The effect of aromatherapy massage on the psychological symptoms of postmenopausal Iranian women

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KEYWORDS
Aromatherapy massage; Psychological symptoms; Menopause

Summary
Background: Menopausal symptoms experienced by women vary widely, and while many women transition through menopause with manageable symptoms, others experience severe symptoms, which may impair their quality of life.
Objectives: A randomized clinical trial was conducted to determine the effect of aromatherapy massage on psychological symptoms during menopause.
Methods: The study population comprised 90 women. Each subject in the aromatherapy massage group received 30 min aromatherapy sessions with aroma oil, twice a week, for four weeks; each subject in the massage therapy group received the same treatment with odorless oil, while no treatment was provided to subjects in the control group. The outcome measures were psychological symptoms, as obtained through the psychological subscale of the Menopause Rating Scale.
Results: A total of 87 women were evaluated. A statistically significant difference was found between the participants’ pre- and post-application psychological score in intervention groups, whereas the score in the control group did not differ significantly. Aromatherapy massage decreased the psychological score MD: −3.49 (95% Confidence Interval of Difference: −4.52 to −2.47). Massage therapy also decreased the psychological score MD: −1.20 (95% Confidence Interval of Difference: −2.19 to −0.08). To distinguish the effect of aromatherapy from massage separately, we compared the reduction in the psychological score. Aromatherapy massage decreased the psychological score more than massage therapy MD: −2.29 (95% Confidence Interval of Difference: −3.01 to −0.47).

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Introduction

Menopause is a normal physiologic event that every woman who lives long enough will experience. Several biological and psychosocial changes take place during this phase. Menopausal symptoms experienced by women vary widely from mild to severe, and while many women transition through menopause with manageable symptoms, others experience more severe symptoms, including somatic, urogenital, and psychological symptoms. Psychological symptoms include mood changes, irritability, anxiety, nervous tension, difficulty concentrating, and depression. These symptoms have been linked to hormonal changes, and may impair overall quality of life for a substantial number of women.

Several large longitudinal studies have demonstrated an increased risk of depression or depressive symptoms during the menopausal transition. In the past, women were encouraged to use hormone replacement therapy (HRT) for relieving menopausal symptoms. Although there is substantial evidence of the advantages of HRT, widespread anxiety over its safety, and after the publication of the Women’s Health Initiative and the Million Women Study, there is growing interest in complementary and alternative medicines (CAM). Several complementary treatment options have been considered, including aromatherapy.

Aromatherapy is the therapeutic use of essential oils from plants, and it can be administered through inhalation, orally, or topically through bathing, compresses, and massage. Aromatherapy massage is the most widely used complementary therapy in nursing practice. A number of essential oils, including lavender, geranium, jasmine, rosemary, rose, evening primrose oil, and chamomile are used for treating psychological symptoms such as depression. There are some studies in the literature regarding the use of aromatherapy in women's health; however, based on our research, there are few studies related to menopause. Given that some studies have found that aromatherapy improves psychological symptoms such as anxiety, depression, and mood swings, in young and middle-aged women, we were determined to investigate the effect of aromatherapy massage on the psychological symptoms of postmenopausal Iranian women.

Materials and methods

A randomized clinical trial was conducted, with ethical approval from the Ethics and Research Committee of Tehran University of Medical Sciences, to investigate the effect of aromatherapy massage on the psychological symptoms of postmenopausal women. In order to distinguish the specific effects of aromatherapy from the effects of massage alone, we conducted the study with three groups: the aromatherapy massage group, the massage therapy group, and the control group.

Conclusion: Both aromatherapy massage and massage were effective in reducing psychological symptoms, but, the effect of aromatherapy massage was higher than massage.
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for this was that they were concerned about the safety and efficacy of interventions. A total of 90 women consented, and these were randomized to the aromatherapy massage group (n = 30), the massage therapy group (n = 30), and the control group (n = 30). Three of the participants failed to attend more than two therapy sessions, and dropped out during the study period. A total of 87 women from the aromatherapy massage group (n = 28), the massage therapy group (n = 29), and the control group (n = 30), completed the study (Fig. 1).

The mean and standard deviations of demographic characteristics including age, age at menopause, age at menarche, number of pregnancies, number of parities, number of children, and body mass index are shown in Table 1. The frequency of psychological symptoms, as assessed by the psychological subscale of MRS, according to most frequent complaints, is shown in Table 2. The most prevalent psychological symptoms for all women (n = 87) were: irritability (n = 83, 95.4%), physical and mental exhaustion (n = 81, 93.1%), anxiety (n = 71, 81.6%), and depressed mood (n = 65, 74.7%). The mean baseline level of the psychological scores did not differ among all groups. However, after eight sessions of intervention, the psychological scores differed significantly among the three groups, based on the One-way ANOVA test (p < 0.001).

When the effects of aromatherapy massage and massage therapy on psychological symptoms were observed, a statistically significant difference was found between the participants’ pre- and post-application psychological scores in both groups, whereas the scores in the control group did not differ significantly (Table 3). To distinguish the effects of aromatherapy massage from massage, we compared the mean psychological score of all groups. The mean baseline level of the psychological scores did not differ among the groups. However, after eight sessions of intervention, both aromatherapy massage and massage therapy significantly improved the outcome measures when compared to baseline, with somewhat higher average reductions for aromatherapy massage than for massage. Psychological

| Table 1 | Demographic characteristics in the participants at baseline. |
|-----------------|-----------------|-----------------|-----------------|
| Characteristics | Aromatherapy massage (mean ± SD) | Massage therapy (mean ± SD) | Control (mean ± SD) |
| Age             | 53.35 ± 4.34    | 52 ± 4.88       | 53.70 ± 4.28    |
| Age at menopause| 50.35 ± 2.31    | 49.95 ± 3.31    | 50.30 ± 3.04    |
| Age at menarche | 12.07 ± 2.70    | 11.44 ± 2.38    | 11.80 ± 2.48    |
| Number of pregnancy | 4.86 ± 2.08 | 3.83 ± 2.36     | 4.27 ± 2.16     |
| Number of parity | 4.57 ± 1.91     | 3.59 ± 2.19     | 4.17 ± 2.16     |
| Number of children | 4.50 ± 1.86 | 3.34 ± 2.15     | 4.07 ± 2.18     |
| Body mass index  | 26.21 ± 3.26    | 26.64 ± 3.50    | 26.40 ± 3.67    |
| SD: standard deviation. |

| Table 2 | Frequency of psychological symptoms in participants at baseline. |
|-----------------|-----------------|-----------------|-----------------|
| Severity of symptoms | None, N (%) | Mild, N (%) | Moderate, N (%) | Severe, N (%) | Very severe, N (%) |
| Depressive mood | 22 (25.3%) | 13 (14.9%) | 32 (36.8%) | 18 (20.7%) | 2 (2.3%) |
| Irritability | 4 (4.6%) | 18 (20.7%) | 34 (39.1%) | 26 (29.9%) | 5 (5.7%) |
| Anxiety | 16 (18.4%) | 15 (17.3%) | 16 (18.4%) | 19 (21.8%) | 21 (24.1%) |
| Mental exhaustion | 6 (6.9%) | 17 (19.5%) | 30 (34.6%) | 17 (19.5%) | 17 (19.5%) |

| Table 3 | Impact of aromatherapy massage and massage therapy on psychological symptoms (Mean ± SD). |
|-----------------|-----------------|-----------------|-----------------|
| Before | After | Mean difference | 95% CIs |
| Aromatherapy massage | 9.03 ± 2.07 | 5.54 ± 1.79 | −3.49 | −4.52 to −2.47 |
| Massage therapy | 9.13 ± 2.06 | 7.93 ± 2.12 | −1.20 | −2.19 to −0.08 |
| Control | 9.33 ± 1.76 | 9.27 ± 1.96 | −0.379 | −1.35 to 0.63 |

Based on paired-samples T test.

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The effect of aromatherapy massage on the psychological symptoms

Table 4. Comparison of the paired differences of psychological score (before–after treatment change) between intervention groups.

<table>
<thead>
<tr>
<th></th>
<th>Aromatherapy massage</th>
<th>Massage therapy</th>
<th>Mean difference</th>
<th>95% CIs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower value</td>
</tr>
<tr>
<td>Paired differences</td>
<td>3.49 ± 0.28</td>
<td>1.20 ± 0.06</td>
<td>−2.29</td>
<td>−3.01</td>
</tr>
</tbody>
</table>

Based on independent sample T test.

Symptoms during menopause may have negative effects on women's lives; therefore, the provision of appropriate management of such symptoms by health care professionals is critical, especially given the morbidity associated with untreated affective symptoms. Multiple studies have demonstrated the efficacy of both non-pharmacologic and pharmacologic agents for the treatment of psychological symptoms in general. A growing number of studies describe the efficacy of a spectrum of treatments for psychological symptoms in menopausal women. Although physicians have traditionally relied on pharmacologic methods to reduce psychological symptoms, interest in the use of CAMs is growing; furthermore, it is reported that aromatherapy massage benefits patients with mild depression and anxiety. An eight-year study of the effects of aromatherapy on 8058 laboring women in the 1990s found that aromatherapy significantly relieved anxiety. In an earlier study, which examined the impact of aromatherapy massage on menopausal symptoms, it was found that aromatherapy massage improved symptoms of depression in climacteric women.

In the present study, the participants reported a serious level of psychological symptoms before the intervention, including: depressed mood, irritability, anxiety, and physical and mental exhaustion; however, after four weeks of intervention, subjects from the aromatherapy massage group showed a significant reduction in these symptoms when compared to the control group. These results are similar to previous reports of the use of essential oils in treating such symptoms. This may be due to a reduction in the level of stress hormones released, and by stimulating the production of beta-endorphins. Those subjects who received massage therapy also reported fewer symptoms after the sessions. This is also consistent with a previous study showing that massage was effective in alleviating negative mental states in children and adolescents. The beneficial effects of massage therapy might be due to increased levels of serotonin and dopamine and decreased levels of cortisol and stress hormones.

Based on the results of the present study, it was clear that aromatherapy massage reduced the psychological score of participants more than massage therapy. The use of both massage and aromatherapy was more effective than massage alone. On the other hand, some studies have reported that there are no significant differences between massage with and without aromatherapy. These findings suggest that the effects of aromatherapy massage in this study might be mainly attributed to the aromatherapy intervention and not the massage itself. The researchers suggested replications were needed.

We acknowledge that this study has limitations. First, the results of study could have been influenced by the emotional support received through either the aromatherapy massage or massage therapy, by the participants being touched gently and warmly; these benefits were not provided for participants in the control group. Second, both researchers and subjects were aware of which treatment individuals were receiving. Third, the study only assessed short-term effects; long-term effects remain untested. Fourth, our selection of essential oils was guided by expert opinion; it is possible that other oils or different combinations of oils would produce a different result. Finally, the allocation concealment of our study (into blocks of three) was not optimal; such an imbalance could introduce bias in the statistical analysis, and reduce the findings of the study. These limitations should be considered in future studies, and further research is needed before firm conclusions can emerge.

Conclusion

Our study demonstrates that both massage and aromatherapy massage can improve psychological symptoms in postmenopausal women. In a follow-up of the participants, one month after the end of interventions, it was observed that the methods had no side-effects, and being easily applicable, they could be applied by health care providers in a safe manner. As evidence-based research, the results of our study are also useful. There is scant clinical evidence supporting the psychological effects of aromatherapy for menopausal women, with a result that both patients and clinicians are unwilling to use such interventions as a primary treatment. Clearly, well-documented evidence of the safety and efficacy of aromatherapy may help to make these interventions the treatment of choice for individuals experiencing negative psychological symptoms during the menopausal transition.

Conflict of interest

Not declared.

Author contributions

S.T. had a role in preparing the protocol of study, monitoring the study. F.D. had a role in conducting the study and writing the paper. S.J. had a role in editing the paper. H.H. had a role in data analyzing of study.

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