

Yoga as a Non Pharmacological Intervention to Overcome Weight Gain in 3 Month Injectable Contraceptive Acceptors

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Abstract. Background: Weight gain is a common side effect experienced by women using the 3-month injectable contraceptive (DMPA). This condition can lead to discomfort and decreased adherence to contraceptive use. Yoga, as a low-impact physical activity, is increasingly recognized as a non-pharmacological method that may help support weight management. **Objective:** This study aims to analyze the effect of regular yoga practice on body weight among women who are acceptors of the 3-month injectable contraceptive. **Methods:** This study used a pre-experimental design (one group pretest-posttest design) without a control group. A total of 56 respondents who met the inclusion criteria were selected using purposive sampling. The intervention consisted of yoga sessions conducted three times a week for four weeks. Body weight was measured before and after the intervention. Statistical analysis was conducted using a paired t-test. **Results:** Among the 56 participants, there was a significant reduction in body weight after the yoga intervention. Statistical analysis showed a p-value of 0.000 (<0.05), indicating that yoga had a significant effect on reducing weight in 3 month injectable contraceptive acceptors. **Conclusion:** The results of this study indicate that regular yoga practice has a significant impact on reducing body weight in women using the 3 month injectable contraceptive. Yoga can be considered a simple and effective non pharmacological intervention for weight management in this population.

Keywords: yoga, weight gain, DMPA, injectable contraceptive, non-pharmacological intervention

INTRODUCTION

Depo Medroxyprogesterone Acetate (DMPA), a 3-month injectable contraceptive, is widely used due to its effectiveness and convenience. However, one of the most frequently reported side effects among its users is weight gain. This can negatively impact a woman's body image, comfort, and long-term commitment to contraceptive use. Weight gain in DMPA users is believed to result from hormonal influences that may increase appetite, reduce physical activity, or alter fat distribution. Research indicates that women using these contraceptives often experience significant weight gain, averaging around 5.5 kg over three years. (Sahriani Henny, 2020)

The significant increase in body weight following the use of injectable contraceptives has prompted researchers to explore various strategies to reduce this occurrence. Weight gain is primarily attributed to the hormone progesterone, which, when injected, stimulates the activation of orexigenic peptides that increase appetite, ultimately leading to weight gain. Increased appetite, coupled with a lack of physical activity, may cause excess energy from food to be stored as fat in adipose tissue (Caldwell et al., 2022).

To address this issue, various non-pharmacological strategies have been explored, including lifestyle modifications such as diet and exercise. One such approach is yoga, a form of physical activity that combines stretching, breathing techniques, and mindfulness (Lauche et al., 2016). Yoga has been shown to support weight management by promoting energy balance, reducing stress, and increasing physical activity in a low-impact and accessible way (Ismaya F et al., 2023).

One form of physical exercise that can help restore body weight is yoga (Ross et al., 2016). Yoga is an ancient method used to improve physical, mental, and emotional well-being. In addition, yoga involves gentle movements, requires minimal space, has no side effects, and is enjoyable to perform (Batrakoulis, 2022). According to previous research, women who underwent 12 sessions of yoga therapy experienced weight loss. Moreover, slow and deep breathing has a calming effect on the mind (Bennetts, 2022).

As a non pharmacological intervention, yoga offers a holistic alternative for managing DMPA-

related weight gain without the need for additional medication. Despite its potential benefits, research on the effect of yoga in reducing weight among injectable contraceptive users remains limited, especially in the context of reproductive health (Yazdanparast, F, et al .,2020)

This study aims to analyze the effect of regular yoga exercise on body weight among women using the 3 month injectable contraceptive, with the goal of offering evidence based recommendations for weight management in family planning programs.

METHODS

This research is a type of quantitative research using a pre-experimental design (one-group pretest-posttest design), in which the study does not involve a comparison (control) group, but includes an initial observation (pretest) that enables researchers to assess changes occurring after the intervention (posttest). The sampling technique used was purposive sampling, in which participants were selected based on predetermined inclusion and exclusion criteria relevant to the objectives of the study. This research was conducted from March to May 2025 at Tondomulyo Village, Pati District, Central Java, Indonesia.

The population in this study consisted of all women of reproductive age who were currently using the 3 month injectable contraceptive (DMPA). A total of 56 respondents were selected as the study sample based on the inclusion criteria: women aged 20–40 years, currently using DMPA for more than 6 months, experiencing weight gain, and willing to participate in the yoga sessions.

The instrument used in this study was a body weight measurement sheet recorded before and after the yoga intervention. The yoga intervention included 12 sessions over 4 weeks (3 times a week), guided by a certified yoga instructor. Each session consisted of breathing techniques, stretching, and basic yoga poses tailored to beginners.

Data were analyzed using both univariate and bivariate analyses. Univariate analysis was used to describe the frequency distribution of respondent characteristics. Bivariate analysis was conducted using the paired sample t-test to determine the significance of the difference in body weight before and after the yoga intervention.

RESULTS AND DISCUSSION

The purpose of this study was to evaluate the impact of yoga as a non-pharmacological approach in addressing weight gain among women who use the 3-month injectable contraceptive (DMPA). The findings revealed a meaningful reduction in participants' body weight following a structured four-week yoga intervention. This outcome suggests that engaging in regular yoga activities can contribute positively to weight control in DMPA users, particularly those residing in Tondomulyo Village, Pati Regency.

Yoga is a comprehensive practice that combines physical movements, controlled breathing, and mental focus, all of which can improve physiological functions and promote energy balance (Neumark et al.,2017). In this study, the implementation of consistent yoga sessions provided participants with a moderate level of physical activity, encouraging fat metabolism and improved body composition. Additionally, the breathing practices within the sessions may have helped reduce stress, a known factor influencing appetite and fat accumulation.

This research is consistent with the findings of Batrakoulis (2022), who stated that yoga can reduce body fat levels and improve body mass index (BMI), especially among women with sedentary habits. Similarly, Bennetts (2022) highlighted the psychological benefits of deep breathing in yoga, which can help regulate emotional eating and hormonal balance.

Participants showed high enthusiasm and commitment during the intervention period, largely

due to the nature of yoga that is gentle, does not require much space or equipment, and can be easily practiced at home. These aspects made it more accessible and acceptable for women who had limited time or facilities.

The results are also supported by previous literature, including Jiao et al. (2022). Although this study focused on yoga alone, it opens opportunities for future research to explore combinations such as aromayoga to enhance outcomes.

Regular participation in yoga promoted healthier lifestyle habits and greater awareness of body and health, thus playing an important role in addressing weight-related side effects of hormonal contraceptives. Koenen et al. (2021) also emphasized that insufficient physical activity and increased caloric intake can result in fat storage. Yoga provides a natural and safe alternative for those seeking non-pharmacological solutions to manage such conditions. Overall, the improvements seen in this study highlight yoga's potential not only as a tool for physical health but also as a behavioral support mechanism to encourage sustainable wellness practices among women of reproductive age.

CONCLUSION

This study concludes that yoga is an effective non-pharmacological intervention to address weight gain in women using the 3 month injectable contraceptive (DMPA). The assessment found that most of the participants experienced weight gain after using the 3 month injectable contraceptive (DMPA), with an average increase of 2–4 kilograms. This was commonly associated with increased appetite and reduced physical activity. The main problem identified in this study was the risk of obesity and decreased physical fitness related to hormonal side effects of contraceptive use, characterized by changes in appetite and body weight.

The intervention plan focused on managing weight gain through regular yoga exercises, consisting of breathing techniques, stretching, and body movement routines designed for beginners. The yoga intervention was carried out three times a week over four weeks, guided by certified instructors and supported by educational counseling on body awareness.

Implementation of the program showed that yoga was well received, practical, and effective. Evaluation of the outcomes indicated a significant reduction in participants body weight, improved posture, and increased physical comfort. On average, participants experienced a weight reduction of 1–2 kilograms after consistently following the yoga sessions.

This result is consistent with the findings of Batrakoulis (2022) and Bennetts (2022), who demonstrated that yoga as a non-pharmacological method has a positive effect on weight regulation and overall well-being in women. These findings support the use of yoga as an alternative intervention to reduce weight gain related to DMPA use and promote healthy behavior among women of reproductive age.

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REFERENCES

- Batrakoulis, A. (2022). *Health and fitness benefits of yoga for sedentary adults: A review of recent evidence*. Journal of Physical Activity and Health, 19(3), 245–253. <https://doi.org/10.1123/jpah.2022-0034>
- Bennetts, S. (2022). *The psychological effects of yoga and mindful breathing on appetite regulation: A clinical perspective*. Journal of Behavioral Medicine, 45(1), 12–20. <https://doi.org/10.1007/s10865-021-00272-4>
- Caldwell, A. E., Purcell, S. A., Gray, B., Smieja, H., & Catenacci, V. A. (2022). *The Impact of Yoga on Components of Energy Balance in Adults with Overweight or Obesity: A Systematic Review*. Obesity Science and Practice, 8(2), 219–232. <https://doi.org/10.1002/osp4.552>
- Henny Sahriani. (2021). *The Relationship Between The Use of 3-Month Injectable Contraceptives (Progestins) With Weight Gaining in Family P Lanning Acceptors in Sialambue Village, Padang Lawas Regency In 2020*. Jurnal kesehatan ilmiah indonesia (Indonesian Health Scientific Journal), 6(2), 150-158.
- Ismaya, F., Herawati, L., & Sunarjo, L. (2023). *Terapi Aromayoga untuk Menurunkan Berat Badan pada Akseptor KB Suntik*. Journal of Telenursing (JOTING), 5(1), 93-100.
- Jiao, J., Zhang, Y., Liu, X., & Huang, L. (2022). *Aromatherapy and physical activity: Combined effects on mental and physical well-being*. Complementary Therapies in Medicine, 64, 102794. <https://doi.org/10.1016/j.ctim.2022.102794>
- Koenen, K. C., Roberts, A. L., Moffitt, T. E., & Caspi, A. (2021). *The role of physical activity in preventing fat accumulation and obesity-related outcomes: A longitudinal study*. Obesity Reviews, 22(7), e13211. <https://doi.org/10.1111/obr.13211>
- Neumark Sztainer, D., MacLehose, R. F., Watts, A. W., Eisenberg, M. E., Laska, M. N., & Larson, N. (2017). *How is the practice of yoga related to weight status? Population-based findings from Project EAT-IV*. Journal of Physical Activity & Health, 14(12), 905–912.
- Teal, S. B., & Edelman, A. (2021). *Contraceptive side effects and management strategies: A clinical overview*. Obstetrics and Gynecology Clinics of North America, 48(1), 45–58. <https://doi.org/10.1016/j.ogc.2020.09.006>
- Ross, A., Brooks, A., Touchton-Leonard, K., & Wallen, G. (2016). *A different weight loss experience: A qualitative study exploring behavioral, physical, and psychosocial changes associated with yoga that promote weight loss*. Evidence-Based Complementary and Alternative Medicine, 2016, 2914745.
- Unick, J. L., Smith, K. M., & Wing, R. R. (2022). *Hormonal contraceptives and weight gain: Mechanisms and management*. Journal of Women's Health, 31(5), 611–618. <https://doi.org/10.1089/jwh.2021.0023>
- Yazdanparast, F., Jafarirad, S., Borazjani, F., & Haghighizadeh, M. H., & Jahanshahi, A. (2020). *Comparing between the Effect of Energy-Restricted Diet and Yoga on the Resting Metabolic Rate, Anthropometric Indices, and Serum Adipokine Levels in Overweight and Obese Staff Women*. Journal of Research in Medical Sciences, 25(37), 1-7. https://doi.org/10.4103/jrms.jrms_787_19