

Systematic Review

Clinical Effectiveness of Ashwagandha in Menopause: A Systematic Review

Frederick Wirawan^{1*}, Putu Enrico Pramana Okaniawan², Isharyah Sunarno³

¹Faculty of Medicine, Hasanuddin University, Makassar, South Sulawesi, Indonesia

²Faculty of Medicine, Ganesha University of Education, Buleleng, Bali, Indonesia

³Department of Obstetrics and Gynecology, Faculty of Medicine, Hasanuddin University

Correspondence: fredwrwn@gmail.com

ABSTRACT

Background: Menopause is the natural and permanent cessation of menses, often accompanied by vasomotor symptoms that can impact a person's quality of life. Ashwagandha (*Withania somnifera*), also known as Indian ginseng, has been shown to ameliorate some of the symptoms associated with menopause in women, particularly climacteric symptoms.

Objective: This study aimed to evaluate Ashwagandha (*Withania somnifera*) in reducing menopausal symptoms and improving quality of life, as measured by the Menopause Rating Scale (MRS) and the Menopause-Specific Quality of Life (MENQOL) questionnaire.

Methods: A systematic review was conducted following the PRISMA guidelines, with pre-defined keywords and pre-determined inclusion and exclusion criteria. Risk of bias was assessed using RoB 2 for RCTs and ROBINS-I for non-RCTs.

Results: Based on the inclusion criteria, 7 studies were identified: 4 randomized controlled trials (RCTs) and 3 non-randomized trials. The RCTs were judged to have low risk of bias, while the non-randomized trials were judged to have high (serious) risk of bias. Menopausal symptom outcomes were measured using MRS (2 studies), MENQOL (2 studies), both MRS and MENQOL (2 studies), and MENQOL with SGA (1 study). Six of the 7 studies showed significant improvement in menopausal symptoms and quality of life with the use of Ashwagandha (*Withania somnifera*), while the remaining study observed a tendency toward improvement but lacked a control group.

Conclusion: Ashwagandha (*Withania somnifera*) shows potential in alleviating menopausal symptoms and improving quality of life. These findings suggest that Ashwagandha may serve as a promising non-hormonal option to support integrative healthcare for women during the menopausal stage.

Keywords: Ashwagandha, *Withania somnifera*, Menopause, Quality of Life

Citation: Wirawan, F., Okaniawan, P. E. P., Sunarno, I. Clinical Effectiveness of Ashwagandha in Menopause: A Systematic Review. Bali Medical and Wellness Journal 2026, 3 (2), 29-41. DOI:

<https://doi.org/10.7134/1/bmwj.v3i2.61>

Submitted: May, 11 2026
Revised: July, 31 2026
Accepted: August, 12 2026
Published: August, 13 2026



This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

INTRODUCTION

Menopause is defined as the permanent cessation of ovulation, marked by the end of menstruation. The menopausal transition is marked by changes in estradiol and follicle-stimulating hormone (FSH) levels and in the regularity and length of menstrual cycles (Phipps et al., 2010). Reproductive aging can eventually lead to menopause, which can have profound effects on a woman's wellbeing and can increase the risk of depression (Inman & Flaws, 2024). The age at which the menopausal transition occurs depends on many factors, such as socioeconomic status, personal health and lifestyle choices, and environmental factors (Ding et al., 2022). Traditionally defined as the time of a woman's last menstrual bleed, this definition of menopause does not apply to women with irregular periods or

amenorrhea due to a variety of causes prior to their natural menopausal transition. Therefore, a more broadly applicable definition of menopause is the final cessation of ovarian function, comprising loss of reproductive hormone production and irreversible loss of fertility (Davis et al., 2023).

Understanding the biological mechanisms of the menopausal transition, or perimenopause, is complicated (Santoro, 2016). The earliest hormonal changes are a decrease in the ovarian production of inhibin, which is responsible for restraining pituitary follicle-stimulating hormone (FSH) secretion — specifically inhibin B in the follicular phase and inhibin A in the luteal phase. The rise in FSH results from declining levels of inhibin B (INH-B), a dimeric protein that reflects the fall in ovarian follicle numbers, with or without any change in the ability of the granulosa cells lining the follicle to secrete INH-B. Estradiol levels remain relatively unchanged, or tend to rise with age, until the onset of the transition, and are usually well preserved until the late perimenopause, presumably in response to the elevated FSH level (Burger et al., 2002). In some cases, this phenomenon leads to recruitment of a new follicle before the prior cycle has ended, the so-called “luteal-out-of-phase” (LOOP) phenomenon. Some symptoms may emerge at this point, including mild hot flashes and perimenstrual sleep disruption. The early transition is highly variable in duration and can last for 5 years or longer (Davis et al., 2023).

Once a woman has gone 60 days or longer without a menstrual period, she has entered the late menopausal transition, and the prevalence of more classic menopausal symptoms increases. These include worsening vasomotor symptoms (VMS) (hot flashes and night sweats), vaginal dryness, worsening sleep, and adverse mood (low mood and anxiety) (Davis et al., 2023). The prevalence of VMS more than doubles with age, increasing from 32% of premenopausal women to 66% of perimenopausal women. The prevalence of any menopause-related VMS varies from 53% to 80% worldwide (Gartoulla et al., 2015). The US-based Study of Women's Health Across the Nation (SWAN) reports that the prevalence of VMS is 50–82% among US women who go through natural menopause, with a markedly lower prevalence reported elsewhere — ranging from 36–50% in North America to 22–63% in Asia. Disparities in the prevalence of depression among middle-aged women across different countries have also been noted: an Indian study found a depression prevalence of approximately 40.0%, comparable to Brazil's prevalence of 36.8% (Fang et al., 2024). The impact of VMS on individuals' quality of life (QOL) can be significant. Women with moderate-to-severe VMS may experience sleep problems, fatigue, anxiety, and depression, which may impair their ability to work and carry out day-to-day activities (Nappi et al., 2021). Hormone therapy (HT) has been the cornerstone of VMS management and has been shown to be effective in reducing VMS severity and improving quality of life (Khan et al., 2023). As the global population of menopausal and postmenopausal women continues to rise, identifying safe and effective non-hormonal alternatives is crucial for improving their quality of life. However, many women with VMS do not seek advice from healthcare professionals; instead, they try complementary therapies and over-the-counter medications (Nappi et al., 2021). By emphasizing non-hormonal and natural interventions such as Ashwagandha (*Withania somnifera*), this study aligns with the ethical principles of beneficence and non-maleficence, promoting safer therapeutic

options for women who cannot or choose not to undergo hormone replacement therapy.

Although several studies have investigated various herbal and Ayurvedic preparations for managing menopausal symptoms, the clinical evidence specifically focusing on Ashwagandha (*Withania somnifera*) remains limited and fragmented. Moreover, the existing literature varies widely in terms of formulations, dosages, and study designs, making it difficult to draw consistent conclusions. This review aimed to evaluate Ashwagandha (*Withania somnifera*) as a non-hormonal alternative to Hormone Replacement Therapy (HRT) in reducing menopausal symptoms and improving quality of life, as measured by the Menopause Rating Scale (MRS) and the Menopause-Specific Quality of Life (MENQOL) questionnaire, thereby providing a more comprehensive understanding of its therapeutic potential. The findings may also guide future large-scale, standardized clinical trials and support the incorporation of Ashwagandha (*Withania somnifera*) into holistic approaches to menopausal care.

METHODS

This systematic review followed the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. The literature search was conducted across several databases — PubMed, Google Scholar, and ScienceDirect — covering studies published from 2012 to 2025. The search strategy used combinations of keywords and MeSH terms related to menopause, quality of life, Ashwagandha, and clinical outcomes such as improvement in quality of life as measured by the Menopause Rating Scale (MRS) and the Menopause-Specific Quality of Life (MENQOL) questionnaire.

Literature Search Strategy

A structured search strategy was applied using Boolean operators and medical subject headings. An example query used in PubMed was:

("Withania somnifera"[MeSH Terms] OR "Withania somnifera"[All Fields] OR "ashwagandha"[All Fields]) AND ("Menopause"[MeSH Terms] OR "menopause"[All Fields]) AND ("Quality of Life"[MeSH Terms] OR "quality of life"[All Fields])

Study Selection and Eligibility Criteria

The inclusion criteria were:

- Study design: randomized controlled trials (RCTs), and prospective or retrospective cohort studies.
- Population: menopausal women.
- Intervention: Ashwagandha (*Withania somnifera*) supplementation.
- Comparator: placebo or control (no intervention).
- Outcomes: improvement in menopausal symptoms and quality of life, measured by the Menopause Rating Scale (MRS) and/or the Menopause-Specific Quality of Life (MENQOL) questionnaire.

Exclusion criteria were: case reports, narrative reviews, studies on Ayurvedic medicine that did not involve Ashwagandha (*Withania somnifera*), studies that did not use the MRS or MENQOL as an outcome measure, and studies on menopausal symptoms unrelated to quality-of-life outcomes.

Study Screening and PRISMA Flow

A total of 188 records were identified through the Google Scholar, PubMed, and ScienceDirect databases. After removing duplicate records, 20 records remained for screening; of these, 8 articles were assessed for eligibility at full-text level, and 7 studies were included after meeting the eligibility criteria. The PRISMA flow diagram in Figure 1 illustrates the study selection process.

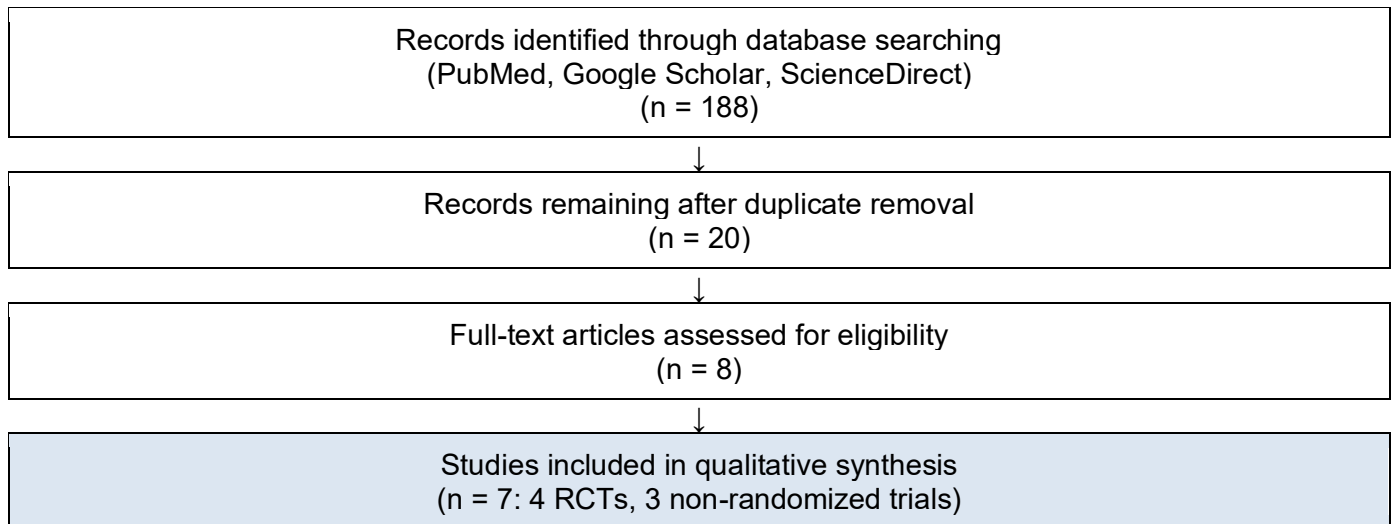


Figure 1. PRISMA flow diagram of study selection.

Note: The source manuscript did not report the number of records excluded at the screening stage or the reasons for exclusion at the eligibility stage (8 assessed vs. 7 included); these are not shown here as they could not be verified.

Data Synthesis and Quality Assessment

Risk of bias was evaluated using the Cochrane Risk of Bias Tool 2.0 (RoB 2) for RCTs and the Risk Of Bias In Non-randomized Studies of Interventions (ROBINS-I) for non-RCTs.

RESULTS

A total of 7 primary research articles were included in this review, selected through a systematic process based on predefined inclusion and exclusion criteria. Table 1 summarizes the design, population, intervention, and key findings of each included study.

Of the RCTs, Steels et al. (2018) reported reduced overall MENQOL scores and vasomotor, psychosocial, physical, and sexual MENQOL domain scores ($p < 0.001$) following 12 weeks of Genopause® therapy. Pingali et al. (2025) showed that Ashwagandha and Shatavari extract supplementation led to substantial reductions in MENQOL scores, bone turnover markers, and inflammatory markers ($p < 0.0001$). Similarly, Isukapalli Vani et al. (2022) demonstrated that KSM-66 Ashwagandha® reduced MRS scores and increased serum estradiol and progesterone ($p < 0.0001$), while reducing FSH, LH, and the frequency of hot flashes. Dixit et al. (2023) found that Menoveda Akira Tablet supplementation significantly reduced menopause-

related mental health symptoms such as anxiety, insomnia, and depression, and significantly reduced MENQOL scores.

The non-randomized trials also supported this pattern. Modi et al. (2012) and Tomar et al. (2017) reported significant reductions in MRS and MENQOL scores when Ashokarishta, Ashwagandha Churna, or Pravala Pishti was consumed, with no side effects reported. Choudhury et al. (2025) also found that Arth Perimenopause Multisymptom Support Capsules markedly reduced MRS scores (by 92.97%) within 60 days ($p < 0.01$), and that 93% of participants experienced complete relief from hot flashes. Overall, the studies provided evidence that treatment with Ashwagandha, either alone or in combination with other Ayurvedic herbs, reduced menopausal symptoms, improved quality of life, and was well tolerated.

Table 1. Summary of primary studies.

Author	Study Design	Year	Population	Intervention	Duration	Control	Outcome	Result	Conclusion
Steels et al.	RCT	2018	Perimenopausal women aged between 40 and 65 years, experiencing menopausal symptoms.	Ayurvedic medicine (Genopause®).	Baseline and at each time point of week 4, week 8, and week 12.	Placebo	MENQOL	A significant difference was demonstrated for the total MENQOL score and the vasomotor ($p < 0.001$), psychosocial ($p < 0.001$), and physical ($p = 0.02$), and sexual domains ($p < 0.001$) between the active treatment and placebo groups after 12 weeks. There was a significant reduction in total hot flashes, daytime hot flashes, and night sweats in the active treatment group compared to the placebo group ($p \leq 0.001$). No significant changes were observed in serum hormone levels or health indices between the active and placebo groups.	This study demonstrated that a combination of <i>Tinospora cordifolia</i> , <i>Asparagus racemosus</i> , <i>Withania somnifera</i> , and <i>Commiphora mukul</i> was a safe and effective treatment for reducing menopausal symptoms in healthy menopausal women over a 12-week period.
Choudhury et al.	Prospective, observational trial	2025	Perimenopausal women aged 40–48 years with irregular menstrual cycles who reported experiencing at least two menopausal symptoms.	Arth Perimenopause Multisymptom Support Capsules.	Baseline, day 7, 15, 30, and 60.	—	MRS	At baseline, 100% of patients reported hot flashes, followed by irritability (90%) and night sweating (83%). The mean MRS score decreased from 39 at	Arth Perimenopause Multisymptom Support Capsules demonstrated significant efficacy in alleviating perimenopausal symptoms while

Author	Study Design	Year	Population	Intervention	Duration	Control	Outcome	Result	Conclusion
								baseline to 2.74 by day 60 (-92.97%, $p<0.01$). By day 60, 93% of patients achieved complete resolution of hot flashes, 88% for sweating, 91% for anxiety, and 90% for depressive mood ($p<0.05$). Overall, treatment significantly improved menopausal symptoms, quality of life, and patient satisfaction.	improving quality of life.
Tomar et al.	Open-label, single-arm, pre-post clinical trial	2017	Perimenopausal women aged 40–55 years with amenorrhea ≥ 12 months; Kupperman menopausal index score ≥ 15 ; FSH ≥ 20 IU/L; endometrial thickness ≤ 5 mm.	Ashokarishta, Ashwagandha Churna, and Pravala Pishti.	12 weeks, followed by a subsequent 2-week no-intervention follow-up period.	—	MRS and MENQOL	Therapy produced a statistically significant decrease in total MRS score ($p<0.001$). The mean total MRS score was 22.43 at baseline, decreasing to 5.29 after treatment on day 84, and further reducing to 5.06 at the 14-week follow-up (without trial intervention). Improvements in MENQOL across the four domains — vasomotor, psychosocial, sexual, and physical — at weeks 12 and 14 were also significant ($p<0.001$) compared with baseline. All safety parameters, including liver and kidney function tests, remained within normal limits throughout the trial, and no adverse events or adverse drug reactions were reported, confirming the clinical safety of the study preparations.	Ashokarishta, Ashwagandha Churna, and Pravala Pishti were found to be safe and effective in the management of menopausal syndrome.

Author	Study Design	Year	Population	Intervention	Duration	Control	Outcome	Result	Conclusion
Modi et al.	Open-label, single-arm, pre-post clinical trial	2012	Perimenopausal women aged 40–55 years with amenorrhea ≥ 12 months; Kupperman menopausal index score ≥ 15 ; FSH ≥ 20 IU/L; endometrial thickness ≤ 5 mm.	Ashokarishta, Ashwagandha Churna, and Pravala Pishti.	3 months.	—	MRS and MENQOL	A highly significant ($p < 0.01$) reduction was found in MRS and MENQOL symptom scores. Combined treatment produced better results for both somatic and psychological complaints in women with mild-to-moderate symptoms of menopausal syndrome.	In women with mild-to-moderate symptoms of menopausal syndrome, combined treatment (Ashokarishta + Ashwagandha Churna + Pravala Pishti) produced better results for both somatic and psychological complaints. No adverse effects were noted during the study; the combination may therefore be a safe alternative to conventional drugs and an effective therapy for psychological and somatic problems related to menopausal syndrome.
Dixit et al.	RCT	2023	Postmenopausal women aged 45–70 years experiencing one or more mental health issues such as anxiety, insomnia, or depression; able to provide written informed consent and comply with study requirements.	Menoveda Akira Tablets.	30 days.	Placebo	SGA and MENQOL	There was significant improvement in primary and secondary outcomes, including the Subject Global Assessment (SGA) for menopause-related mental health issues. Mean SGA-anxiety scores were 1.86 and 0.53 (pre- and post-treatment) in the treatment group, versus 2.13 and 1.86 in the placebo group. Similar significant treatment-group improvements over placebo were observed across the remaining SGA subdomains — depression, insomnia, hot flushes, headache, memory loss, night sweats, tiredness, irritability, and mood swings. Mean MENQOL	Menoveda Akira Tablets significantly reduced all major menopause-related mental health symptoms — anxiety, depression, insomnia, hot flushes, headache, night sweats, memory loss, tiredness, irritability, and mood swings — along with improvement in the secondary outcomes MENQOL and QOL.

Author	Study Design	Year	Population	Intervention	Duration	Control	Outcome	Result	Conclusion
								scores were 78.16 and 45.43 (pre- and post-treatment) in the treatment group versus 77.5 and 75.23 in the placebo group; mean QOL scores were 34.63 and 15.63 in the treatment group versus 36.26 and 33.56 in the placebo group.	
Isukapalli Vani et al.	RCT	2022	Women aged 45–55 years with a clinical diagnosis of menopause and no history of hormone therapy or antidepressant treatment in the past 3 months; BMI 20–30 kg/m ² ; ≥10 hot flash events per week.	KSM-66 Ashwagandha® capsules, 300 mg.	Baseline visit (day 1) to end of study (day 56).	Placebo	MRS	Total MRS score was significantly reduced ($p<0.0001$) with Ashwagandha root extract (ARE) supplementation, particularly in the psychological ($p<0.0001$), somatic ($p<0.0001$), and urogenital ($p<0.0001$) domains compared with placebo. The ARE group showed improved serum estradiol ($p<0.001$) and progesterone ($p<0.001$), and higher Short Form-12 (SF-12) scores ($p<0.001$), along with reductions in serum FSH ($p<0.001$) and LH ($p<0.001$), hot flash events ($p<0.001$), and Perceived Stress Scale (PSS-10) scores ($p<0.001$).	Inclusion of Ashwagandha for the management of menopausal syndrome is a promising therapeutic option. The safety and efficacy of different Ashwagandha concentrations warrants further study.
Pingali et al.	RCT	2025	Women with no menstruation for 12 consecutive months, aged 40–55 years, with normal thyroid, liver, and kidney function; serum 25-hydroxy vitamin D above 20 ng/mL; no bisphosphonate use in the past year.	Ashwagandha and Shatavari extracts.	24 weeks.	Placebo	MENQOL	Supplemented groups showed a significant, dose-dependent decrease in MENQOL and resorption index (RI) compared with placebo ($p<0.0001$). Women supplemented with Ashwagandha or Shatavari extracts had significantly	Daily supplementation with Withania somnifera or Asparagus racemosus extracts dose-dependently reduces menopausal symptoms, vascular dysfunction, bone turnover/resorption, and estrogen-deficiency-related inflammation and

Author	Study Design	Year	Population	Intervention	Duration	Control	Outcome	Result	Conclusion
								decreased levels of bone turnover markers (CTx, bone alkaline phosphatase, RANKL) and increased osteoprotegerin (p<0.0001). Significantly decreased levels of inflammatory and oxidative stress markers (hs-CRP and malondialdehyde), and increased glutathione and nitric oxide levels, were also observed (p<0.0001).	oxidative stress in postmenopausal women.

Risk of Bias Assessment

Of the 4 included RCTs, all were judged to have an overall low risk of bias on the Cochrane RoB 2 tool, with some concerns identified in the domain of bias arising from the randomization process for two studies (Figure 2). In contrast, all 3 non-randomized trials were judged to have an overall serious (high) risk of bias on the ROBINS-I tool, driven primarily by bias due to confounding, deviations from intended interventions, and measurement of outcomes (Figure 3).

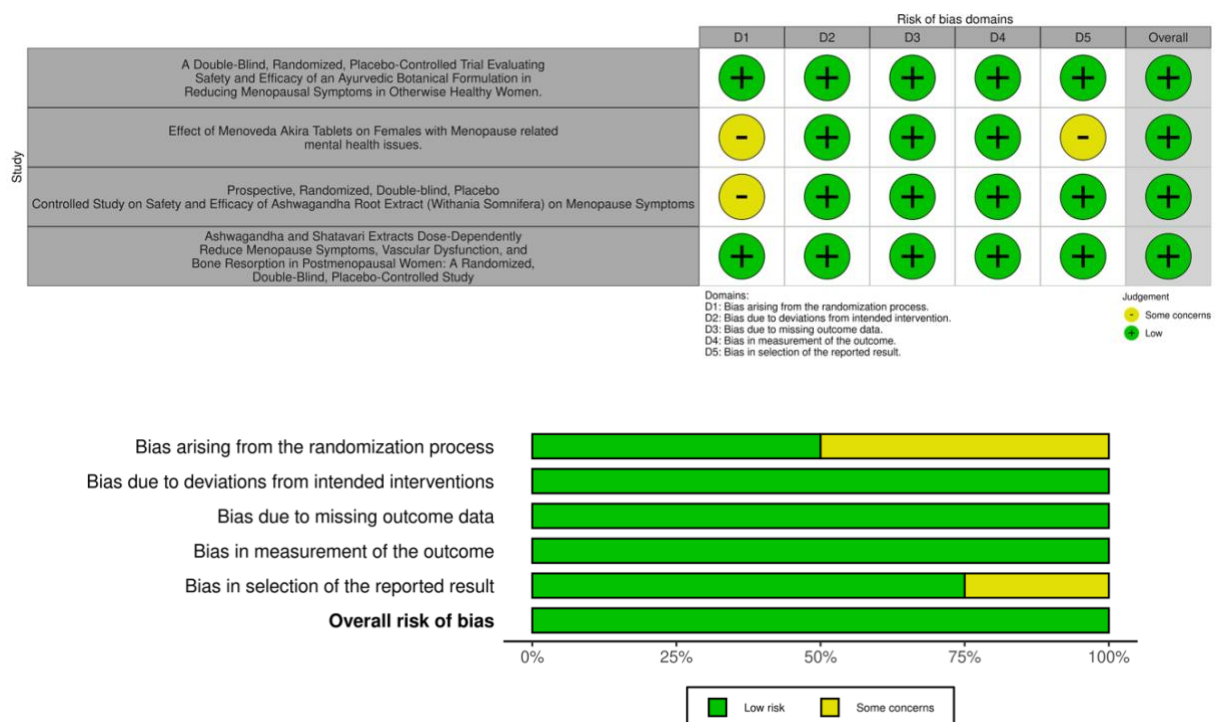


Figure 2. Risk of bias assessment of the 4 included RCTs (RoB 2).

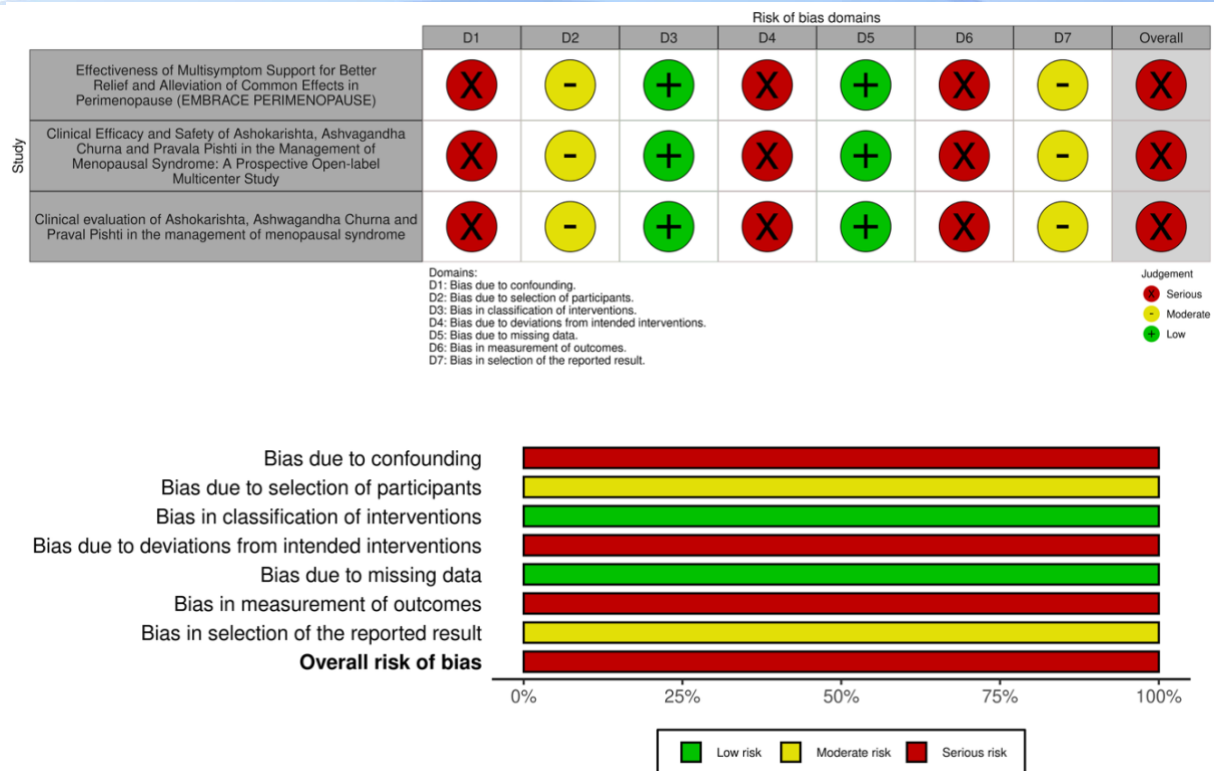


Figure 3. Risk of bias assessment of the 3 included non-RCTs (ROBINS-I).

DISCUSSION

Menopause is defined as the permanent cessation of menstruation and occurs between the ages of 49 and 52 years. Health concerns among menopausal women mainly relate to vasomotor symptoms, urogenital atrophy, osteoporosis, cardiovascular disease, cancer, psychiatric symptoms, cognitive decline, and sexual problems (Koothirezhi & Ranganathan, 2023). By 2030, an estimated 1.2 billion women globally will be menopausal or postmenopausal, with 47 million new entrants annually. Vasomotor symptoms, experienced by over 80% of women, can last from 5 to 15 years, significantly impacting sleep, mood, cognition, and quality of life (Isukapalli Vani et al., 2022). The present systematic review was conducted to evaluate the efficacy and safety of Ashwagandha (*Withania somnifera*), alone and in combination with other Ayurvedic preparations, in mitigating menopausal symptoms. All included studies showed consistent improvement in menopausal symptom scores and quality-of-life parameters. These findings suggest that Ashwagandha interventions could be a promising adjuvant therapy for managing the physical, psychological, and vasomotor symptoms of menopause. Ashwagandha root extract was associated with statistically significant improvements in vasomotor (hot flashes, night sweating), psychological (depressed mood, irritability, anxiety, and exhaustion), and somato-vegetative and urogenital symptoms compared with placebo (Koothirezhi & Ranganathan, 2023).

Ashwagandha (*Withania somnifera*) is an adaptogenic herb that promotes homeostatic health by balancing complex, multi-directional regulatory pathways

(Isukapalli Vani et al., 2022). Its calming and mood-enhancing properties have been confirmed in several published clinical studies conducted in adults of varying ages experiencing stress and anxiety, with Ashwagandha administration showing a positive impact compared with placebo on stress, anxiety, and depressive symptoms (Koothirezhi & Ranganathan, 2023). A small number of RCTs have shown that Ashwagandha root extract induces a significant reduction in the intensity of menopausal symptoms as measured by standardized tools such as the MRS and MENQOL. Isukapalli Vani et al. (2022) reported that 300 mg of KSM-66 Ashwagandha daily for eight weeks led to a notable reduction in overall MRS score and in psychological, somatic, and urogenital domain scores ($p < 0.0001$), along with favorable hormonal changes such as increased estradiol and progesterone levels. Similarly, Pingali et al. (2025) demonstrated that Ashwagandha and Shatavari extracts improved MENQOL scores and reduced biochemical markers of inflammation and oxidative stress, suggesting systemic benefits beyond symptom control.

Preparations combining Ashwagandha with other Ayurvedic ingredients such as Ashokarishta, Pravala Pishti, Tinospora cordifolia, and Asparagus racemosus also showed favorable clinical outcomes. Steels et al. (2018) reported a reduction in MENQOL score and its domains, while Tomar et al. (2017) and Modi et al. (2012) reported that concomitant use of these herbal treatments reduced MRS scores with no reported side effects, underscoring the safety of these traditional preparations. Choudhury et al. (2025) observed a 92.9% reduction in cumulative MRS score after 60 days of Arth Perimenopause Multisymptom Support capsule intake, illustrating rapid and sustained symptom relief. Notably, no serious adverse effects or safety concerns were documented in any of the included studies, supporting the tolerability of Ashwagandha-based interventions. This favorable safety profile is particularly relevant given the limitations and contraindications associated with hormone replacement therapy (HRT), including cardiovascular and oncologic risks. Ashwagandha therefore appears to be a promising alternative or adjunct therapy for women seeking natural approaches to managing menopausal symptoms.

However, some limitations must be noted. The reviewed studies employed varying sample sizes, durations, and preparations, which may limit the generalizability of the results. Furthermore, despite the inclusion of several randomized controlled designs, methodological heterogeneity — such as unblinded or unstandardized dosing in the non-RCTs — could have introduced bias. Future studies should therefore focus on large, multicenter RCTs using standardized Ashwagandha preparations and standardized outcome measures to confirm these findings and further elucidate long-term effects. Overall, the present review reaffirms the potential of Ashwagandha and other Ayurvedic formulations as effective, safe, and well-tolerated therapies for improving menopausal symptoms and quality of life. Such herbal interventions, integrated within holistic menopause management, may offer an evidence-based, non-hormonal alternative for women worldwide.

CONCLUSION

Ashwagandha (*Withania somnifera*) and related Ayurvedic formulations appear effective and safe in reducing menopausal symptoms, including vasomotor,

psychological, somato-vegetative, and urogenital symptoms. Ashwagandha interventions in all included studies improved menopause-specific quality of life and hormonal balance significantly, without serious side effects, indicating a favorable safety profile. On the basis of its endocrine-modulating and adaptogenic activity, Ashwagandha offers a promising natural option or adjunct to hormone replacement therapy for women seeking non-hormonal management of menopausal symptoms.

Nonetheless, given the heterogeneity across studies in sample size, duration, and preparation, further large-scale, double-blind, randomized controlled trials using standardized Ashwagandha preparations are needed to validate these findings and determine optimal dosing and long-term efficacy.

ACKNOWLEDGMENTS

The authors would like to express their gratitude to the researchers and contributors who made their data publicly available, which enabled the completion of this systematic review. This study was conducted independently and received no specific funding from any agency.

CONFLICT OF INTEREST STATEMENT

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

FUNDING STATEMENT

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

REFERENCES

- Burger, H. G., Dudley, E. C., Robertson, D. M., & Dennerstein, L. (2002). Hormonal changes in the menopause transition. *Recent Progress in Hormone Research*, 57, 257–275. <https://doi.org/10.1210/rp.57.1.257>
- Choudhury, R., Coelho, K., Suryawanshi, S., Hajare, A., & Kumar, A. (2025). Effectiveness of multisymptom support for better relief and alleviation of common effects in perimenopause (EMBRACE PERIMENOPAUSE). *Cureus*, 17(6), e86091. <https://doi.org/10.7759/cureus.86091>
- Davis, S. R., Pinkerton, J. V., Santoro, N., & Simoncini, T. (2023). Menopause — Biology, consequences, supportive care, and therapeutic options. *Cell*, 186(19), 4038–4058. <https://doi.org/10.1016/j.cell.2023.08.013>
- Ding, T., Yan, W., Zhou, T., Shen, W., Wang, T., Li, M., Zhou, S., Wu, M., Dai, J., Huang, K., Zhang, J., Chang, J., & Wang, S. (2022). Endocrine disrupting chemicals impact on ovarian aging: Evidence from epidemiological and experimental studies. *Environmental Pollution*, 305, 119269. <https://doi.org/10.1016/j.envpol.2022.119269>
- Dixit, N., Ikramuddin, M., & Dubey, A. (2023). Effect of Menoveda Akira Tablet against anxiety; an in-vivo zebrafish model study. *International Journal of Pharmacy and Pharmaceutical Research*, 27(1), 482–492. <https://doi.org/10.25166/IJPPR.2023.27.1.37>
- Fang, Y., Liu, F., Zhang, X., Chen, L., Liu, Y., Yang, L., Zheng, X., Liu, J., Li, K., & Li, Z. (2024). Mapping global prevalence of menopausal symptoms among middle-aged women: A systematic review and meta-analysis. *BMC Public Health*, 24, Article 1767. <https://doi.org/10.1186/s12889-024-19280-5>
- Gartoulla, P., Worsley, R., Bell, R. J., & Davis, S. R. (2015). Moderate to severe vasomotor and sexual symptoms remain problematic for women aged 60 to 65 years. *Menopause*, 22(7), 694–701. <https://doi.org/10.1097/GME.0000000000000383>

- Gopal, S., Ajgaonkar, A., Kanchi, P., Kadam, A., Thakur, V., Chauhan, S., & Langade, D. (2021). Effect of an ashwagandha (*Withania somnifera*) root extract on climacteric symptoms in women during perimenopause: A randomized, double-blind, placebo-controlled study. *Journal of Obstetrics and Gynaecology Research*, 47(12), 4414–4423. <https://doi.org/10.1111/jog.15030>
- Inman, Z., & Flaws, J. A. (2024). Endocrine disrupting chemicals, reproductive aging, and menopause: A review. *Reproduction*, 168(5), e240113. <https://doi.org/10.1530/REP-24-0113>
- Isukapalli Vani et al. (2022). Efficacy and safety of Ashwagandha root extract in menopausal women: A randomized, double-blind, placebo-controlled trial. *Journal of Obstetrics and Gynaecology Research*, 48(9), 2150–2161. [Full author list as provided in source manuscript was incomplete.]
- Khan, S. J., Kapoor, E., Faubion, S. S., & Kling, J. M. (2023). Vasomotor symptoms during menopause: A practical guide on current treatments and future perspectives. *International Journal of Women's Health*, 15, 273–287. <https://doi.org/10.2147/IJWH.S365808>
- Koothirezhi, R., & Ranganathan, S. (2023). Postmenopausal syndrome. In StatPearls. StatPearls Publishing. <https://www.ncbi.nlm.nih.gov/books/NBK560787/>
- Modi, M. B., Donga, S. B., & Dei, L. (2012). Clinical evaluation of Ashokarishta, Ashwagandha Churna and Praval Pishti in the management of menopausal syndrome. *Ayu*, 33(4), 511–516. <https://doi.org/10.4103/0974-8520.110529>
- Nappi, R. E., Kroll, R., Siddiqui, E., Stoykova, B., Rea, C., Gemmen, E., & Schultz, N. M. (2021). Global cross-sectional survey of women with vasomotor symptoms associated with menopause: Prevalence and quality of life burden. *Menopause*, 28(8), 875–882. <https://doi.org/10.1097/GME.0000000000001793>
- Phipps, A. I., Ichikawa, L., Bowles, E. J., Carney, P. A., Kerlikowske, K., Miglioretti, D. L., & Buist, D. S. (2010). Defining menopausal status in epidemiologic studies: A comparison of multiple approaches and their effects on breast cancer rates. *Maturitas*, 67(1), 60–66. <https://doi.org/10.1016/j.maturitas.2010.04.015>
- Pingali, U., Nutalapati, C., & Wang, Y. (2025). Ashwagandha and shatavari extracts dose-dependently reduce menopause symptoms, vascular dysfunction, and bone resorption in postmenopausal women: A randomized, double-blind, placebo-controlled study. *Journal of Menopausal Medicine*, 31(1), 21–34. <https://doi.org/10.6118/jmm.24025>
- Santoro, N. (2016). Perimenopause: From research to practice. *Journal of Women's Health*, 25(4), 332–339. <https://doi.org/10.1089/jwh.2015.5556>
- Steels, E., Steels, M., Harold, M., Adams, L., & Coulson, S. (2018). A double-blind, randomized, placebo-controlled trial evaluating safety and efficacy of an ayurvedic botanical formulation in reducing menopausal symptoms in otherwise healthy women. *Journal of Herbal Medicine*, 11, 30–35. <https://doi.org/10.1016/j.hermed.2018.01.001>
- Tomar, R., Sharma, S., Kumari, I., Gangurde, V., Ota, S., Dua, P., Khanduri, S., Yadav, B., Rana, R., Singhal, R., Srikanth, N., Padhi, M. M., & Dhiman, K. S. (2017). Clinical efficacy and safety of Ashokarishta, Ashvagandha churna and Pravala pishti in the management of menopausal syndrome: A prospective open-label multicenter study. *Journal of Research in Ayurvedic Sciences*, 1(1), 9–16. <https://doi.org/10.5005/jp-journals-10064-0002>