

# **Title: The effect of foot reflexology on constipation during pregnancy: A randomized controlled clinical trial**

## **Abstract**

**Objective:** Reflexology is a popular type of complementary medicine in medical practices especially in midwifery fields.

**Study design:** This randomized controlled trial aimed to determine the effect of foot reflexology on idiopathic constipation symptoms and anxiety and fetal activity during pregnancy.

**Methods:** This study was conducted on seventy-four nulliparous women with constipation, referring to private and public health care centers in Tabriz-Iran, between 2017 to 2018. Participants were randomly assigned into foot reflexology or control groups. The intervention method was a short term of 12 minutes foot reflexology treatment that was given (weekly for six weeks) for intervention group.

Constipation symptoms were measured at baseline and 6 times (weekly) after the intervention by Constipation Assessment Scale (CAS). The State-Trait Anxiety Inventory (STAI) questionnaire was used to measure participant's anxiety at baseline and 6 weeks after completion of the study, and fetal movement was measured at baseline and 6 times (weekly) after the intervention using a kick chart.

**Results:** Ninety seven percent of women reported improvement in their CAS measures at the end of six weeks following reflexology. Mean scores of State-Trait Anxiety Inventory (STAI) at the end of intervention were 38.5 and 42.2 (State anxiety), and 39.1 and 40.2 (Trait anxiety) in the reflexology and control groups, respectively. Statistically significant difference in fetal movements between the two groups were seen only in the fourth ( $P= 0.001$ ) and fifth weeks ( $P= 0.007$ ) after intervention sessions. About 67% of mothers were satisfied with reflexology intervention for improvement in their constipation symptoms. No harmful side events were reported among women.

**Conclusion:** Short term foot reflexology in this context may have potential healing benefits in improving constipation and anxiety symptoms during pregnancy. However, further investigation for antenatal reflexology is required.

**Keywords:** Constipation, Foot reflexology, Foot massage, Anxiety, Pregnancy, Fetal movement, Fetal activity