

RESEARCH ARTICLE

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Mentha longifolia syrup in secondary amenorrhea: a double-blind, placebo-controlled, randomized trials

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Abstract

Background: Amenorrhea is defined as the cessation of menses. Hormone therapy is the most common treatment. Due to the contraindications and side effects of it and the increasing demand for alternative medicine substitutes, *Mentha longifolia* L. was used in this study. *Mentha longifolia* L. is a known medication in Iranian traditional medicine to induce menstrual bleeding in women with secondary amenorrhea and oligomenorrhea.

Methods: A double-blind, randomized, placebo-controlled, multicenter study was conducted in 120 women with secondary amenorrhea and oligomenorrhea. Treatment consisted of sequential oral syrup, 45 ml (15 ml three times a day) for 2 weeks. If the patients did not have menstruation after 2 weeks of taking the medication, we would wait for two more weeks. If the patients had menstruation at each stage of using the drug, we started it one week after the end of menstruation. But if the patients had not menstruate after four weeks (two-week using of drug and waiting for two more weeks), the previous steps were repeated. The drug and placebo were repeated in three cycles of menstruation. Bleeding was documented by the patient on diary cards. The primary outcome variable was the occurrence (yes/no) of bleeding during the first treatment cycle. The secondary efficacy outcome was the regularity of bleeding pattern during the three cycles of the study.

Results: The number of women with bleeding during the first cycle were higher in the drug group as in the placebo group (68.3% vs. 13.6%; $p < 0.001$). The regularity of bleeding throughout the study was markedly better in the drug group compared with those given placebo (33.3% vs. 3.3%; $p < 0.001$). No notable complication or side effect was reported in relation to *Mentha longifolia* L. syrup.

Conclusion: In conclusion, *Mentha longifolia* L. syrup is a safe, well-tolerated, and effective choice in inducing bleeding and maintaining regular bleeding in women with secondary amenorrhea and oligomenorrhea.

Keywords: *Mentha longifolia*, Lamiaceae, Amenorrhea, Oligomenorrhea, Iranian traditional medicine, Ehtebas tams

Introduction

Secondary amenorrhea (SA) is defined as the cessation of menses for 6 months in female previously irregular menstrual pattern, or the cessation of menses for 3 consecutive months [1]. It has, on the other hand, been specifically defined in various ways, some of which overlap with oligomenorrhea (infrequent menstrual flow at

intervals of 39 days to 6 months or 5–7 cycles in a year) [2,3]. The overall prevalence of secondary amenorrhea in among women of reproductive age is around 3% [4] and prevalence of oligomenorrhea is 10.2% [5].

The most common form of secondary amenorrhea is hypogonadotrophic disorders caused by hypothalamic suppression, particularly functional hypothalamic amenorrhea (FHA), due to various stressors with no evidence of systemic/endocrine causal factors [6,7]. Another common form of secondary amenorrhea is ovulatory disorders often associated with polycystic ovary syndrome

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