may extend beyond elimination of *H. pylori.* Potential factors include acid suppression and alterations in the duodenal microbiota secondary to the antibiotic therapy used in eradication regimens; this may explain why symptomatic improvement and bacterial eradication do not always correlate[8].

These considerations are particularly relevant in Latin America, where the prevalence of *H. pylori* remains higher than that reported in Western regions. In this setting, Rome V provides a useful conceptual framework for recognizing

the clinical importance of the infection while maintaining an appreciation of the multifactorial nature of FD[4,6].

OTHER GASTRODUODENAL DISORDERS

Although FD remains the most common disorder, Rome V also introduces modifications to the classification of other GDDs. Collectively, these modifications seek to improve clinical characterization and facilitate recognition of conditions that may require substantially different diagnostic and therapeutic approaches[2].

Rome V maintains chronic nausea and vomiting syndrome, cyclic vomiting syndrome, and cannabinoid hyperemesis syndrome as independent diagnostic entities. Although postprandial nausea may fall within the PDS spectrum, predominant nausea or persistent vomiting should prompt consideration of these disorders or gastroparesis rather than FD. This distinction underscores the importance of accurate symptom characterization in avoiding diagnostic errors[2].

Belching disorders continue to be classified into excessive gastric and supragastric belching. One of the more novel additions to Rome V is the inclusion of inability to belch as a distinct clinical entity. Although this disorder is likely still underdiagnosed in routine clinical practice, its recognition reflects the understanding that certain symptom patterns correspond to specific clinical syndromes rather than simply representing nonspecific manifestations of other DGBIs[2,25].

Rome V also maintains rumination syndrome as an independent entity. Unlike vomiting disorders, rumination is characterized by repetitive, effortless regurgitation of recently ingested gastric contents into the mouth, in the absence of nausea, retching, or forceful abdominal contractions. A particularly useful clinical feature is that patients may reswallow the regurgitated material, a behavior that is not typically observed in vomiting disorders. Recognition of this clinical pattern is important because treatment is based on behavioral interventions, such as diaphragmatic breathing techniques, rather than pharmacologic therapies[2,26].

Taken together, these modifications reflect a broader trend in Rome V toward more precise clinical characterization and greater recognition of clinically distinct syndromes that may require specific diagnostic and therapeutic strategies[2].

IMPLEMENTATION OF ROME V IN LATIN AMERICA

The practical value of Rome V in Latin America lies in providing a more precise, flexible, and applicable clinical framework for the management of GDDs. Rather than introducing entirely new concepts, Rome V refines previously established approaches and integrates them into a framework that is more useful in clinical practice. In particular, recognition of symptom patterns strengthens the positive diagnostic approach, promotes more judicious use of ancillary testing, and guides treatment selection according to the predominant clinical profile. This approach is particularly relevant in a region characterized by heterogeneous health care systems[3,4].

The application of Rome V criteria should always be interpreted in light of the epidemiologic context of both the individual patient and the local population. In Latin America, regional differences in the prevalence of *H. pylori*, gastric cancer risk, and the frequency of other organic diseases presenting with dyspeptic symptoms may influence the diagnostic strategy and, in certain settings, justify a lower threshold for upper gastrointestinal endoscopy. Similarly, ancillary investigations such as abdominal ultrasonography may be useful in selected patients when clinical findings suggest biliary disease or other alternative structural causes[4].

A particularly relevant consideration for the region is that Rome V does not require sophisticated physiologic testing to establish the diagnosis in most patients with GDDs. Careful clinical assessment, recognition of symptom patterns, and selective use of ancillary testing remain the cornerstone of the diagnostic approach. This feature enhances the feasibility of implementing Rome V in Latin America, where the availability of specialized testing and certain therapeutic options may vary considerably both across countries and among health care systems[2,4].

Accordingly, implementation of Rome V in Latin America should be understood as a process of adaptation to the regional context. Its greatest utility lies in maintaining diagnostic precision while tailoring clinical decisions to the epidemiologic context, available resources, and local recommendations. In this manner, Rome V provides a flexible framework that can be adapted to diverse health care settings without compromising diagnostic or therapeutic consistency[3,4].

CONCLUSIONS

Rome V represents a significant advance in the conceptual and clinical evolution of gastroduodenal disorders of gut-brain interaction. Rather than radically altering clinical practice, it consolidates an approach based on positive diagnosis, clinical characterization of patients, and individualized treatment selection[1-3].

In FD, the principal updates include the greater emphasis placed on PDS and EPS, as well as the expansion of the PDS spectrum to encompass meal-related symptoms that were previously considered outside its core definition. These changes promote more precise clinical characterization

and facilitate a more rational and individualized therapeutic approach[2].

Rome V also reinforces the distinction between *H. pylori*-associated dyspepsia and FD, promotes more judicious use of ancillary testing, and updates the classification of other GDDs. Collectively, these modifications contribute to greater diagnostic precision and improved selection of therapeutic strategies[2].

In Latin America, these concepts are consistent with the recommendations of the Latin American Consensus on FD and are particularly valuable because of their ability to accommodate diverse epidemiologic and health care settings. Implementation of Rome V should take into account the regional risks associated with *H. pylori* infection, gastric cancer, and other organic diseases, as well as the availability of diagnostic and therapeutic resources[2,4].

Overall, Rome V provides a more precise, flexible, and applicable clinical framework for the evaluation and management of gastroduodenal disorders of gut-brain interaction. Its principal contribution to clinical practice in Latin America lies in facilitating more individualized care tailored to the epidemiologic context and available resources, while maintaining diagnostic and therapeutic consistency[2,4].

Conflicts of interest

The author declares no conflicts of interest related to this manuscript.

Use of artificial intelligence

During the preparation of this manuscript, the author used ChatGPT to improve clarity, grammar, and writing style. The tool was not used to generate scientific content, interpret results, or formulate conclusions. All intellectual content is the author's own, and the author reviewed and edited the manuscript in its entirety and assumes full responsibility for its content.

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