



GEORGETOWN UNIVERSITY
School of Nursing & Health Studies
Department of Nursing

Nurse Practitioners' Knowledge, Attitudes, and Perceptions Regarding Irritable Bowel Syndrome and Treatment

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Introduction

- Irritable bowel syndrome (IBS) is a chronic functional gastrointestinal (GI) disorder with no organic pathophysiology that often presents with abdominal pain and altered bowel patterns.
- IBS has a diagnosis rate of 10-15%, which equates to 2.4-3.5 million annual provider clinic visits in the United States (US).
- IBS-related symptoms are the second most common reason for primary care visits after respiratory tract infections in the primary care setting.
- It is the most common disorder diagnosed by gastroenterologists and accounts for 12% of annual primary care visits.
- Costs for outpatient visits, drugs, and diagnostic testing are reported to be 51% higher for IBS patients than for other functional GI diagnoses.
- The Rome Foundation generated diagnostic criteria for GI disorders, which have been validated by global expert consensus.
- Many primary care providers are unfamiliar with Rome criteria and thus diagnose by exclusion.
- Diagnosis by exclusion poses significant concerns for both primary care providers and patients.

Methods

Purpose: To identify primary care NPs' knowledge level regarding IBS and to provide insight of NP based bias in IBS patient care.

Aims: 1) knowledge level of primary care NPs regarding Irritable Bowel Syndrome (IBS) pathophysiology, appropriate diagnosis, and evidence based treatment; 2) primary care NPs' perceptions and attitudes regarding caring for adult IBS patients; and 3) correlations between primary care NP's knowledge level, perceptions, and attitudes and socio-demographics variables of research interest including age, gender, years in practice as a primary NP, and education level.

Design: A descriptive, cross sectional, survey design

Sample: Inclusion Criteria: a) ≥ 18 years of age; b) nurse practitioners (NPs) who provide care to patients with IBS in the primary care or acute care setting; c) NPs who are licensed and board certified; d) NPs who are active members of the Florida Association of Nurse Practitioners; e) NPs who have computer access to use SurveyMonkey®; and f) NPs with an active email address. Exclusion criteria were: a) primary care physicians; b) gastroenterologists; and c) GI NPs. These providers were excluded due to: a) physician focus; and b) gastroenterology providers use Rome criteria and diets routinely.

Setting: An electronic survey administered through Survey Monkey

Methods: GU IRB approval was obtained before data collection. DNP scholar established partnership with FLANP.

Permission was obtained from FLANP Board of Directors to administer the 2-week survey to its members

Data Instrument: The investigator-created, 39-item, 4-part survey was used to assess socio-demographic data, knowledge level, attitudes, and perceptions of NPs providing primary care for patients with IBS. The survey tool used a six-point Likert type scale, multiple choice options, and 2 open-ended questions.

Procedures: FLANP point of contact distributed invitation letter with embedded link to survey via Survey Monkey. Invitation letter included study rationale, eligibility criteria, study procedures, time to complete the survey, potential risks and benefits, explanation that participants may withdraw from study at any time, how the participants' confidentiality would be protected and how data would be maintained confidentially. DNP scholar's contact information, and to whom to ask questions about the study. Completing and submitting the survey denoted informed consent. The 2-week survey was administered through the Florida Association of Nurse Practitioners (FLANP) to all eligible FLANP members.

Statistical Analysis: Statistical analysis included descriptive statistics, one-way ANOVA, and independent samples t test. SPSS (version 24, 2016) computer program was utilized for data analysis.

Table 1. Characteristics of the Sample (N=64)

	N	%
Age		
26-35	2	3.1
36-45	15	23.4
46-55	14	21.9
56-65	26	40.6
Over 65	7	10.9
Gender		
Male	2	3.1
Female	60	93.8
Missing	2	3.1
Race		
American Indian/Alaska Native	1	1.6
African American	3	4.7
Caucasian	57	89.1
Missing	1	1.6
Ethnicity		
Hispanic or Latino	4	6.3
Not Hispanic or Latino	56	87.5
Other Ethnicity	3	4.7
Missing	1	1.6
Year Experience		
Less than 1 year	7	10.9
1-5 years	18	28.1
6-10 years	10	15.6
11-15 years	8	12.5
16-20 years	7	10.9
21-25 years	7	10.9
26-30 years	5	7.8
More than 30 years	2	3.1
Nursing Education Level		
BS or Student	2	3.1
MS/MSN	48	75.0
DNP	10	15.6
EdD and MSN and certification	2	3.1
EdD	1	1.6
GNP	1	1.6
Nurse Practitioner Specialty		
Acute Care	2	3.1
Adult Geriatric	11	17.2
Family Practice	34	53.1
Pediatric Practice	1	1.6
Women's Health	2	3.1
Other	14	21.9

Results

Table 2. Means and Standard Deviations for Items in Knowledge Scale (N=58)

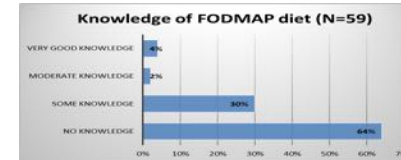
	Mean	SD
1. How would you rank your general knowledge of irritable bowel syndrome (IBS)?	3.14	923
2. How would you rank your general knowledge of Functional Gastrointestinal Disorders (FGID)?	2.55	989
3. How would you rank your knowledge of pathophysiology of irritable bowel syndrome (IBS)?	2.86	1.069
4. What experience level do you have caring for patients with irritable bowel syndrome (IBS)?	2.63	1.273
5. What is your knowledge level of the use of the ROME III or IV diagnostic criteria to diagnose irritable bowel syndrome (IBS)?	1.77	1.079
6. What is your knowledge level of evidence based practice recommendations supporting the ROME III or IV diagnostic criteria?	1.71	1.057
7. What is your general knowledge level regarding the use of nutrition to manage irritable bowel syndrome (IBS)?	2.61	1.201
8. What is your knowledge level regarding the use of medical nutrition therapy (MNT) to manage irritable bowel syndrome (IBS) related symptoms? (Key: SD=standard deviation)	2.23	1.144

Table 3. Use of Diets to Manage IBS (N = 58)

	N	%
FODMAP ¹	14	23.7
NICE guidelines ²	6	10.2
Gluten free diet	23	39.0
High fiber diet	28	47.5
Low fiber diet	7	11.9
Elimination diet	33	55.9
Low fat diet	10	16.9

1. FODMAP = fermentable short chain carbohydrates (fermentable oligo-, di-, monosaccharides, and polyols)

2. NICE Guidelines = National Institute for Health and Care Excellence Clinical Guidelines (NICE) (2016)



Discussion

Sample Characteristics:

This pilot study using a random sample of 64 primary care NPs from eligible membership of the FLANP was primarily female, middle-aged, Caucasian, Non-Hispanic or Latino, with 55 years of NP experience, and primarily MS/MSN (75%) nursing education level (Table 1).

Knowledge:

The participant demonstrated a knowledge deficit regarding pathophysiology, appropriate diagnosis, and evidence based treatment (M=2.44; SD=0.869). The knowledge deficit among the study participants extended to familiarity and use of the FODMAP diet and pharmacologic therapies for IBS. Antispasmodic agents provide only short-term benefits and have a higher incidence of adverse effects. Bulking agents may exacerbate symptoms and provide little relief as noted in the literature.

Attitude:

Attitude deficits were not noted within the scaled attitude questions (M= 4.02; SD = 0.59). Potential barriers were noted with regard to use of diagnostic testing as colonoscopies and laboratories studies were commonly ordered. Use of these diagnostics increases potential adverse risk and out of pocket cost to the patient.

Perception:

Perception based biases were not noted within the scaled perception questions (M= 4.41; SD= 0.58). This section assessed the participants thoughts on IBS as a chronic disease, if IBS symptoms are severe, if health related quality of life is affected in IBS patients, if patients understand their diagnosis and care plan, and if they play a role in their management.

Sociodemographic Variables of Interest:

There was a lack of statistical correlation between knowledge, attitudes, and perception and sociodemographic variables of research interest.

Content Data Analysis:

Of the respondents for the open-ended questions assessing need for education and what modality would be best, 98% felt they would benefit from IBS targeted education and that on-line educational presentations would be best.

Knowledge

- Antispasmodics (76.3%): Most commonly prescribed medications by participants for IBS management.
- Bulking agents (49.2%): Second most frequently prescribed by participants.

Attitudes

- Colonoscopy (63.8%) and Laboratory studies (58.6%) were endorsed as diagnostic measures by study participants

Table 4. Diagnostic Tests that Should be Used for IBS (N = 58)

	n	%
Laboratory studies	34	58.6
Radiographic imaging	10	17.2
Esophagogastroduodenoscopy	17	29.3
Capsule endoscopy	8	13.8
Colonoscopy	37	63.8
None of above	8	13.8

Perceptions

- Perception section 9 item mean was 4.41 (SD =.58).

Table 5. Relationships Among Participants Knowledge, Attitudes, and Perceptions and Sociodemographic Variables

Knowledge by years of NP experience *P<.05, 1.84, p < .05	Knowledge by nursing education level *P<.05, 10.0, p < .05	Knowledge by age *P<.05, 5.8, 1.84, p < .05
Attitude by years of NP experience *P<.05, 1.84, p < .05	Attitude by nursing education level *P<.05, 10.0, p < .05	Attitude by age *P<.05, 5.8, 1.84, p < .05
Perception by years of experience *P<.05, 1.84, p < .05	Perception by nursing education level *P<.05, 1.84, p < .05	Perception by age *P<.05, 5.8, 1.84, p < .05

Conclusions

This study addressed a gap in the literature regarding primary care NP knowledge level of IBS pathophysiology, appropriate IBS diagnosis, and evidence based treatment for IBS and related symptoms.

The identified knowledge deficit regarding appropriate care of the patient with IBS reported by this primary care NP sample is an important finding. This knowledge deficit may be related to increased primary care patient visits and related increased health care costs, performance of unnecessary medical procedures, and increased GI specialty referrals. Further research is warranted to examine these potential outcomes.

Study results regarding no significant relationship seen between NP years of experience and their knowledge of IBS pathophysiology, appropriate diagnosis, and evidence-based management was interesting considering the reported high frequency in the US of annual primary care visits for IBS.

Study results regarding participants' non adherence to international evidence based clinical practice guidelines for IBS is a key finding.

Study participants (98%) recognized their need for further education regarding IBS pathophysiology, appropriate diagnosis, and evidence based treatment and management. Thus, future research is warranted to test a targeted educational intervention to improve primary care NP knowledge level regarding appropriate clinical care of the patient with IBS.

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