In IBS what is the effectiveness of fibre, antispamasmodics and peppermint oil?

Effect of fibre, antispasmodics, and peppermint oil in the treatment of irritable bowel syndrome

Dr. Ahmedul Kabir

IRRITABLE BOWEL SYNDROME

Definition

IBS is a functional bowel disorder in which Abdominal **pain or discomfort is associated With Defecation or a change in bowel habit, and with features of disordered defecation.**

GEORGE F. LONGSTRETH, et al, University Hospital, Nottingham, United Kingdom.*

Epidemiology and Introduction

-Throughout the world, about 10%–20%
- Female predominance.
- IBS symptoms come and go over time,
- often overlap with other functional disorders,
- Impair quality of life,
- result in high health care costs.

Continue… . .

-No known structural or anatomical explanation accounts

-The exact cause remains unknown,

-Altered gastrointestinal motility may contribute to the change in bowel habit

-combination of smooth muscle spasm, visceral hypersensitivity, and abnormalities of central pain processing may explain the abdominal pain

Continue… . .

-Diagnosis should be made on clinical grounds alone,

-No need for invasive investigations, unless alarm symptoms such as rectal bleeding or weight loss are present.

Continue… . .

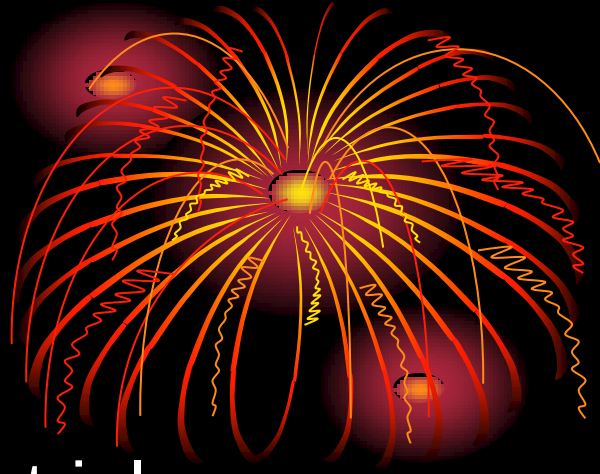
-General practitioners need efficacious treatments that do not require monitoring and are cheap, safe, and readily available.

-Newer and more expensive drugs have either failed to show efficacy or been withdrawn from the market owing to concerns about serious adverse events.

Continue… . .

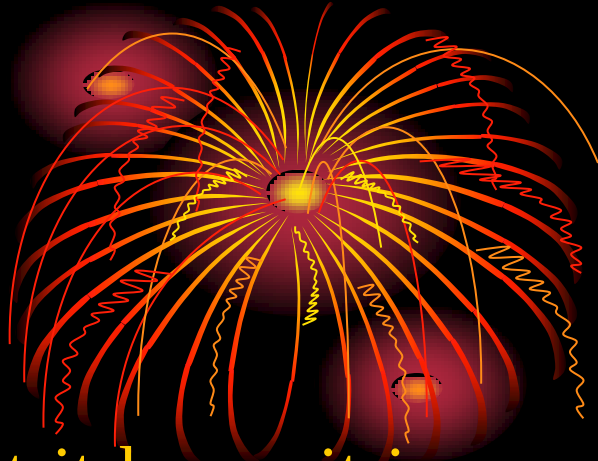
- When this failed, various types of smooth muscle relaxants and antispasmodics were used in an attempt to ameliorate symptoms,

-More recently, peppermint oil has been used as antispasmodic,



- Results of randomized controlled trials are conflicting,

- Systematic reviews have also come to different conclusions about the efficacy of the three treatments in irritable bowel syndrome.



- There is no single approach to treat it hence it is treated with variety of drugs and others therapies without notable enduring success.
- High fibre diet frequently used in treating IBS. Studies suggest that dietary fibre has multiple effect on colonic physiology. The water holding action of fibre contribute to increase stool bulk because of the ability of fibre to increase fecal output of bectaria.

- Fibre also speeds up colonic transit in most persons and improvement in constipation. However most studies observe no response in patient with diarrhoea or pain predominant IBS.

- Clinician have observed that anticholenergic drugs may prove temporary relief for symptoms such as painful cramps related to intestinal spasm.

C1. Diagnostic Criteria* for Irritable Bowel Syndrome

Recurrent abdominal pain or discomfort** at least 3 days per month in the last 3 months associated with *2 or more* of the following:

1. Improvement with defecation
2. Onset associated with a change in frequency of stool
3. Onset associated with a change in form (appearance) of stool

**Criteria fulfilled for the last 3 months with symptom onset at least 6 months prior to diagnosis.*

**Discomfort means an uncomfortable sensation not described as pain. In pathophysiology research and clinical trials, a pain/discomfort frequency of at least 2 days a week during screening evaluation for subject eligibility.

Table 2. Subtyping IBS by Predominant Stool Pattern

1. IBS with constipation (IBS-C)—hard or lumpy stools[a] ≥25% and loose (mushy) or watery stools[b] <25% of bowel movements.[c]
2. IBS with diarrhea (IBS-D)—loose (mushy) or watery stools[b] ≥25% and hard or lumpy stool[a] <25% of bowel movements.[c]
3. Mixed IBS (IBS-M)—hard or lumpy stools[a] ≥25% and loose (mushy) or watery stools[b] ≥25% of bowel movements.[c]
4. Unsubtyped IBS—insufficient abnormality of stool consistency to meet criteria for IBS-C, D, or M.[c]

Effect of fibre, antispasmodics, and peppermint oil in the treatment of irritable bowel syndrome: systematic review and meta-analysis

Source : Alexander C Ford,
Professor of gastroenterology

Method

- This is based on searching the medical literature using Medline (1950 to April 2008), Embase (1980 to April 2008), and the Cochrane controlled trials register (2007).

- It considered randomised controlled trials of adults with a diagnosis of irritable bowel syndrome.

- The studies had to compare fibre, antispasmodics, and peppermint oil with placebo or no treatment.

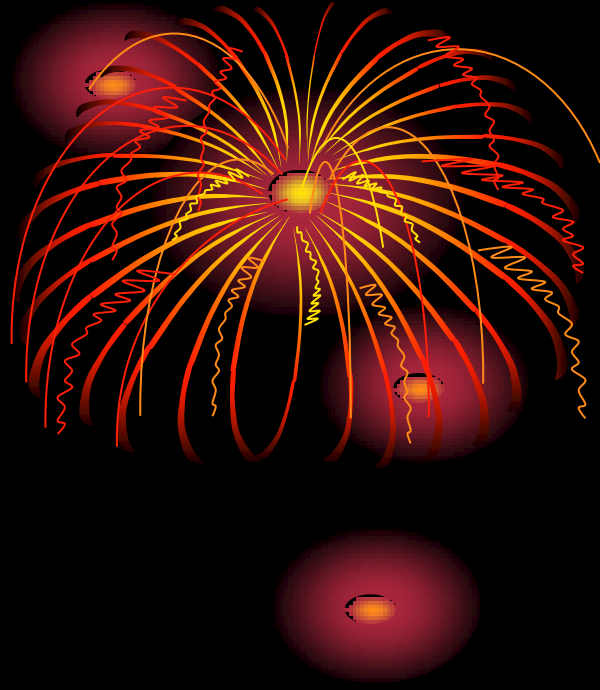
Outcome assessment

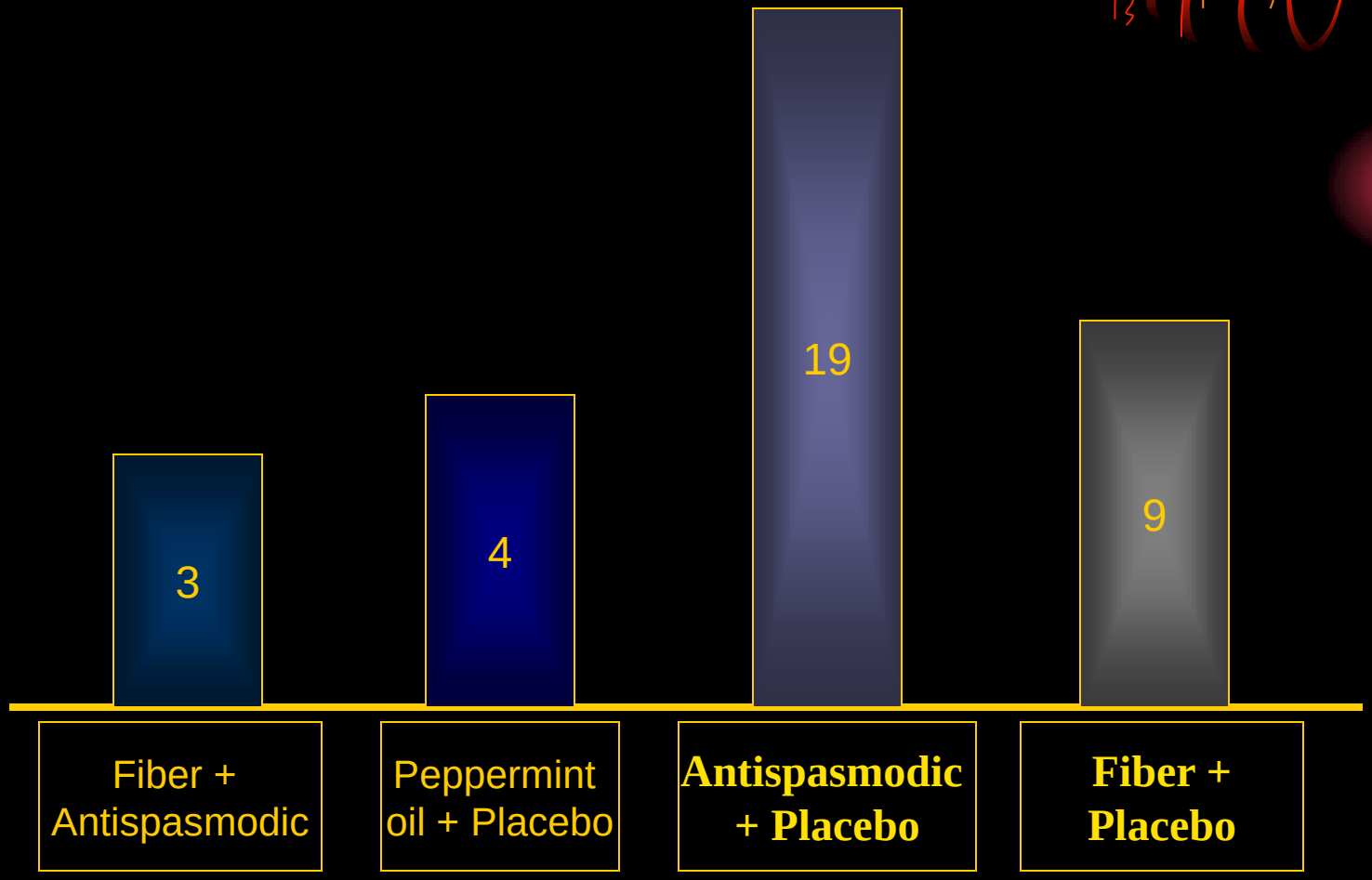
- The primary outcomes assessed were the efficacy of fibre, antispasmodics, and peppermint oil compared with placebo or no treatment.

- Secondary outcomes included efficacy according to specific type of fibre or antispasmodic, and adverse events as a result of treatment.

Results

- The search strategy generated 615 citations,
- 101 were potentially relevant and retrieved for assessment .
- 66 were excluded for various reasons,
- leaving 35 eligible randomised controlled trials;
- 9 compared fibre with placebo or no treatment
- 19 compared antispasmodics with placebo
- 4 compared peppermint oil with placebo,
- 3 compared both fibre and antispasmodics with placebo.

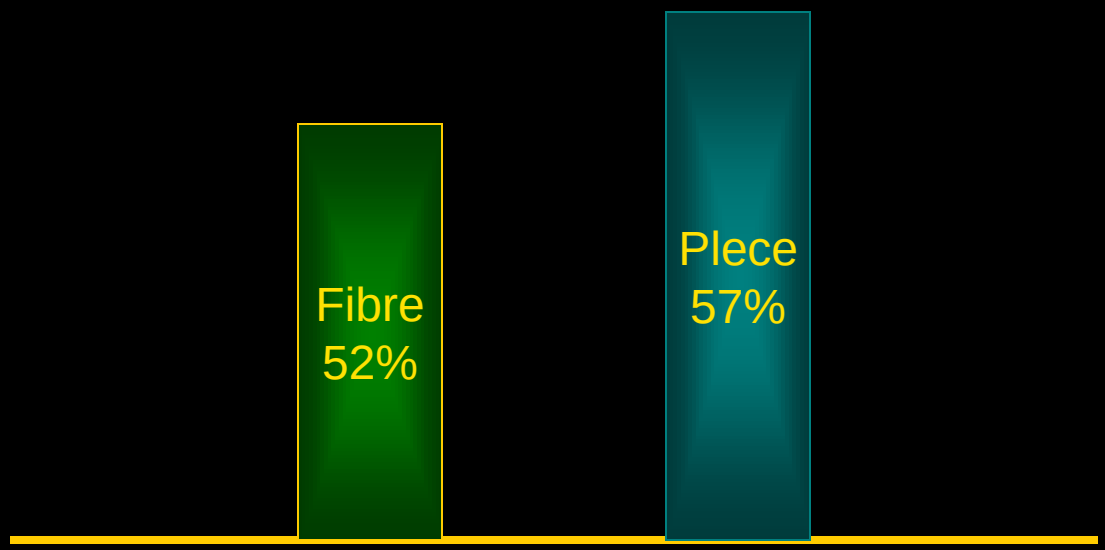



3
4
19
9
Fiber + Antispasmodic
Peppermint oil + Placebo
Antispasmodic + Placebo
Fiber + Placebo

Fibre

- 12 trials compared fibre with placebo
- proportion of women in the trials ranged between 20% and 90%.
- Overall, 155 of 300 (52%) patients assigned to fibre had persistent or unimproved symptoms after treatment compared with 168 of 291 (57%) allocated to placebo

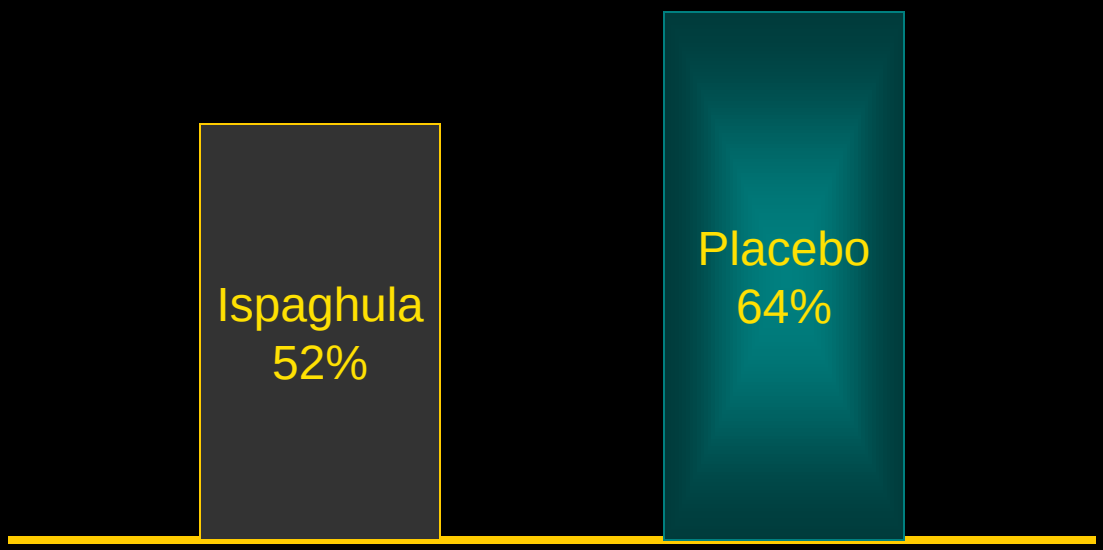
Persistent symptoms %



Ispaghula

Six studies randomised 321 patients to ispaghula or placebo. Eighty three of 161 (52%) patients allocated to ispaghula had persistent symptoms after treatment compared with 103 of 160 (64%) receiving placebo.

Persistent symptoms %



Adverse events

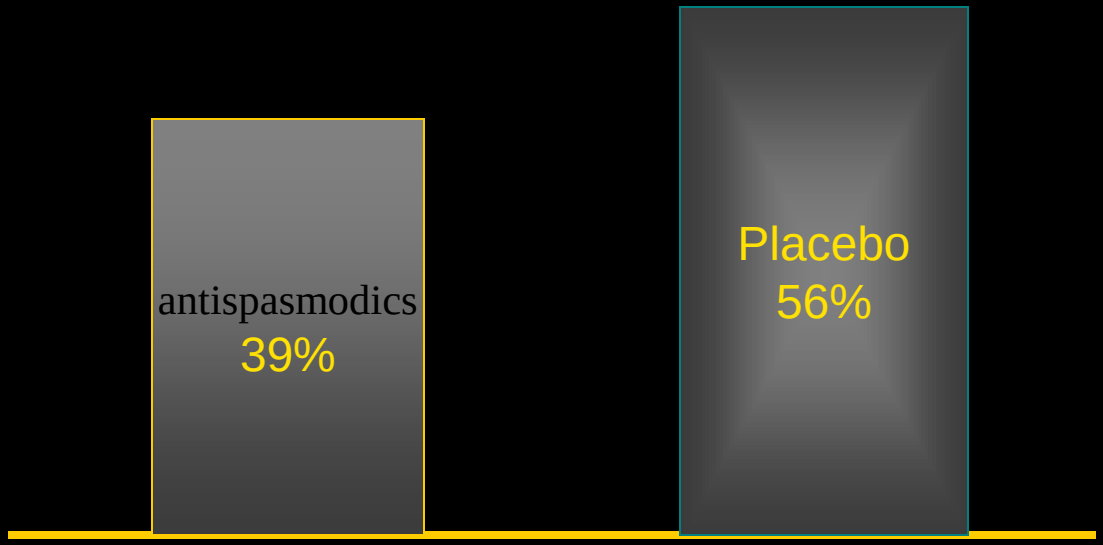
- Number of adverse events was small the data were not pooled.

Antispasmodics

- Twenty two studies compared 12 different antispasmodics with placebo in 1778 patients.The proportion of women in each trial ranged from 39% to 83%.

- Total, 350 of 905 (39%) patients assigned to antispasmodics had persistent symptoms after treatment compared with 485 of 873 (56%) allocated to placebo

Persistent symptoms %



Adverse events

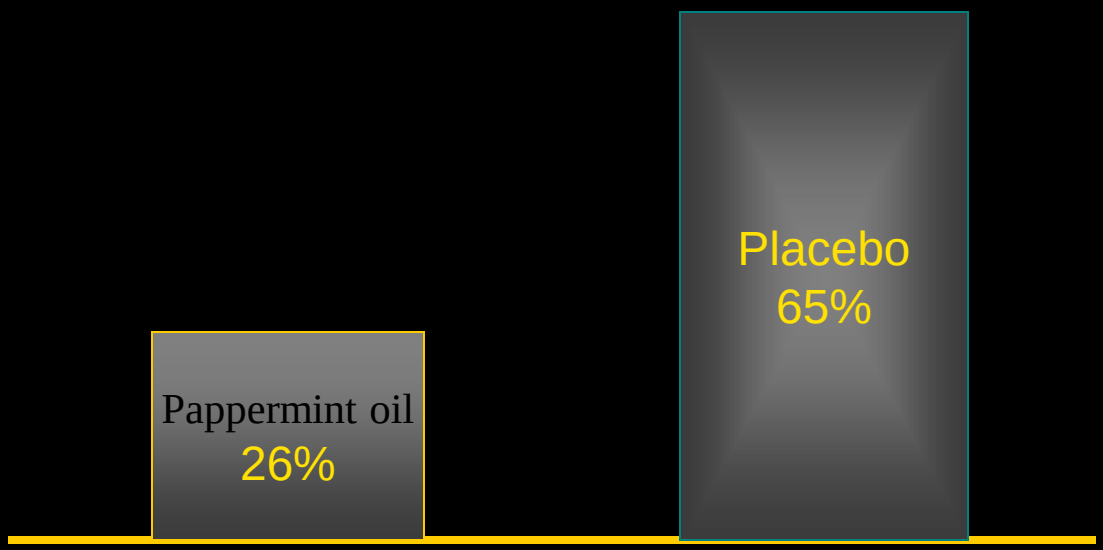
- 101 of 704 (14%) patients assigned to antispasmodics experienced adverse events compared with 62 of 675 (9%) allocated to placebo.

- The commonest adverse events were dry mouth, dizziness, and blurred vision, but none of the trials reported any serious adverse events.

Peppermint oil

- Four studies compared peppermint oil with placebo in 392 patient.
- The proportion of women in each trial ranged from 40% to 76%.
- Fifty two of 197 (26%) patients randomised to peppermint oil had persistent symptoms compared with 127 of 195 (65%) receiving placebo.

Persistent symptoms %



Adverse events

- Five adverse events occurred among 174 patients assigned to peppermint oil compared with no adverse events in 171 patients receiving placebo.

Discussion

Adverse events were significantly more frequent in those receiving antispasmodics than in those receiving placebo, but none of these was serious.

- The beneficial effect of fibre seemed to be limited to ispaghula husk.

- Antispasmodics were of benefit, but again heterogeneity between study results

Discussion contd.

- It would seem reasonable for general practitioners who want to begin a trial of antispasmodics to use hyoscine as first line treatment, but to consider other antispasmodics when this strategy fails. Peppermint oil was also superior to placebo,

- For the management of irritable bowel syndrome are equivocal or conflicting in their recommendations for the use of these treatments,

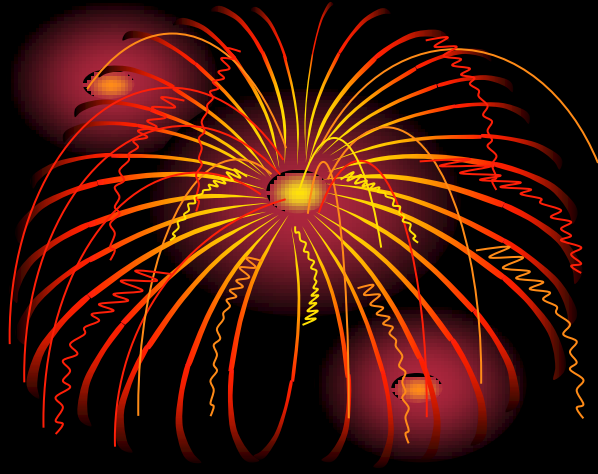
Discussion contd.

- **Antispasmodics are recommended as first line treatment, particularly when pain and bloating are the predominant symptoms,**
- **The use of insoluble fibre is discouraged because of concerns that it may exacerbate symptoms,**
- **if fibre supplementation is required then this should be in the form of soluble fibres such as ispaghula.**

Discussion contd.

- Recent research using magnetic resonance imaging revealed that predominant diarrhoea have a reduced colon diameter as well as accelerated small bowel transit, so antispasmodics may act by reducing colonic contraction and transit time and therefore pain and stool frequency.

Discussion contd.



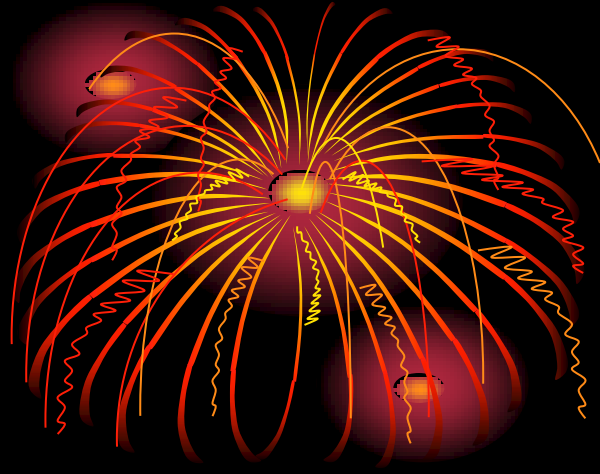
- Ispaghula husk may increase transit time in those with irritable bowel syndrome and predominant constipation.
- The efficacy of peppermint oil may arise from effects on smooth muscle, again reducing colonic contractility and pain owing to its calcium channel blocking activity.
- Many of these are safe and available over the counter but, with the advent of newer more expensive drugs, are often overlooked as potentially effective treatments.

Systematic review: the role of different types of fibre in the treatment of irritable bowel syndrome

C. J. BIJKERK*, J. W. M. MURIS, et al, *Utrecht University Medical Center, Julius Center for Primary Care and Health Sciences, Utrecht, The Netherlands; Maastricht University, Research Institute CAPHRI, Department of General Practice.

SUMMARY

• To quantify the effect of different types of fibre on global and symptom relief from irritable bowel syndrome. Methods: Using a structured literature search in MEDLINE (1966–2002), selected randomized controlled trials involving irritable bowel syndrome patients treated with fibre. Analyses were performed for the total group and for trials using soluble and insoluble fibre separately.



- Results: Seventeen studies were included in the analysis.

- Fibre, in general, was effective in the relief of global irritable bowel syndrome symptoms

SUMMARY Cont.

- There was no evidence that fibre was effective in the relief of abdominal pain in irritable bowel syndrome.

- Soluble fibre (psyllium, ispaghula, calcium polycarbophil) showed significant improvement.

- Insoluble fibre (corn, wheat bran), in some cases, worsened the clinical outcome.

Meta-analysis: the treatment of irritable bowel syndrome

D.Lesbros
Division of gastroenterology
University hospital of basel
Switzerland

SUMMARY

- A total of 51 double- Blind clinical trials using bulking agents, prokinetics, antispasmodics, alosetron, tegaserod and antidepressants were selected.

- The efficacy of fibre in the global irritable bowel syndrome symptoms relief was lost after exclusion of low-quality trials.

- When excluding the low-quality trials, an improvement of global irritable bowel syndrome symptoms with all antispasmodics.

Peppermint Oil for Irritable Bowel Syndrome: A Critical Review and Metaanalysis

M. H. Pittler, M.D., and E. Ernst, M.D., Ph.D., F.R.C.P. (Edin)

Department of Complementary Medicine, Postgraduate Medical School, University of Exeter, Exeter, United Kingdom

Objective:

- **Peppermint oil is the major constituent of several over-the-counter remedies for symptoms of irritable bowel syndrome (IBS).**

- **The aim of this study was to review the clinical trials of extracts of peppermint (*Mentha X piperita L.*) as a symptomatic treatment for IBS.**

Methods:

- Databases included Medline, Embase, Biosis, CISCOM, and the Cochrane Library.

- Five double blind, randomized, controlled trials were entered into a metaanalysis.

Results:

- Collectively they indicate that peppermint oil could be efficacious for symptom relief in IBS.

- A meta-analysis of five placebo-controlled, double blind trials seems to support this notion.

-The role of peppermint oil in the symptomatic treatment of IBS has so far not been established beyond reasonable doubt. Well designed and carefully executed studies are needed to clarify the issue.

(Am J Gastroenterol 1998;93:1131–1135. © 1998 by Am. Coll. of Gastroenterology)

Conclusion:

Thank you