Efficacy of ispaghula husk in the treatment of premenstrual constipation-type symptoms

Jill Davies
Peter Dettmar and Roger Hoare

Introduction

A number of studies have reported constipation-type symptoms during the luteal phase of the menstrual cycle (Davies, 1998). Significantly: longer whole gut transit times (Davies et al., 1986; Wald et al., 1981); lower stool wet and dry weights (McBurney, 1991); harder stools (Davies et al., 1986); more well-formed stools (Davies et al., 1986, 1993) and a lower frequency of defecation (Davies et al., 1993) have all been reported. There is clearly some evidence of reduced motility in the luteal phase, resulting in altered stool properties. Moreover, it is probable that these changes are mediated via elevated serum progesterone levels although the mechanism of action has not been elucidated (Vlitos and Davies, 1996). Furthermore, changes in eating habits may be of some importance. A trend has been observed for sucrose intake to be higher in the luteal phase than during the bleed, follicular phase or at ovulation (Gong et al., 1989). Conversely, mean dietary fibre intake was significantly lower during the last four luteal days than in the first four days of the bleed (Davies et al., 1993). In the light of the foregoing it seemed reasonable to ascertain if an increase in non-starch polysaccharide (NSP) intake, by way of a palatable drink, was of symptomatic benefit in the treatment of constipation-type symptoms premenstrually.

Methods

Subjects in this study were a subset from a larger study on the influence of ispaghula husk on bowel habit (Davies et al., in press). Thus a total of 57 menstruating women (50 Caucasian, five Negro, one Oriental and one other) were included in the evaluation. The mean age of subjects was 25 years (range 18-45 years) and the mean body mass index was 22 (range 14 - 34).

All 57 women had taken part in a three-month study which involved them in maintaining a record of their bowel habit and menstrual status during three 28 day phases: pre-treatment, treatment and post-treatment. Throughout the study volunteers had been instructed to keep to their “usual” pattern of eating, but to take an orange flavoured drink containing 3.5g ispaghula husk (Fybogel® Orange, Reckitt & Colman) after breakfast.

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Abstract

It is well documented that women are prone to constipation-type symptoms premenstrually. An increase in non-starch polysaccharide intake of 5.9 g/d in the form of palatable drink has proved to be of symptomatic benefit during the premenstrual phase of the cycle resulting in a significant increase in stool frequency, significant decreases in straining at the end of defecation and feelings of incomplete evacuation and the production of less well formed stools.

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and again after the evening meal during the treatment phase. Data analysis was focused on days 24 to 28 inclusive of the menstrual cycle for each of the study phases and bowel habit parameters considered in the diagnosis of constipation (Thompson et al., 1992) namely: frequency of defaecation, straining, feelings of incomplete evacuation and stool form. Frequency of defaecation per 24 hours, percentage of motions per subject with straining at both start and end of defecation, incomplete evacuation and each category of stool form were compared between the pre-treatment, treatment and post-treatment phases using a two-way analysis of variance followed by pairwise comparisons using Duncan’s multiple range test. Where assumptions of this parametric analysis were violated an equivalent non-parametric test, i.e. the Friedman two-way analysis by ranks, was used.

Results

Frequency of defaecation per 24 hours during the premenstrual stage of the cycle for each of the study phases is shown in Table I. The mean number of motions per day was found to be significantly higher in the treatment phase than in both the pre-treatment and post-treatment phases.

Straining at the start and end of defecation during the premenstrual stage of the cycle for each of the study phases is shown in Figure 1. There was marginally less straining at the beginning of defecation during the treatment phase than in pre- and post-treatment phases and this did not achieve statistical significance. There was significantly less straining at the end of defecation during the treatment phase (\(P < 0.001\)) and the post-treatment phase (\(P < 0.01\)) compared with the pre-treatment phase.

Feelings of incomplete evacuation during the premenstrual phase of the cycle (Figure 1) were significantly less in the treatment phase compared with the pre-treatment phase (\(P < 0.01\)).

The mean percentage of motions per subject in the “cracked, cylindrical” category was shown to be significantly lower in the treatment phase (28 per cent) than in either the pre- or post-treatment phases (38 per cent \(P < 0.05\) and 42 per cent \(P < 0.01\) respectively).

Discussion

The significant changes in bowel habit observed in this study clearly show that ispaghula husk is of symptomatic benefit to women with constipation-type symptoms premenstrually. The significant increase in stool frequency, decrease in straining at the end of defecation, decrease in feelings of incomplete evacuation and decrease in the passage of well formed stools during treatment with ispaghula husk demonstrate that an increase in NSP intake of around 6g/day in a palatable drink is one possible solution to the problem of premenstrual constipation.

‘...straining greatly raises the pressure within the abdominal cavity and ... this may be a risk factor in the aetiology of hiatus hernia, varicose veins and haemorrhoids...’

The observed residual effect of ispaghula husk on straining at the end of defecation is of some interest. Eaton and Cripps (1993) have reported that not only is straining more common in women, but that straining to finish defecation is a sign of prolonged straining. Moreover, Burkitt (1979) postulated that straining greatly raises the pressure within the abdominal cavity and that this may be a risk factor in the aetiology of hiatus hernia, varicose veins and haemorrhoids.

Further studies are needed to determine the optimum duration of treatment with ispaghula husk taking account not only bowel habit parameters but the diet as a whole throughout the menstrual cycle.

Table I

<table>
<thead>
<tr>
<th>Study phase (n=57)</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-treatment</td>
<td>0.74</td>
<td>0.40</td>
<td>0-1.8</td>
</tr>
<tr>
<td>Treatment</td>
<td>1.07*</td>
<td>0.51</td>
<td>0-2.4</td>
</tr>
<tr>
<td>Post-treatment</td>
<td>0.78*</td>
<td>0.39</td>
<td>0-1.6</td>
</tr>
</tbody>
</table>

Note: Stool frequency significantly higher in the treatment phase than in both the pre-treatment and post-treatment phases

* * * * * \(P < 0.001\)
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Figure 1 Straining and incomplete evacuation days 24-28 inclusive of the menstrual cycle, before, during and after taking ispaghula husk (mean % of motions passed per subject)

![Graph showing straining and incomplete evacuation](image-url)

References


