

# Osteopathic Manipulative Therapy in primary dysmenorrhea. Pilot Study



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## Introduction

Primary dysmenorrhea is a common functional gynecological disease which is defined as painful menstruation. It is widely spread among women with a prevalence from 45% to 90%. Gold standard therapies are FANS and oral contraceptives but in the last years an increasing number of non-conventional and manual therapies is documented.

## Aim

Evaluate the effect of Osteopathic Manipulative Therapy (OMTh) in reducing pain and improve the quality of life in women with primary dysmenorrhea.

## Methods

A randomized pilot study, single blinded, was performed in a primary osteopathic surgery in Turin, from November 2016 to June 2017. Using opaque and sealed envelopes 25 women were randomized, 13 patients were assigned to OMTh group with a mean age of 24,38 (+/-4,74), and 12 to LTT group with a mean age of 22,75 (+/-4,29).

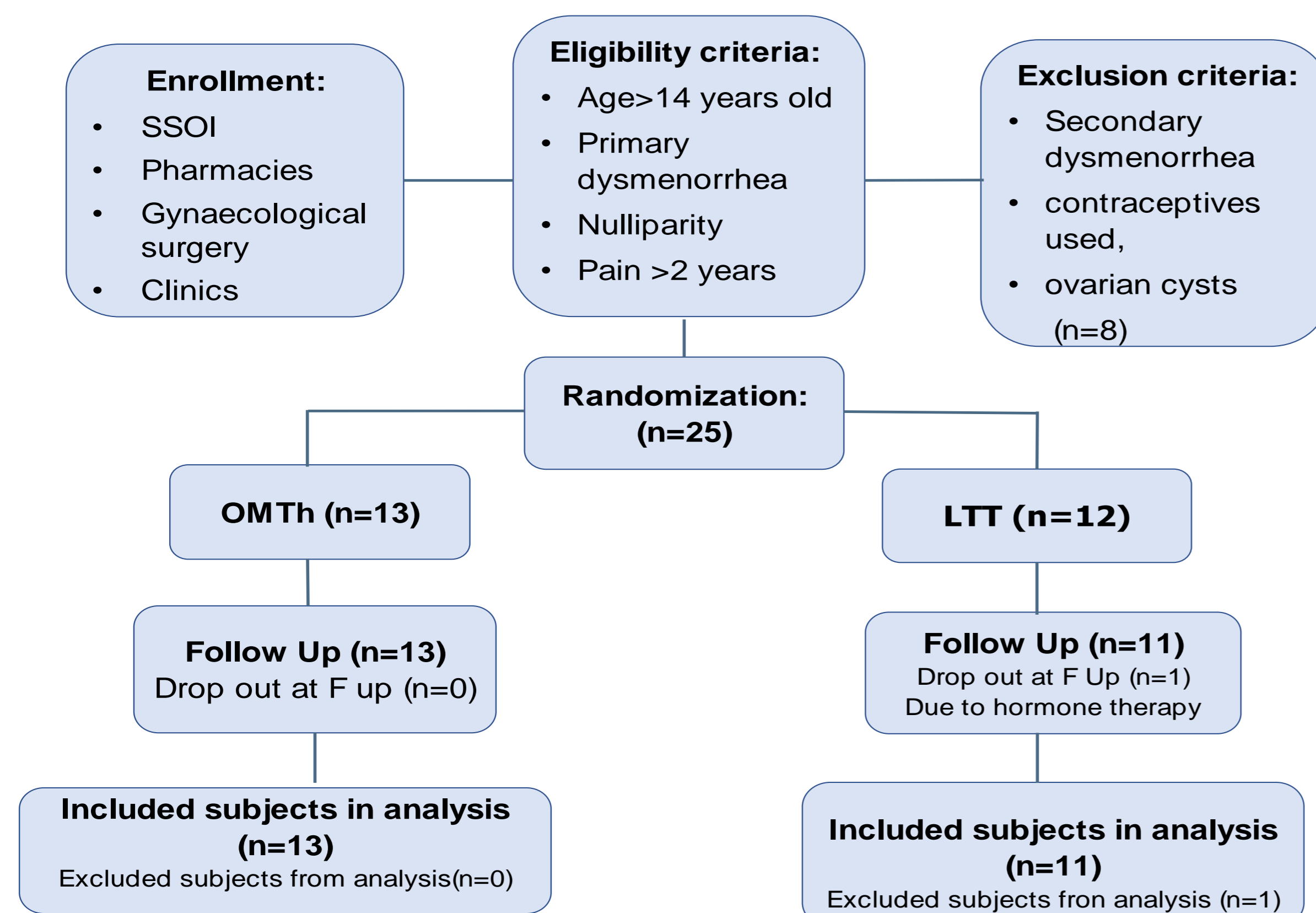
Outcomes were:

- Short Form-36 Health Survey
- Likert scale for vomiting, diarrhoea, nausea, headache
- Numeric Rating Scale (NRS).

Administrated:

- At baseline (T0)
- After 3 months, at the end of OMTh and LTT protocol treatment (T1)
- At Follow up, at 5 months from T0.

## Study Design



The OMTh group and LTT group both received six treatments lasting 45 minutes, every 15 days.

The first treatment between 8<sup>th</sup>-12<sup>th</sup> day of patient's ovarian cycle. Treatments were performed by E.Z. a student attending the last year of full time Osteopathic Medicine Course.

OMTh group received evaluation and treatment of the somatic dysfunction (SD) mainly focused on pelvic girdle, lumbar and dorsal spine, abdominal area, thorax, pectoral girdle, cervical spine and upper thoracic area, cranial base. The treatment was based on HVLA technique, myofascial release technique, balanced ligamentous techniques, visceral manipulation and cranial techniques.

The LTT group received light touch treatment that retains the same areas used for osteopathic approach but avoids prolonged touch in any area of the body by moving the hands every few seconds and by flattening and softening the surface of the hands in order to minimize focal areas of force.

## Discussion

The evaluation obtained from the outcomes and the current literature have been shown that OMTh can be helpful in reducing menstrual pain in women with primary dysmenorrhea and partially effective in improving their quality of life. For future studies it would be necessary a bigger sample and also creating a specific questionnaire to assess quality of life in women with primary dysmenorrhea.

## Results

### SF-36

In Healthy Survey SF-36, physical component score reported a non-significant improvement due to the high score at baseline both OMTh and LTT group.

	SF-36 Emotional State			Difference between Groups					
	T0	T1	Follow Up	T0-T1			T0- Follow Up		
OMTh	35,77 (37,08)	76,77 (28,65)	66,46 (36,03)	MD	IC [95%]	P	MD	IC [95%]	P
LTT	56,92 (23,13)	58 (22,83)	42,85 (19,51)	37.08	[12.17-62.00]	0.009	34.86	[7.64-62.08]	0.02

Table 1. Emotional State SF-36 for OMTh group and LTT group at T0, T1 and Follow-Up. Mean (Standard Deviation). Mean difference [IC 95%] P value.

	SF-36 Mental State			Difference between Groups					
	T0	T1	Follow Up	T0-T1			T0- Follow Up		
OMTh	56 (14,79)	70,15 (14,48)	69,85 (11,73)	MD	IC	P	MD	IC	P
LTT	54,67 (26,85)	57,83 (21,78)	52,25 (22,66)	11.42	[0.57-23.40]	0.06	17.21	[6.19-28.22]	0.005

Table 2. Mental State SF-36 for OMTh group and LTT group at Baseline, T1 and Follow-Up. Mean (Standard Deviation). Mean difference [IC 95%] P value.

### NRS

Group	T0	T1	Follow up	T0-T1			T0 - Follow up		
				MD	IC	P	MD	IC	P
OMTh	7.5 (1.3)	3.6 (1.9)	3.8 (2.2)	MD	IC	P	MD	IC	P
LTT	7.3 (1.6)	6.1 (2.6)	6.2 (1.8)	2.7	[1.1 - 4.3]	0.002	2.0	[0.6 - 3.3]	0.007

Table 3. NRS for OMTh group and LTT group at Baseline, T1 and Follow-Up. Mean (Standard Deviation). Mean difference [IC 95%] P value.

### Likert Scale

The Likert scale evidenced a reduction in headache, nausea and diarrhoea symptoms both in OMTh and LTT, with a higher improvement in the study group, but statistically non-significant.

