The efficacy of cognitive behaviour therapy in treating premenstrual dysphoric changes

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Abstract

This study assesses the efficacy of cognitive behaviour therapy (CBT) in treating premenstrual dysphoric changes. The CBT condition (n = 24) aimed to modify dysfunctional thinking as a means of impacting on negative premenstrual symptoms and changes. The components of CBT were cognitive restructuring and assertion training. A comparison condition called 'information-focused therapy' (IFT) (n = 9) aimed to present information only and did not address belief restructuring. The components were relaxation training, nutritional and vitamin guidelines, dietary and lifestyle recommendations, aspects of child management training and assertion training. Results indicated that the amelioration of anxiety, depression, negative thoughts and physical changes can be effectively addressed by either CBT or IFT. The extent to which a woman's belief system is critical in the experience of premenstrual distress requires further empirical investigation.

A range of biological theories have been proposed to account for the multiple changes associated with the premenstrual phase and traditionally, this has prompted the use of various hormonal treatment approaches for premenstrual changes (Clare, 1985; Corney and Clare, 1989; Halbreich et al., 1988; Luriel and Borenstein, 1990; Robinson and Garfinkel, 1990). These have not, however, necessarily been effective in treating dysphoric premenstrual changes. Previous studies have suggested that higher levels of depression, anxiety, negative automatic thoughts and a mood disorder history characterize women with premenstrual dysphoria (Christensen and Oei, 1989, 1992, 1995) and these are consistent with the cognitive theory of depression (Kwon and Oei, 1994). There is support for the use of a cognitive behavioural intervention for depressive and anxiety conditions (Free and Oei, 1989; Llamas and Oei, 1994; Oei and Free, 1994) and also with the dysphoric features of premenstrual changes (Morse et al., 1989, 1991). At this stage, however, the contribution made by cognitive restructuring is not entirely clear. For instance, it is unclear whether functional adaptive behaviour or functional beliefs, is primary to reducing premenstrual dysphoria.

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Fig. 1. Mean premenstrual phase BDI levels within each treatment condition across time.

Fig. 2. Mean premenstrual phase ATQ levels within each treatment condition across time.

Fig. 3. Mean premenstrual phase A-State levels within each treatment condition across time.

Fig. 4. Mean premenstrual phase A-Trait levels within each treatment condition across time.

Fig. 5. Mean premenstrual phase percentage of maximum possible mood score within each treatment condition across time.

Fig. 6. Mean premenstrual phase percentage of maximum possible behavioural score within each treatment condition across time.
The aim of this study was to extend earlier findings and contrast a cognitive behavioural therapy (CBT) condition with a comparison condition called ‘information-focused therapy’ (IFT). The CBT condition was based on the tenets of cognitive therapy (Beck, 1977; Burns, 1980; McMullin, 1986) and rational emotive therapy (Ellis, 1962) and followed a coping skills model developed by Sank and Shaffer (1984). The IFT consisted of relaxation training, dietary recommendations, lifestyle factors, aspects of child management and assertion training. The assertion modules used were selected for their emphasis on behaviour as distinct from cognitive reconstruction. For each condition, 13 consecutive weeks of treatment (2 h/session) was conducted in small groups. The format of each session included didactic input, group discussions, individual and small group exercises, plus homework. It was predicted that the CBT condition would be superior in reducing premenstrual levels of depression, negative automatic thoughts, state and trait anxiety as well as mood, behavioural and physical changes than the IFT group.

1. Methods

1.1. Participants

Participants were 33 women from metropolitan Brisbane who responded to media advertising offering treatment of premenstrual dysphoric changes and duplicated the entry criteria shown in Christensen and Oei (1995). Table 1 shows demographic data, such as age, number of pregnancies, marital, educational and employment status. This shows that the approximate age of women seeking help was 38 years, that, on average, women had at least two pregnancies, that the majority had secondary school education, i.e., > 7 years education, that most were in relationships with males and that most were in paid employment.

1.2. Measures

The measures for this study were the same as those described in Christensen and Oei (1995)

1.3. Design

This study used a group factorial design. Women in the CBT condition completed measures at baseline, posttreatment and at 6- and 12-month follow-ups. In the IFT condition, measures were completed at baseline, posttreatment and at a 6-month follow-up only as some women could not be contacted, thus, rendering the data set too small for statistical analyses at the 12-month follow-up.

2. Results

2.1. Comparison of CBT and IFT conditions – premenstrual data

Figs. 1–7 inclusive show the premenstrual means of the BDI, ATQ, A-State, A-Trait, PAF-M, PAF-B and PAF-P, within each treatment condition, across time. Preliminary t tests conducted on differences between the CBT and IFT conditions on baseline variables, were nonsignificant. The overall effects of treatment condition on the dependent measures of BDI, ATQ, A-State, A-Trait, PAF-M, PAF-B and PAF-P were analysed in individual two-way ANOVAS –

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Demographic details of women in CBT and IFT treatment conditions</th>
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<tbody>
<tr>
<td>Demographics</td>
<td>Groups</td>
</tr>
<tr>
<td>Age</td>
<td>Mean</td>
</tr>
<tr>
<td></td>
<td>SD</td>
</tr>
<tr>
<td>Pregnancies</td>
<td>Mean</td>
</tr>
<tr>
<td></td>
<td>SD</td>
</tr>
<tr>
<td>Frequency (%)</td>
<td></td>
</tr>
<tr>
<td>Completed secondary education</td>
<td>17 (71%)</td>
</tr>
<tr>
<td>Completed tertiary education</td>
<td>7 (29%)</td>
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<tr>
<td>Married/defacto</td>
<td>20 (83%)</td>
</tr>
<tr>
<td>Single</td>
<td>4 (16%)</td>
</tr>
<tr>
<td>Paid employment</td>
<td>16 (66%)</td>
</tr>
<tr>
<td>Unpaid employment</td>
<td>8 (33%)</td>
</tr>
</tbody>
</table>
Fig. 7. Mean premenstrual phase percentage of maximum possible physical score within each treatment condition across time.

Fig. 8. Mean postmenstrual phase BDI levels within each treatment condition across time.

Fig. 9. Mean postmenstrual phase ATQ levels within each treatment condition across time.

Fig. 10. Mean postmenstrual phase A-State levels within each treatment condition across time.

Fig. 11. Mean postmenstrual phase A-Trait levels within each treatment condition across time.

Fig. 12. Mean postmenstrual phase percentage of maximum possible mood score within each treatment condition across time.
Fig. 13. Mean postmenstrual phase percentage of maximum possible behaviour score within each treatment condition across time.

Fig. 14. Mean postmenstrual phase percentage of maximum possible physical score within each treatment condition across time.

(Treatment: CBT and IFT) × (Time: baseline, posttreatment and 6-month follow-up). A Bonferroni adjustment was applied to all univariate analyses (Hertzog and Rovine, 1985) and the α level was set at 0.005. Differences between treatment conditions on each variable were nonsignificant, as were interactions. However, except for the A-State and the PAF-B, a significant time effect was revealed on all variables. Posthoc analyses showed a significant reduction from baseline to posttreatment: BDI, $F_{1,31} = 28.34, P < 0.000$; ATQ, $F_{1,31} = 8.99, P < 0.005$; A-Trait, $F_{1,31} = 21.56, P < 0.000$; PAF-M, $F_{1,31} = 14.53, P < 0.001$; and PAF-P, $F_{1,31} = 1048, P < 0.003$. Similarly, further posthoc analyses showed that, on each variable, treatment gains were maintained at the 6-month follow-up. In the case of the CBT condition, gains were also maintained at the 12-month follow-up (Figs. 1–7).

2.2. Comparison of CBT and IFT conditions – postmenstrual data

Figs. 8–14 show the postmenstrual means of each variable, within each condition, across time. Preliminary t tests, conducted on differences between the CBT and IFT conditions at baseline, were nonsignificant.

Consistent with the analyses of premenstrual data, the dependent measures of BDI, ATQ, A-State, A-Trait, PAF-M, PAF-B and PAF-P were analysed using seven separate two-way ANOVAs – (Treatment (CBT and IFT) × (Phase (baseline, posttreatment and 6-month follow-up))). These analyses produced nonsignificant treatment and time effects as well as nonsignificant interactions.

4. Discussion

Results suggest that CBT and IFT are equally effective in reducing premenstrual levels of negative mood and physical changes as well as trait anxiety, depression and negative automatic thoughts. These effects were apparent after treatment and were maintained across the 6- and 12-month follow-up periods. This finding is consistent with that of Morse et al. (1991) who found that coping skills training (cognitive restructuring, problem solving and assertiveness) was not superior to hormonal therapy in reducing psychological and physical symptoms. Results of the present study extend those of Morse et al. (1989, 1991) by suggesting that cognitive therapy is not necessary to effect improvement in premenstrual psycholog-
ical and physical symptoms. Results of the present study suggest that IFT, which has no emphasis on changing beliefs, is also efficacious in treating psychological changes and correlates of premenstrual dysphoria.

Results from postmenstrual data analyses indicate that treatment did not alter postmenstrual levels of depression, anxiety, frequency of negative automatic thoughts or mood behavioural and physical changes over time. Consistent with the premenstrual data, women in the CBT and IFT groups did not significantly differ from each other at any point across time in the postmenstrual phase.

The affective disorder history can obviously influence the outcome of this study. Our sample showed that affective disorder occurs in ~ 40% of women for both the CBT and IFT women who participate in treatment for premenstrual dystrophic changes, a result consistent with that of others (Gise et al., 1990; Harrison et al., 1989). Since both groups have ~ 40% affective disorder history, this issue is not a factor for this study. When the levels of all dependent variables are compared visually (Figs. 1–14), a marked difference is apparent pre- to postmenstrually, with postmenstrual levels being lower. This is, in fact, consistent with the mood disorder data, suggesting that the majority of women participating in treatment were not experiencing a current episode of mood disorder.

One of the possible reasons for the lack of distinction between the CBT and IFT conditions is that the IFT condition may be one that is highly credible and solution-based for day-to-day problems. Another explanation is that the IFT condition may have provided women with an effective and practical way of managing external stressors in their lives, e.g., child behavioural problems and lifestyle changes. So far as clinical delivery is concerned, the IFT condition requires less clinical expertise than the CBT condition, thus increasing its potential availability.

There are other explanations for the lack of difference between the two treatment conditions. First, perhaps the treatment conditions shared a common denominator to the extent that both interventions provided women with skills to manage the impact of the premenstrual phase on their lives. Second, as the mean levels of most of the dependent measures were not clinically severe at baseline, the specificity of the interventions was less important. This issue could be addressed by a wait-list control group; however, such an experimental design was not considered feasible in this study as symptomatic women would have had to wait an unacceptably long time for treatment due to design. Finally, it is possible that commonly cited placebo factors, such as the expectation generated in the participants or the therapeutic rationale presented at the outset of each treatment (Horvath, 1988), accounted for the similarly effective outcome of each treatment condition.

One shortcoming of the present study is the small sample size of the IFT condition which may have limited the amount of power available in the experiment. Nevertheless, results indicate that CBT is not necessarily the most effective means of ameliorating premenstrual dystrophic changes and that equipping women with a sense of mastery is an important element in ameliorating these premenstrual dystrophic changes and their correlates. It seems possible that the IFT intervention provides such mastery but it is unclear whether this control precipitates or stems from cognitive control. This issue requires further empirical investigation.

References


