

1 **DOI: <https://doi.org/10.47391/JPMA.337>**

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3 **Peppermint oil: A herbal solution for Irritable Bowel Syndrome**

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5 **Moiz Ullah Khan, Haris Jawaid, Mustafa Ali**

6 3rd Year MBBS Student, Dow Medical College, Karachi, Pakistan

7 **Correspondence:** Haris Jawaid **Email:** haris.jawaid1999@gmail.com

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9 Madam,

10 Irritable bowel syndrome (IBS) is a common gastrointestinal(GI) disorder, with
11 a prevalence of approximately 11% worldwide and 13.3% in Pakistan.¹⁻²

12 Symptoms of this disease are usually nonspecific, including bloating, abdominal
13 discomfort with defecation, and change in bowel habits, resulting in most patients
14 going without seeking treatment.² Those who sought treatment did so due to a
15 decreased quality of life (QoL) and higher anxiety, rather than increased severity
16 of symptoms.²

17 Although the disease mortality is extremely low, studies have reported a strong
18 association between depression (prevalence=38-100%) and decreased QoL in
19 IBS patients.³ Moreover, IBS predisposes patients to a host of psychological
20 disorders in addition to depression, which significantly impede treatment and
21 lower QoL. As the disease pathophysiology remains largely unclear, treatment is
22 focused mainly towards symptomatic relief and management.³ In addition to the
23 available allopathic remedies, peppermint oil (PO) has emerged as a popular
24 herbal alternative in recent years, and its efficacy and safety have been
25 investigated by multiple studies.

26 A meta-analysis by Hawrelak et al. showed that PO was a significant
27 improvement over placebo in alleviating abdominal pain (RR= 2.154, CI=1.56-
28 2.94) and global symptoms of IBS (RR = 1.95, CI=1.46-2.62).⁴ PO is generally a

29 safe treatment with few adverse effects; namely heartburn and perianal burning.
30 Compared to other treatments such as tricyclic antidepressants and alosetron, it
31 has a significantly higher benefit-to-harm ratio (25:1) second only to Rifaximin,
32 and a small therapeutic dose (0.2mlx3-6 times/day).⁴

33 L-menthol, the primary active ingredient in PO, acts primarily as a calcium-
34 channel antagonist in smooth muscles.⁵ Additionally, other compounds in PO,
35 including menthone, menthyl acetate, isomenthone, etc contributed
36 independently to its therapeutic effect via numerous mechanisms of action
37 (MoA). These MoAs included but were not limited to antinociception via
38 transient-receptor potential channels, GI histaminergic and cholinergic receptor
39 modulation, serotonergic antagonism, and antiinflammatory effects.⁵

40 In countries like Pakistan where herbal medicines are often more popular than
41 their allopathic counterparts, POs fit right in as an effective, alternative treatment
42 that is scientifically proven. It can potentially serve as a valuable asset for IBS
43 treatment in areas where access to medicine is limited, or where cost becomes an
44 issue. These factors in association with its proven efficacy and lack of side effects
45 merit its prescription by physicians as an alternative remedy for the treatment of
46 IBS.

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48 **Disclaimer:** None to Declare

49 **Conflict of Interest:** None to Declare

50 **Funding Sources:** None to Declare

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Provisionally Accepted for Publication