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THE ROLE OF TECHNOLOGY IN PCOS AND ENDOMETRIOSIS PSYCHOLOGICAL SYMPTOM IMPROVEMENT

Presented by Giorgia Guarnieri

Program of Psychology, Franklin University Switzerland

PSY496 – Senior Capstone in Psychology

PCOS AND ENDOMETRIOSIS

- **Polycystic Ovarian Syndrome (PCOS):** cysts in the ovaries, hyperandrogenism
Hirsutism (excess hair growth), acne, insulin resistance, difficulty losing weight, infertility
- **Endometriosis:** tissue similar to uterus lining growing on the outside, causes inflammation
Pelvic pain, painful menstruation, pain during intercourse, infertility
- **Incredibly common conditions, often go undetected but can greatly impact womens' lives**

PSYCHOLOGICAL IMPLICATIONS

- **Psychological symptoms:** Anxiety, Depression, Eating Disorders, Chronic Stress, other Mood symptoms
- **Quality of Life (QoL):** decreases due to these symptoms
Includes pain, self-image, emotional well being, and social relationships



TECHNOLOGICAL INNOVATIONS

- **Technological Innovations** (TIs) aimed at physical and psychological symptom improvement could help women with these conditions
Artificial Intelligence (Machine learning), Apps, Wearables, Digital health programs (mixed approach)
- **Functions of TIs:** Symptom tracking and logging, interacting with other patients and clinicians, learning more about the conditions (Apps, Wearables), and possible diagnosis (AI)



RESEARCH QUESTIONS

1. *Based on existing literature, what could be the most effective Technological Innovation for psychological symptom improvement?*
2. *What could be the possible advantages and disadvantages of using Technological Innovations for psychological symptom improvement?*



METHOD

Literature review

Semi-systematic review

Study carried out by following **PRISMA** guidelines to improve transparency

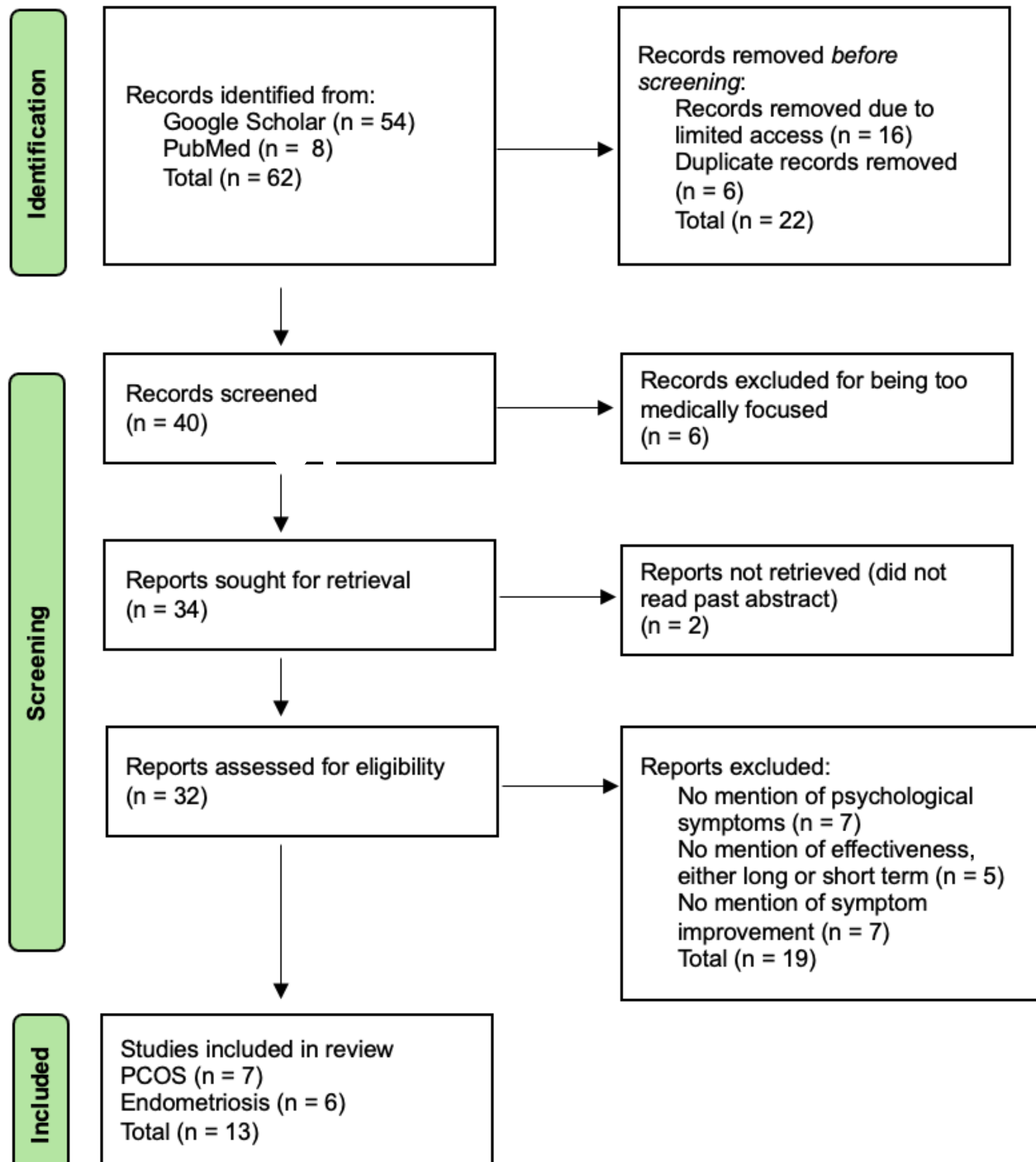
Bias assessment (RoB tool) to ensure validity and reliability

Participants were women with PCOS and Endometriosis, before and after using TIs

Inclusion and exclusion criteria & Database searches
(Google Scholar & PubMed)

Screening of studies & **Eligible outcomes**





RESULTS OF STUDY SELECTION

Identification of studies via database and registers represented using the PRISMA 2020 flow diagram for new systematic reviews

Important:

- Total studies identified (n = **62**)
- Studies assessed for eligibility (n = **32**)
- Studies included in review (n = **13**)

RESULTS: PCOS

- **Mobile apps** (*Arabkermani et al., 2025; Graca et al., 2024; Narayanan et al., 2026; Wright et al., 2025*):
reduced anxiety and depressive symptoms, overall well-being improved
- **Digital health interventions** (*Xie et al., 2025*):
reduced anxiety, depressive symptoms, and improved QoL
- **Artificial Intelligence (AI)** (*Wang et al., 2025*):
accurate in estimating the likelihood of having psychological conditions associated with PCOS
- **Wearables** (*Taha et al., 2025*):
overall psychological well-being improved



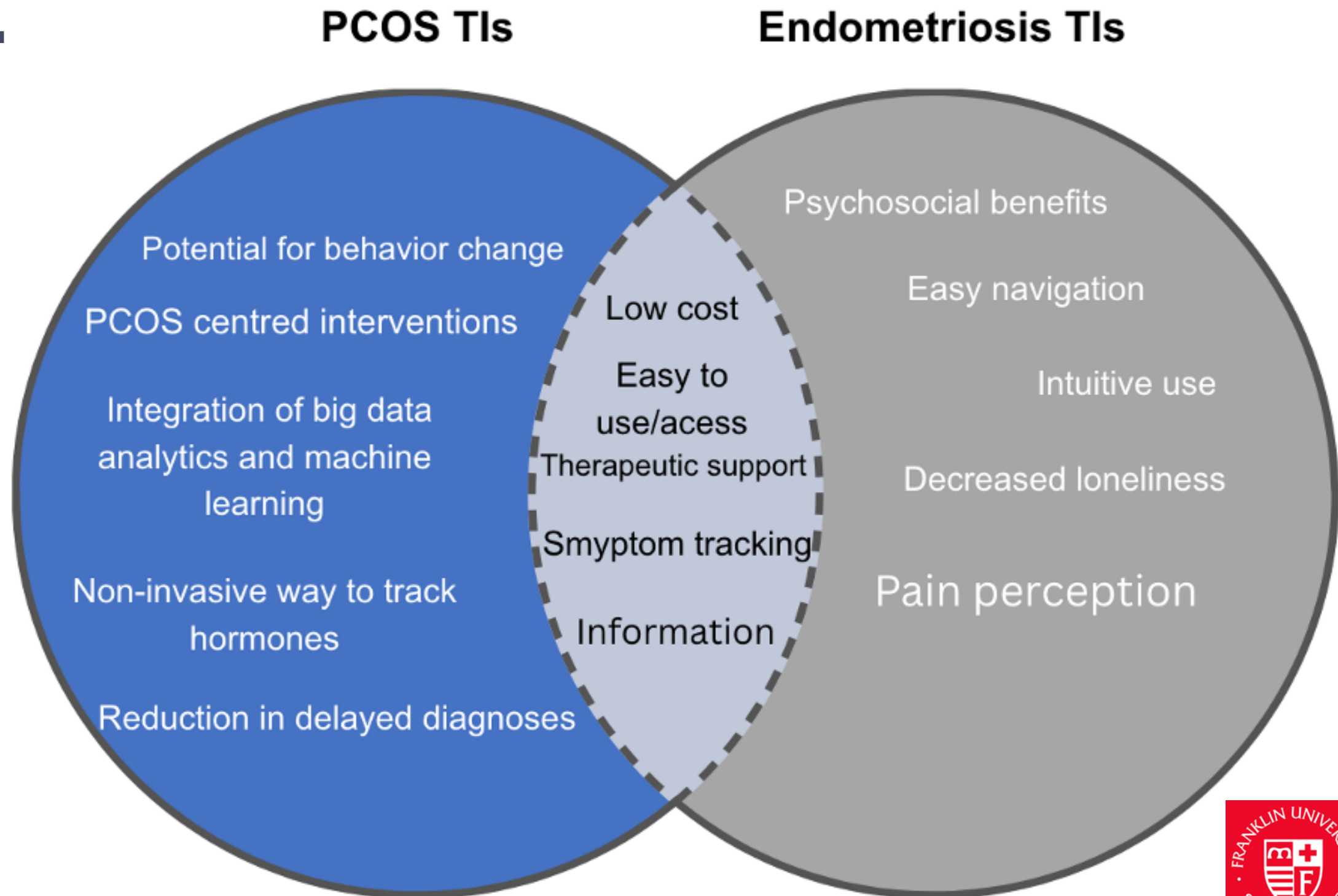
RESULTS: ENDOMETRIOSIS

- **Mobile apps** (*Oikkonen and Temmes, 2025; Pavic et al., 2025; Rohloff et al., 2024; Sirohi et al.*):
reduced anxiety, depressive symptoms, increased QoL, psychosocial benefits
- **Telehealth (CBT)** (*Evans et al., 2026*):
increase in QoL and reduced psychological distress
- **Digital health program of daily management** (*Breton et al., 2024*):
improvements in anxiety and depression

ADDITIONAL RESULTS

- **Advantages:** TIs are readily and easily accessible support
- **Disadvantages:** TIs might stop being effective depending on mode and frequency of use
- **Bias assessment:** Studies had good general validity (low concern of bias)

Advantages of TIs for PCOS and Endometriosis



DISCUSSION

- **Apps:** most effective and complete TI for psychological symptom improvement, important to keep in mind relapse possibilities due to frequency of use
- **Limitations:** recency of research
- **Future research:** relationship between **physical** and **psychological symptoms** + **hormonal contraceptives:** useful for physical symptoms BUT could still have psychological impact, especially for **patients already at risk of mood disorders**

CONCLUSION

- **Apps:** best at improving psychological symptoms (anxiety and depression) as well as QoL
These do NOT replace a real mental health specialist's help
- **Holistic treatment:** hormonal contraceptives (**physical symptoms**), TIs (**psychological symptoms**), and support from a mental health specialist
- **Combined treatment** for future research:
Potential for healthier and higher quality lifestyle



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THANK YOU FOR YOUR ATTENTION!

What questions do you have?
guarnieri425@student.fus.edu

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