

The Effectiveness of Yoga Interventions on Mental Health in Adult Women with Multiple Roles: A Systematic Review

Shofia Romadhona

Universitas MH Thamrin, Indonesia

Email: shofiaromadhona.kesmas@gmail.com

Keywords:	Abstract
Yoga; Mental Health; Adult Women; Stress; Anxiety; Depression	Adult women have a higher risk of experiencing mental health disorders due to the accumulation of work demands, family responsibilities, and various health conditions that come with it. Yoga is increasingly being researched as a complementary intervention to improve mental health, but the available evidence is still scattered across a wide range of population characteristics and research designs. This systematic review aims to synthesize scientific evidence on the effectiveness of yoga interventions on mental health in adult women. The research was compiled following the guidelines of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020. Literature searches were conducted on PubMed, Google Scholar, and ScienceDirect/Scopus using a combination of keywords related to yoga, women, and mental health. A total of 15 primary research articles published in 2021–2026 meet the inclusion criteria. The study population included working women as well as women with various health conditions, such as menopause, obesity, fibromyalgia, premenstrual syndrome, post-traumatic stress disorder, cancer survivors, and postpartum depression. The synthesis shows that yoga interventions consistently improve mental health through a reduction in symptoms of depression and anxiety, accompanied by improved sleep quality, psychological well-being, and quality of life. The effect on stress showed more varied results between studies. Overall, yoga has the potential to be an evidence-based complementary intervention to support adult women's mental health, although research with stronger methodologies and a broader representation of Indonesia's population is still needed.

Introduction

Mental health disorders are one of the increasing public health challenges in various countries (Campion et al., 2022; Foulkes & Andrews, 2023; Gianfredi et al., 2025; Khan et al., 2024; McGINTY, 2023). Adult women are among the groups that are more susceptible to experiencing stress, anxiety, and depression because they have to face various biological, psychological, social, and economic demands at the same time. The impact is not only felt on individual well-being, but also affects work productivity, interpersonal relationships, and overall quality of life (Alruwaili et al., 2024; Coco et al., 2023; Jung et al., 2023; Klimova & Pikhart, 2025; Marecki, 2023).

This vulnerability is even more pronounced in women who carry out more than one role in daily life (Castro & Sen, 2022; Goudet et al., 2024). In addition to participating in the world of work, many women still bear domestic responsibilities as wives, mothers, and household managers. This condition causes pressure that arises from the work and family environment interacting with each other and has the potential to increase the psychological burden (Agostoni et al., 2023; Belfiore et al., 2024; García-Salirrosas et al., 2023; Sun et al.,

2024). This phenomenon is known as role strain theory, which is a condition when various demands of roles that are carried out simultaneously exceed the physical and psychological resources that a person has.

Empirical findings in Indonesia show that the problem is not just a theoretical concept. Puteri, Anwar, and Irdianti (2024) reported that the dimension of work interference with family, which is a condition when work demands interfere with family life, contributes the largest to work stress in working mothers in Makassar City, with a proportion of 35.3%. These findings suggest that conflict between professional and domestic roles is one of the most dominant sources of stress in working women. The impact does not stop at the psychological aspect of the individual. Laksmi, Darma, and Mahyuni (2024) also found that mental health is directly related to the work performance of millennial mothers. The findings are in line with spillover theory, which explains that emotional experiences in one domain of life can affect individual functioning in other domains, including work productivity and the quality of family relationships.

This phenomenon is also reflected at the national level. Based on the 2023 Indonesian Health Survey (SKI), the prevalence of mental health problems in the population aged 15 years and older reached 2.0% based on measurements using the Self-Reporting Questionnaire (SRQ-20) (Zhafirah & Hastono, 2025). This figure confirms that mental health disorders are still a public health problem in Indonesia that requires continuous attention. Adult women are estimated to have higher susceptibility than men because they are influenced by a combination of hormonal changes, job demands, family responsibilities, and various chronic health conditions that are more experienced by women.

A variety of strategies have been developed to improve mental health, including complementary approaches that are safe and easy to implement. One of the interventions that is increasingly being researched is yoga. Yoga is a mind-body approach that integrates posture exercises (asana), breath management (pranayama), meditation, and relaxation. The combination of these components is thought to be able to improve emotional regulation through modulation of the autonomic nervous system, decrease the activity of the hypothalamic–pituitary–adrenal axis (HPA axis), increase parasympathetic activity, and improve neuroendocrine balance that plays a role in the response to stress. In addition to being easy to learn and relatively safe, yoga can also be done face-to-face or online so that it is more accessible to various community groups.

In recent years, research on yoga and mental health has shown rapid progress. Various studies report the benefits of yoga on reducing stress, anxiety, and depression, as well as improving sleep quality, psychological well-being, and quality of life. However, the characteristics of the available research are still very diverse (Gurnee et al., 2023; Lawrence et al., 2022). The variations included the study population, the health condition of the participants, the type of yoga used, the duration of the intervention, the comparison group, and the output measurement instruments. This heterogeneity causes the results of the study to not provide a complete picture of the effectiveness of yoga in adult women as a whole (Corrigan et al., 2022; Ko et al., 2023; Loewenthal et al., 2023; Rupani et al., 2024; Wu et al., 2023).

In addition, most previous studies have focused only on specific groups of women, such as menopausal women, cancer survivors, women with obesity, fibromyalgia, post-traumatic stress disorder, premenstrual syndrome, or postpartum motherhood. To date, there are limited

studies that integrate evidence from different characteristics of these populations to produce a more comprehensive understanding of the effectiveness of yoga interventions on adult women's mental health. In Indonesia, synthesis research with this approach is still relatively small, even though the issue of the burden of women's roles and mental health is increasingly becoming a concern.

Based on these gaps, this systematic review aims to identify, evaluate, and synthesize scientific evidence on the effectiveness of various forms of yoga interventions on mental health in adult women. The results of this study are expected to provide a more comprehensive picture of the benefits of yoga in various groups of adult women, as well as identify research gaps that still need attention in future studies. In addition, the findings of this study are expected to be a scientific basis in the development of promotive and preventive programs to improve women's mental health, especially for those who face various demands for roles in daily life.

Method

Literature Review Design

This study was a systematic literature review that follows the guidelines of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA).

Eligibility Criteria (PICOS)

Table 1. PICOS Criteria for Study Eligibility

Components	Criteria
Population	Adult women 18–60 years old, working or not, including certain health conditions (chronic pain, trauma, cancer, postpartum pain). Marital status is not mandatory; Dual roles are used as a point of view.
Intervention	Yoga of different types (Hatha, Yin, Yoga Nidra, combined, self-awareness-based), face-to-face or online.
Comparator	No exercises, other exercises/therapies, or no comparison groups (before-after).
Exterior	Main: stress, anxiety, and/or depression. Additions: sleep quality, confidence, body satisfaction, work-house balance.
Study design	RCTs, simple experiments, or before-after without comparison; 2016–2026; Full text in English/Indonesian.

Source: Authors' adaptation of PICOS framework for systematic review eligibility criteria (2026)

Sources of Information and Search Strategies

The search was conducted on three databases: PubMed, Google Scholar, and ScienceDirect/Scopus, with a combination of yoga, women, and mental health terms (stress, anxiety, depression), combined using the Boolean AND/OR operator.

Data Selection and Extraction Process

Articles are filtered in stages through an abstract-title check and then the full text based on the eligibility criteria above.

Results and Discussion

Fifteen synthesized primary studies were published between 2016 and 2026, comprising eight RCTs (including two with an equivalent active comparator group), five two-group studies with no clear randomization data, and two single-group studies with no

comparators at all. Ten of the fifteen studies were from India, while the rest were spread across China, Turkey, Egypt, Latvia, and Indonesia. This distribution is not just a geographical record, but an important clue as to where knowledge about yoga and women's mental health has come from, and where it hasn't really arrived.

Reading these fifteen studies one by one will result in a separate list of findings. But when read together, a red line begins to be seen: yoga is beneficial, but its benefits are unevenly distributed across all aspects of mental health, and its strength changes depending on how rigorously it is tested.

Mood Improvement Is More Consistent Than Stress Reduction

A synthesis of fifteen studies shows that the benefits of yoga are most consistently seen in mood improvement, especially through a reduction in symptoms of depression and anxiety. This pattern is found in various groups of adult women, ranging from working women, cancer survivors, women with PTSD, fibromyalgia, obesity, menopause, to postpartum mothers. The consistency of the findings suggests that yoga has a strong role in improving emotional regulation and psychological well-being in a variety of conditions.

In contrast, the effect of yoga on stress shows more varied results. Although most studies reported a meaningful reduction in stress, some high-quality studies, such as Yi et al. (2022), did not find significant differences compared to the control group. The variation indicates that the response to stress is influenced by a variety of factors, such as population characteristics, underlying health conditions, the type and duration of yoga interventions, and the instruments used to measure stress. Thus, the benefits of yoga seem to be reflected more quickly in an individual's ability to manage negative emotions, such as anxiety and depression, than in a decrease in stress levels which are often still affected by work pressure, social demands, and chronic health conditions.

These findings suggest that yoga does not necessarily eliminate the sources of stress faced by adult women, but it does help improve adaptive capacity in responding to such stress. In other words, yoga acts as an emotion regulation strategy that strengthens psychological resilience, so that individuals are able to face various life pressures with calmer, adaptive, and controlled responses.

The Paradox of Active Comparison Groups

The second finding emerged when yoga was tested with other activities that both involved social interaction, rather than just groups without activity. Durusoy et al. (2026) compared yoga with education + physiotherapy + walking in fibromyalgia patients no significant difference was found in the main impact of the disease. Yi et al. (2022) compared yoga to sharing experiences and board games stress was not significantly different. Once yoga is confronted with other equally socially friendly activities, its superiority fades, indicating that some of the benefits of yoga in passively controlled studies may be supported by non-specific factors such as attention and the presence of others, rather than the yoga technique itself.

Participants' Subjective Experience as a Complement to Quantitative Findings

The quantitative data were able to answer the question of whether yoga was effective in improving mental health, but did not fully explain how the changes were experienced by participants. This perspective is enriched by the qualitative study of Vollbehr et al. (2026), which explored the experiences of young women with major depression after participating in the Mindful Yoga program. The results show that the benefits of yoga are not only reflected

through a decrease in depression or anxiety scores, but also through changes in the way individuals perceive their thoughts, emotions, and themselves. Participants described increased metacognition, which is the ability to observe negative thoughts without reacting automatically, as well as the development of awareness of the body and emotional states.

Interestingly, the process does not always take place comfortably. Some participants reported the appearance of anxiety, difficulty in being still, and increased awareness of emotions that had been avoided when undergoing yoga practice for the first time. This experience shows that increasing self-awareness can be a challenging process before eventually evolving into better self-acceptance and emotion regulation. The findings help explain why quantitative results between studies do not always show the same level of effectiveness. The response to yoga appears to be influenced by the individual's psychological readiness, underlying health conditions, the characteristics of the intervention, as well as the adaptation processes that take place during the exercise. Thus, the benefits of yoga are not only reflected in changes in psychological scores, but also in the transformation of subjective experiences that develop gradually during the intervention process.

Recurring Methodological Vulnerabilities

The three studies in this collection require separate caution notes, and all three show different types of vulnerabilities. Parmar & Singh (2024) mix yoga programs with psychological therapy (CBT), so the reported benefits cannot be ascertained purely from yoga this is a problem on the intervention side. Rajaput et al. (2026) and Patel, Baria, & Joshi (2016) have a population where the majority are not working women (62% and 64% are non-workers, respectively) this is a population issue. These three vulnerabilities remind us that the label "research on yoga and working women" in the title of an article does not necessarily reflect who is actually being researched in it. By comparison, Pavithra et al. (2026) are a transparent example: the data explicitly show that the majority of participants are married and actively employed, making it one of the most relevant pieces of evidence for the dual role perspective that this review underpins.

In terms of secondary outcomes, sleep quality and confidence consistently improved in studies that measured it (Metri et al., 2023; Parajuli et al., 2021; Kumaat et al., 2025), supports the potential of yoga as an intervention that benefits more broadly than just one single aspect of mental health.

Technological Innovation and Strengthening Biological Evidence

A recurring limitation in the fifteen major studies was the reliance on self-reports as the only evidence. Liu, Deng, Lu, & Xiao (2025) offer a different direction: testing virtual reality-based (VR)-based yoga-mindfulness in postpartum women, while simultaneously measuring salivary cortisol an objectively measurable stress hormone. As a result, a decrease in depression-anxiety was accompanied by a corresponding decrease in cortisol. These findings reinforce the claim that yoga influences the physiological pathways of stress, rather than simply changing the way questionnaires are answered, while also opening up VR modalities that have the potential to answer the challenge of limited direct instructor access.

Connecting Global Evidence with the Indonesian Context

The red line that connects all of the above findings goes back to the issue raised from the beginning of this review: the burden of dual roles on working women. Data from Puteri, Anwar, & Irdianti (2024) show that role conflicts when work interferes with family affairs

contribute 35.3% to work stress of working mothers in Makassar. Data from Laksmi, Darma, & Mahyuni (2024) show that impaired mental health will seep into work performance, according to the spillover theory. These two local data provide context for why the findings from fifteen international studies remain relevant for Indonesia: the problems they examined stress due to overlapping roles, psychological exhaustion due to dual demands are exactly the same problems faced by working mothers in Makassar and other Indonesian cities. Unfortunately, of all the evidence of yoga interventions that have been collected, only one actually comes from the country (Kumaat et al., 2025). This gap is the most urgent to be filled by future research.

Limitations And Implementation Challenges

Limitations of the Review

First, thirteen of the fifteen studies did not report participants' marital status, so the dual role perspective in this review is an interpretive framework, not direct evidence from the data of each study. Second, the methodological quality assessment in this review is still narrative, not using a systematic structured bias risk assessment instrument. Third, the number of studies from the Indonesian context is very limited (only one in fifteen), so generalizations to the local context need to be done carefully. Fourth, three studies (Parmar & Singh, 2024; Rajaput et al., 2026; Patel, Baria & Joshi, 2016) have specific limitations related to the purity of the intervention or the suitability of the population which have been described in the Results and Discussion section.

Implementation Challenges in the Field

The application of yoga as part of public health services faces a number of practical challenges. The availability of yoga instructors who also understand the basics of mental health is still limited, especially outside of big cities. The standard duration and frequency of training are not uniform between programs, making it difficult to replicate research results into real practice. Cultural acceptance of yoga as a practice of a particular tradition can also affect the involvement of some community groups. In addition, the sustainability of the program is a challenge in itself, given that most studies only evaluate short-term benefits.

Implications for health promotion and ppm programs

The results of this review provide some practical inputs. First, low-cost group yoga programs can be an option for mental health promotion activities in health centers, workplaces, and communities, with an emphasis on the most consistent evidence-supported benefits of mood and relaxation, without claiming yoga as a substitute for treating clinically diagnosed mental disorders.

Second, Community Service (PPM) activities can be directed to the training of cadres or basic yoga instructors at the community level, considering that the limited trained workforce is one of the implementation challenges identified. Third, considering that data from the Indonesian context is still very limited, public health higher education institutions have the opportunity to initiate local community-based yoga programs that at the same time produce primary research data for the development of scientific evidence from the Indonesian context.

Conclusion

Evidence from fifteen primary studies (2016–2026) suggests that yoga interventions are generally beneficial in lowering stress levels and improving mood in adult women, although

the strength of the evidence decreases when compared to a comparable group of equivalent activities. The effects on anxiety are also more varied than the effects on mood in general. Yoga shows real potential as one of the options for adult women's mental health support, but it needs to be positioned as a complement, not a replacement, to standard treatment for diagnosed clinical conditions. For future research, it is recommended to conduct studies with more rigorous methodologies, including larger sample sizes, active comparator groups, and longer follow-up periods to evaluate the sustainability of yoga's benefits. Researchers should also examine the effectiveness of yoga across diverse cultural contexts, particularly in Indonesia where local evidence remains extremely limited, and to clearly report participants' marital and employment status to enable analysis from a dual-role perspective. For practice and policy, health facilities, workplaces, and community organizations are encouraged to integrate low-cost group yoga programs as part of mental health promotion activities, while ensuring that such programs are delivered by trained instructors who understand the basics of mental health. Health policymakers should consider developing standardized guidelines for yoga-based mental health interventions, including recommended duration, frequency, and instructor qualifications, to support replicability and program sustainability. Additionally, community service programs in higher education institutions can be directed toward training community-level yoga instructors while simultaneously generating primary research data from the Indonesian context to strengthen the local evidence base.

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