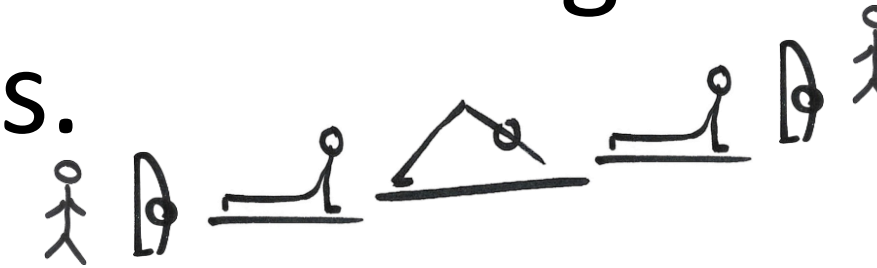


# A Systematic Review on the Effectiveness of Yoga for Endometriosis-Associated symptoms.

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Abstract no: 107  
Theme:  
Evolving Practice

## 1. Background

Endometriosis is the growth of endometriotic tissue, due to estrogenic hormonal input, manifesting outside of the uterus. Menstrual shedding still occurs causing chronic inflammation and pain. Dysmenorrhea is a primary symptom of Endometriosis (Chapron *et al.*, 2019; Signorile *et al.*, 2022).

Current Endometriosis Guidelines recommend surgical intervention; ablation, excision, Hormone replacement therapy, Hysterectomy, NSAIDs, Progestins, combined oral contraceptives, coil (Kalaitzopoulos *et al.*, 2021).

The effect of exercises on endometriosis has been researched with a review finding numerous RCT from 1995 to 2017 have improved outcomes on pain and quality of life from walking, and aerobic exercise combined with acupuncture, TENS and Danazol (Mira *et al.*, 2018).

## 2. Purpose

- To ascertain the effectiveness of Yoga on endometriosis-related symptoms: pain, quality of life (QoL), and mental health.
- To allow clinical guidelines to incorporate yogic style relaxation and exercise-based interventions aiding endometriosis symptom management.

## 3. Method

Preferred reporting items for systematic reviews and meta-analysis (PRISMA) 2020 guidelines were followed.

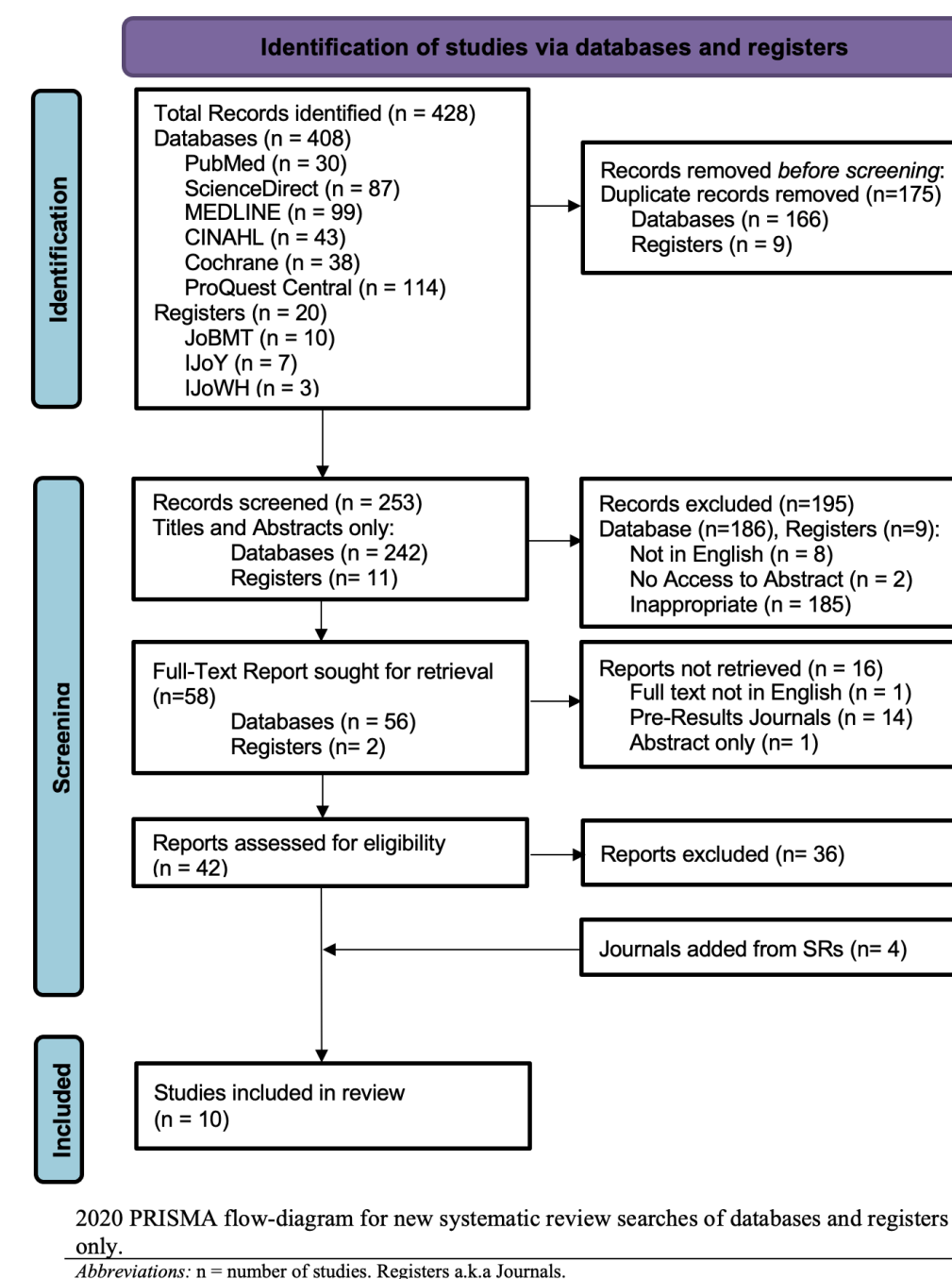
**6 Databases;** PubMed, ScienceDirect, MEDLINE, CINAHL, Cochrane, ProQuest Central, and **3 Registers;** International Journal of women's health (IJoWH), Journal of Bodywork and Movement Therapies (JoBMT), International Journal of Yoga (IJoY), were searched from **January 2012 to March 2022.**

**Inclusion criteria:** Peer-reviewed written English research articles, quantitative primary research, Yoga vs control or other modality, Human female-only participants between 16-55years with PD, SD, CPP and/or Endometriosis, using outcome measures or physiological changes to measure intervention effect.

Abstracts, titles and full texts **reviewed independently by researcher** and **compiled into tabular format.**

Risk of bias assessed through Physiotherapy evidence database scale (**PEDro**). Research scoring 5 or less excluded.

## 4.1 Results

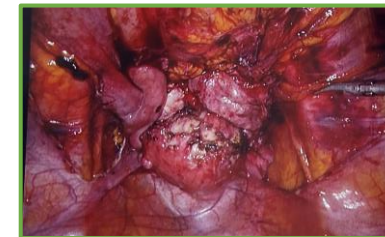


First Author. Country.	Year.	Design	Participant No., Pathology, Intervention Intervention Duration, sessions per wk.	Outcome Measure / physiological	Results
1	Chein <i>et al.</i> , 2013, Taiwan	PCT	30 Healthy vs 30 Primary Dysmenorrhea 8 weeks of Yoga, 2x 30min weekly sessions	MDQ SH	Improved MDQ SH↓ PD = 46.46%, H=51.37%
2	Ganesh <i>et al.</i> , 2015, India	RCT	90 Primary Dysmenorrhea; Nadi Shodhana vs Kapalbhati. 4 weeks: 2x daily 10mins each.	NPRS MMDQ	Both improved OM score. Shodhana overall better.
3	Goncalves <i>et al.</i> , 2017, Brazil	RCT	28 Endometriosis; No exercise vs Hatha Yoga. 8 weeks: 2x 120min weekly sessions	VAS EHP-30	Yoga VAS scores ½ from 60.8 to 32.39. ↓EHP-30 scores.
4	Kirca <i>et al.</i> , 2021, Turkey	RES	60 PD; No exercise vs Hatha Yoga. 12 weeks: 1x 60min weekly session.	VAS	Yoga VAS scores ½ by 4 <sup>th</sup> MC.
5	Kirthika <i>et al.</i> , 2018, India	RCT	30 Primary Dysmenorrhea; Yoga vs Pilates. 12 weeks: 3x 18min weekly sessions.	VAS MDQ	Yoga VAS < Pilates VAS.
6	Prabhu <i>et al.</i> , 2019, India	ES	78 Primary Dysmenorrhea; Yoga vs Pilates. 6 weeks: 4x 30min (yoga), 4x 20min (Pilates).	PSS MMDQ	Yoga PSS > Pilates PSS. Pain better in Pilates group.
7	Rani <i>et al.</i> , 2012, India	RCT	126 Mixed PD & SD. NSAIDs vs Yoga Nidra. 6mnth, 35min 5days per wk.	HAM-A HAM-D	Nidra group Anxiety 78.57% improved scores.
8	Saxena <i>et al.</i> , 2017, India	RCCS	60 Chronic Pelvic Pain; NSAIDs vs Hatha Yoga. 8 weeks: 5x 60min weekly sessions.	VAS WHOQOL-BREF	Yoga VAS scores ½. QoL improved.
9	Yang <i>et al.</i> , 2016, Korea	RCT	40 Primary Dysmenorrhea; No Yoga vs Yoga. 12 weeks: 1x 60min weeks sessions.	VAS SF-MDQ	Yoga VAS improved. MC symptoms improved.
10	Yonglitthipagon <i>et al.</i> , 2017, Thailand	RCT	34 PD; No exercise vs Yoga 12 weeks: 2x 30min weekly sessions.	VAS SF-36	Yoga VAS scores >½ improved. QoL improved.

PD=Primary Dysmenorrhea. H=Healthy. TENS=Transcutaneous Nerve Stimulation. pwk= per week. MC = Menstrual Cycle. NSAIDs = non-steroidal anti-inflammatory drug. SH = Serum Homocysteine (SH)  
RCT = Randomised controlled trial. RCT1 = Randomised Comparative Trial. PCT = Prospective Controlled Trial. RCCS = Randomised case-control study. ES = Experimental Study. RES = Randomised Experimental Study with Control Group.  
PSQI = Pittsburgh sleep Quality Index. PSS = Perceived Stress Scale. HAM-A = Hamilton Anxiety Scale. HAM-D = Hamilton Rating Scale for Depression. WHOQOL-BREF = World Health Organization quality of life-BREF. EHP-30 = Endometriosis Health Profile. MDS = Menstrual Distress Questionnaire. MMDS = Moos Menstrual Distress Questionnaire. VAS = Visual Analogue Scale. NPRS = Numerical Pain Rating Scale.

## 4.2 Result Summary

- 10 studies, 6 different countries - non-UK based.
- All externally valid. Methodological risk of bias 'good', or 'excellent'.
- Wide variety of yogic practices and asanas used, with varying duration and frequency.



## 5. Conclusion

The review confirms yoga is a beneficial symptom management technique associated with endometriosis; positive effects on pain, sleep, stress, anxiety, depression, flexibility, and activity levels have been found.

## 6. Further Research

- Confirmed disease stage 1-4 and the longevity of yoga on symptom management.
- Splitting the individual aspect of yoga up into RCT; relaxation, meditation, pranayama, asanas, Nidra, Surya namaskar and each's longitudinal effects.
- Other conservative management techniques i.e. Pilates, Cognitive Behavioural Therapy, Somatic movements, other holistic modalities.

## 7. References

- Chapron, C., Marcellin, L., Borghese, B., Santulli, P. (2019) 'Rethinking mechanisms, diagnosis and management of Endometriosis'. *Nature Reviews: Endocrinology*. 15(no 1 issue), pp 666-682. DOI: 10.1038/s41574-019-0245-z.
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- Mira, T., Buen, M., Borges, M., Yela, D., and Benetti-Pinto, C. (2018) 'Systematic review and meta-analysis of complementary treatments for women with symptomatic Endometriosis'. *International journal of gynecology and obstetrics*. 143(1), pp. 2-9. DOI: 10.1002/ijgo.12576.
- Signorile, P., Viceconte, R., and Baldi, A. (2022) 'New insights in Pathogenesis of Endometriosis' *Frontiers in Medicine*, 9(1), DOI: 10.3389/fmed.2022.879015