

Case Report: Type I Obesity Associated with Three-Month Injectable Contraceptive Use at Mrs. "P" Independent Midwifery Practice

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Submitted: August 3, 2026 -Revised: August 21, 2026 -Accepted: August 24, 2026 -Published: September 30, 2026

ABSTRACT

Type I obesity is a condition of weight gain observed in a user of the 3-month injectable contraceptive, characterized by a Body Mass Index (BMI) of 25–29.9 kg/m². Long-term use (over 10 years) of this contraceptive was associated with a weight gain of 17 kg. This is attributed to the progesterone hormone in DMPA, which increases appetite and affects fat metabolism, thereby contributing to weight gain. The objective was to describe the implementation of midwifery care for a 3-month injectable contraceptive user with Type I obesity. This report employs a case study method focusing on Mrs. E, a user of the 3-month injectable contraceptive with Type I obesity, at the Independent Midwifery Practice (TPMB) of Mrs. "P" in Magetan Regency. Midwifery care was provided over four weeks, involving three nutritional guidance visits facilitated by a midwife; the process included comprehensive assessment, monitoring of weight and BMI, a low-calorie diet, increased physical activity, and counseling regarding hormonal contraceptive use. The comprehensive and continuous midwifery care provided proved successful, resulting in a weight loss of 3 kg. The client's weight gradually decreased from 67 kg to 64 kg over the one-month care period (comprising three sessions), accompanied by reductions in waist circumference and BMI. Periodic monitoring helped control weight gain and prevent obesity-related complications. Through a balanced, low-calorie diet, the client was able to maintain a healthy lifestyle by adhering to balanced nutrition, engaging in regular physical activity, and monitoring weight periodically; these measures prevent the worsening of obesity and the onset of complications.

Keywords: Obesity; KB; injection; Acceptor

INTRODUCTION

Obesity is a condition characterized by excessive accumulation of body fat that may negatively affect health and quality of life. Body Mass Index (BMI) is commonly used to assess nutritional status and classify obesity. Based on the classification used by the Ministry of Health of the Republic of Indonesia, a BMI of 25.0–29.9 kg/m² is categorized as Type I obesity.⁽¹⁾ Obesity is a multifactorial condition influenced by dietary intake, physical activity, age, demographic characteristics, and other environmental and hormonal factors. Among women of reproductive age, hormonal contraceptive use may be one of the factors considered when evaluating changes in body weight and nutritional status.⁽²⁾

One commonly used hormonal contraceptive method is the three-month injectable contraceptive containing depot medroxyprogesterone acetate (DMPA). Three-month injectable contraception is a progestin-based contraceptive administered at three-month intervals and is widely used because of its effectiveness and practicality. However, changes in menstrual patterns and increased body weight have been reported among some users.^(3–6) Previous studies have described an association between the use of three-month injectable contraception and weight gain among acceptors.^(3,4) A literature review also reported weight gain as one of the side effects that may occur among users of three-month injectable contraception.⁽⁷⁾

Weight gain among users of three-month injectable contraception may be influenced by several interacting factors. Changes in appetite may increase food intake, while inadequate physical activity may reduce energy expenditure. When energy intake is greater than energy expenditure for a prolonged period, excess energy can accumulate as adipose tissue and contribute to overweight and obesity.^(2,8) In women using hormonal contraception, dietary intake also requires attention because the adequacy of macronutrient intake may be associated with overweight status.⁽⁹⁾ In addition, demographic and dietary factors have been associated with abdominal obesity among women of childbearing age in Indonesia.⁽⁸⁾

The duration of contraceptive use is also an important consideration.^(4,10,11) A study conducted among three-month injectable contraceptive acceptors reported an association between the duration of use and excessive

weight gain.⁽⁹⁾ Similar findings were reported by Nurhalizah *et al.*, who identified duration of contraceptive use and physical activity among factors associated with weight gain in three-month injectable contraceptive users.⁽¹⁰⁾ Other case-based and observational reports have also described increased body weight among DMPA or three-month progestin injectable contraceptive users.^(12,13) Therefore, long-term users require regular monitoring of body weight, nutritional status, dietary patterns, and physical activity.

Obesity may have consequences beyond an increase in body weight. Excessive adiposity, particularly abdominal adiposity, is associated with an increased risk of metabolic and other health problems.^(8,14) Changes in body shape may also affect physical comfort, daily activities, self-confidence, and psychological well-being. Consequently, management of obesity should not focus solely on weight reduction but should include nutritional counseling, physical activity, behavioral modification, and appropriate psychological and family support.

Comprehensive midwifery care has an important role in identifying and managing excessive weight gain among women using hormonal contraception. Care may include regular assessment of body weight and BMI, evaluation of dietary and physical activity patterns, education regarding possible contraceptive side effects, nutritional counseling, promotion of regular physical activity, and evaluation of contraceptive needs.^(12,15) Dietary modification and increased physical activity are important components of weight management and should be adapted to the client's condition and ability.⁽¹⁶⁾ Family involvement may further support adherence to lifestyle modifications.

Based on this background, this case report describes comprehensive midwifery care for Mrs. E, a 47-year-old woman who had used a three-month injectable contraceptive for approximately 20 years and experienced an increase in body weight from 50 kg to 67 kg. At the initial assessment, her height was 155 cm and BMI was 27.91 kg/m², indicating Type I obesity. The client also reported increased appetite, frequent eating, nighttime eating habits, easy fatigue, limited physical activity, and decreased self-confidence related to changes in body shape. Therefore, this case report aimed to describe the implementation of comprehensive midwifery care for a long-term three-month injectable contraceptive acceptor with Type I obesity at an Independent Midwifery Practice.

METHODS

This study employed a case report design involving a single client. The case report was conducted to describe the comprehensive midwifery care provided to a woman with Type I obesity associated with prolonged use of a three-month injectable contraceptive. The management process was documented systematically using the SOAP approach, consisting of Subjective, Objective, Assessment, and Plan components.

The participant was Mrs. E, a 47-year-old woman, who had used a three-month injectable contraceptive for approximately 20 years and was identified as having Type I obesity. The participant reported an increase in body weight from 50 kg before contraceptive use to 67 kg at the initial assessment. She also reported increased appetite, frequent consumption of snacks, nighttime eating, limited physical activity, easy fatigue, and decreased self-confidence related to changes in body shape.

The case was conducted at the Independent Midwifery Practice of Mrs. "P", Magetan Regency, East Java, Indonesia. The case management was conducted over approximately four weeks, from 14 February 2026 to 14 March 2026, consisting of an initial assessment and subsequent follow-up visits.

Data were collected through anamnesis, interviews, observation, physical examination, anthropometric measurements, and documentation. Subjective data included the history of three-month injectable contraceptive use, changes in body weight and appetite, dietary habits, nighttime eating, physical activity, fatigue, daytime sleepiness, and concerns regarding body shape.

Objective data included body weight, height, BMI, waist circumference, upper-arm circumference, vital signs, and other relevant physical examination findings. Body weight and anthropometric measurements were monitored during follow-up to evaluate changes following the interventions.

The main variables observed were duration of three-month injectable contraceptive use, body weight, BMI, waist circumference, dietary pattern, physical activity, and response to midwifery care. Body weight and BMI were used to evaluate nutritional status, while waist circumference was monitored as an indicator of abdominal adiposity.

The data were analyzed descriptively by comparing subjective and objective findings at the initial assessment with findings at subsequent visits. Changes in body weight, BMI, and waist circumference were evaluated to determine the client's progress during the care period.

The interventions consisted of education regarding obesity and three-month injectable contraception, nutritional counseling, recommendations for a balanced lower-energy dietary pattern, promotion of regular

physical activity, family support, and routine monitoring. The dietary recommendations included reducing fried foods, coconut milk, butter, and other high-fat foods while increasing vegetables, fruits, and appropriate protein sources. The client was encouraged to undertake physical activity, including walking and other activities according to her ability.

Written informed consent was obtained from the participant before data collection and implementation of midwifery care. The participant received an explanation regarding the purpose and procedures of the case report and was given the opportunity to ask questions. Confidentiality of the participant's personal information was maintained throughout the case report. The LTA also contains the participant consent documentation for involvement as a respondent.

RESULTS

This case involved Mrs. E, a 47-year-old woman who had used a three-month injectable contraceptive for approximately 20 years and was identified as having Type I obesity. The client reported that her body weight before using the three-month injectable contraceptive was 50 kg. At the initial assessment, her body weight had increased to 67 kg, representing a total increase of 17 kg. She reported that she began noticing changes in her body weight after giving birth to her second child and subsequently continued using the three-month injectable contraceptive. The case assessment also identified lifestyle factors that could contribute to excessive weight gain.

At the initial visit, the client reported increased appetite after using the three-month injectable contraceptive. She reported eating approximately three to four times per day, frequently consuming snacks, and having a habit of eating at night. She also reported limited regular exercise, easy fatigue during heavier activities, and spending much of her time performing household activities and resting. The client expressed decreased self-confidence because of changes in her body shape. These findings indicated changes in dietary patterns, physical activity, and body weight that required comprehensive management. The LTA case discussion similarly documented increased appetite, nighttime eating, limited physical activity, and fatigue.

The initial physical examination showed that the client was in generally good condition and had stable vital signs. Her body weight was 67 kg, height was 155 cm, and BMI was 27.91 kg/m². Her waist circumference was 86 cm, while her upper-arm circumference was 29.5 cm. Based on the classification used in the case report, her BMI was categorized as Type I obesity. The anthropometric findings were used as the baseline for subsequent monitoring.

Based on the assessment, the identified problem was Type I obesity in a long-term three-month injectable contraceptive acceptor. The midwifery management included education concerning obesity and possible effects associated with prolonged use of three-month injectable contraception. The client received nutritional counseling focused on modifying dietary intake and improving food choices. She was advised to reduce fried foods, coconut milk, butter, and other high-fat foods and to increase vegetables, fruits, and appropriate protein sources. She was also encouraged to maintain regular meals and avoid excessive nighttime food consumption.

Physical activity counseling was provided according to the client's ability. The client was encouraged to perform approximately 30 minutes of physical activity per day, including walking, aerobic activity, cycling, and routine household activities. Family involvement was encouraged to provide support for maintaining the recommended dietary and physical activity changes. Body weight and other anthropometric measurements were monitored during follow-up.

At the second visit, the client's body weight decreased from 67 kg to 65 kg. Her BMI decreased from 27.91 kg/m² to approximately 27.0 kg/m², while waist circumference decreased from 86 cm to 85 cm. The client reported that she had attempted to follow the recommended dietary modifications and had increased her physical activity. She demonstrated an understanding of the importance of dietary control and regular physical activity in managing her body weight.

At the final visit, the client's body weight decreased further to 64 kg, representing a total reduction of 3 kg from the initial assessment. Her BMI decreased to approximately 26.6 kg/m², while waist circumference decreased to 84 cm. The client reported continued adherence to the recommended dietary pattern and physical activity. She also expressed motivation to maintain these lifestyle changes independently.

Although the anthropometric measurements improved, the final BMI of 26.6 kg/m² remained within the Type I obesity category according to the classification applied in this case. Therefore, the observed result represents an improvement in body weight and anthropometric measurements rather than complete resolution of obesity. Continued lifestyle modification and monitoring were recommended to maintain the improvement and prevent further weight gain.

Table 1. Changes in anthropometric measurements during midwifery care

Anthropometric measurement	Initial visit	Second visit	Final visit
Body weight (kg)	67	65	64
Height (cm)	155	155	155
BMI (kg/m ²)	27,91	27,0	26,6
Waist circumference (cm)	86	85	84
BMI category	Type I obesity	Type I obesity	Type I obesity

DISCUSSION

This case involved Mrs. E, a 47-year-old long-term user of three-month progestin injectable contraception who was identified as having Type I obesity. The client had used the contraceptive for approximately 20 years and reported a 17-kg increase in body weight from 50 kg to 67 kg. She also reported increased appetite, frequent snacking, nighttime eating, and limited physical activity. These findings are consistent with previous studies reporting weight gain among users of three-month injectable contraception.^(14,17,18) Astuti and Nabila reported an association between three-month progestin injectable contraception and increased body weight among hormonal contraceptive acceptors.⁽³⁾ Zubaidah also reported an association between three-month injectable contraceptive use and body weight.⁽⁶⁾ A literature review by Pratiwi *et al.* similarly identified weight gain as an issue associated with three-month injectable contraception.⁽⁷⁾

The duration of contraceptive use is an important consideration in this case. Mrs. E had used the three-month injectable contraceptive for approximately 20 years and reported gradual weight gain during the period of use. Sari and Oktavia reported an association between the duration of three-month injectable contraceptive use and excessive weight gain.⁽⁴⁾ Nurhalizah *et al.* also reported that duration of contraceptive use and physical activity were associated with weight gain among three-month injectable contraceptive acceptors.⁽⁹⁾ These findings support the consideration of prolonged contraceptive use as one contributing factor, although it cannot be concluded that contraceptive use alone caused the client's obesity.^(11,18)

The client's dietary and physical activity patterns provide additional factors that may explain the weight gain. She reported increased appetite, eating three to four times daily, frequent snacking, and nighttime eating. At the same time, she reported limited regular exercise and easy fatigue. Hanun Siregar *et al.* identified demographic and dietary factors associated with abdominal obesity among women of childbearing age in Indonesia.⁽²⁾ Octavia and Azzhira also examined the relationship between macronutrient adequacy and overweight among women using hormonal contraception.⁽⁸⁾ Therefore, the weight gain observed in this case was likely multifactorial, involving the client's long-term contraceptive history together with dietary intake and insufficient physical activity.

The objective assessment showed a body weight of 67 kg, height of 155 cm, BMI of 27.91 kg/m², and waist circumference of 86 cm. The BMI indicated Type I obesity according to the classification applied in this case.^(19,20) The increased waist circumference also indicated abdominal adiposity and supported the importance of monitoring not only body weight but also body fat distribution. Research concerning abdominal obesity among women of childbearing age highlights the importance of considering dietary and other lifestyle-related factors in obesity management.^(8,14,21)

The client also experienced easy fatigue, increased daytime sleepiness, and decreased self-confidence related to changes in body shape. These findings demonstrate that obesity management should not focus solely on anthropometric outcomes. Fitria *et al.* reported a case involving a three-month injectable contraceptive acceptor whose weight gain interfered with daily activities.⁽¹⁰⁾ Comprehensive care should therefore consider physical complaints, lifestyle patterns, emotional responses, and the client's motivation to change.

The interventions in this case consisted of education, nutritional counseling, physical activity recommendations, family support, and regular anthropometric monitoring.^(15,22) The client was advised to reduce fried foods, coconut milk, butter, and other high-fat foods while increasing vegetables, fruits, and appropriate protein sources. She was also encouraged to perform physical activity for approximately 30 minutes per day according to her ability. This approach is consistent with the principles of obesity management emphasizing dietary modification, physical activity, monitoring, and behavioral support.⁽¹⁶⁾

After approximately four weeks of care, body weight decreased from 67 kg to 64 kg, BMI decreased from 27.91 kg/m² to 26.6 kg/m², and waist circumference decreased from 86 cm to 84 cm. The client also reported better adherence to dietary recommendations and physical activity. These findings indicate a favorable short-term improvement in the client's anthropometric measurements during the observation period. However, because

this was a single-patient case report, the findings cannot be generalized as evidence of the effectiveness of the intervention in all three-month injectable contraceptive users.

Importantly, the client's final BMI of 26.6 kg/m² remained within the Type I obesity category. Therefore, the intervention should be understood as an initial improvement in weight management rather than complete resolution of obesity. Continued monitoring, dietary modification, regular physical activity, and behavioral support are necessary to maintain the improvement and prevent further weight gain.

Overall, the case demonstrates that excessive weight gain in a long-term three-month injectable contraceptive user should be approached comprehensively. The client's obesity was likely influenced by multiple interacting factors, including prolonged contraceptive use, increased appetite and food intake, nighttime eating, and limited physical activity. Comprehensive midwifery care focusing on lifestyle modification and continuous monitoring was associated with improvement in body weight, BMI, and waist circumference over the four-week observation period.

CONCLUSION

This case report demonstrated that comprehensive midwifery care in a long-term three-month injectable contraceptive acceptor with Type I obesity resulted in improvement in anthropometric measurements during the four-week observation period. The client's body weight decreased from 67 kg to 64 kg, BMI decreased from 27.91 kg/m² to 26.6 kg/m², and waist circumference decreased from 86 cm to 84 cm.

The case also showed that the client's excessive weight gain was likely influenced by multiple factors, including prolonged three-month injectable contraceptive use, increased appetite, dietary patterns, nighttime eating, and limited physical activity. Nutritional counseling, physical activity promotion, family support, and regular anthropometric monitoring should therefore be incorporated into comprehensive midwifery care for clients experiencing excessive weight gain during hormonal contraceptive use.

Although improvement was observed, the client's final BMI remained within the Type I obesity category. Continued monitoring and long-term adherence to healthy dietary and physical activity patterns are therefore necessary.

Acknowledgement

The authors would like to express their sincere appreciation to the respondent. The authors also thank all parties who provided support and assistance during the research process and manuscript preparation.

Competing Interests

All the authors declare that there are no conflicts of interest.

Funding Information

No funds were received for this study.

REFERENCES

1. Kementerian Kesehatan Indonesia. (2021). Profil Kesehatan Indonesia.
2. Hanun Siregar, M., Ayu Dewi Sartika, R., Junengsih, J., & Hanifar, K. (2024). Association Of Demographic and Dientary Factors With Abdomen Obesity Among Women of Childbearing Age in Indonesia. *JURNAL KESEHATAN REPRODUKSI*, 15(1), 80–90. DOI: 10.58185/jkr.v15i1.187
3. Astuti, W., & Nabila, A. (2023). Kontrasepsi Suntik Progesteron 3 Bulan Dengan Kenaikan Berat Badan Pada Akseptor Kontrasepsi Hormonal Di Desa Kalangan Kabupaten Tulungagung. *Jurnal Farmasi SYIFA*, 1(1), 31–35. DOI: <https://doi.org/10.63004/jfs.v1i1>
4. Sari, K. T., & Oktavia, E. (2025). Hubungan Antara Lama Pemakaian Dengan Kenaikan Berat Badan Berlebih Pada Akseptor KB Suntik 3 Bulan di Puskesmas Piyungan Tahun 2025. *Jurnal Penelitian Ilmiah Multidisipliner*, 2(03), 543–554. Available from: <https://ojs.ruangpublikasi.com/index.php/jpim/article/view/916>
5. Wahyuni, S., Saryani, D., & Altika, S. (2022). Hubungan Penggunaan KB Suntik 3 Bulan Dengan Kejadian Peningkatan Berat Badan Dan Kejadian spotting Pada Akseptor KB di Desa Ngagel Kecamatan

- Dukuhseti Kabupaten Pati. *Jurnal Ilmiah Ilmu Kebidanan Dan Kesehatan Sekolah Tinggi Ilmu Kesehatan Bakti Utama Pati*, 13(2), 43–47
6. Irianti D, Tiarahma L. Program Studi Diploma Tiga Keperawatan Stikes Intan Martapura. 2021;9(May):20–3.
7. Pratiwi, R. E., Pratamaningtyas, S., & Rahayu, D. E. (2023). Hubungan Pemakaian KB Suntik 3 Bulan Dengan Kenaikan Berat Badan Pada Akseptor: Studi Literatur. *Indonesian Health Issue*, 2(1), 1–8. DOI: 10.47134/inhis.v2i1.39
8. Octavia, Z. F., & Azzhira, N. C. (2025). Hubungan Tingkat Kecukupan Zat Gizi Makro dengan Tingkat Kegemukan pada Wanita yang Menggunakan Kontrasepsi Hormonal. *JURNAL RISET GIZI*, 13(1), 50–58. <https://doi.org/10.31983/jrg.v13i1.12704>
9. Nurhalizah, N., Dewi, M. K., & Sugesti, R. (2023). Hubungan Pengetahuan, Aktivitas Fisik, Lama Penggunaan KB Terhadap Kenaikan Berat Badan Pada Aseptor KB Suntik 3 Bulan di PMB Hj. Sumiyati, S. ST. Bdn Kabupaten Bogor Tahun 2023. *SENTRI: Jurnal Riset Ilmiah*, 2(12), 5347–5355 DOI: <https://doi.org/10.55681/sentri.v2i12.1930>
10. Fitria, N. E., Aprianti, E., & Ariyani, F. (2022). Asuhan Kesehatan Kontrasepsi Kb Suntik 3 Bulan dengan kenaikan Berat Badan Yang Mengganggu Aktivitas Pada Ny. N di Kecamatan Nanggalo Kota Padang Tahun 2021. *Jurnal Menara Ilmu*, 16(02), 66–73. DOI: 10.31869/mi.v16i2.3139
11. Prabawati, R. A., Martini, D. E., Maghfuroh, L., Tyas, L. C., Yanti, N. R. D., & Fitriana, N. Y. (2025). Hubungan Lama Pemakaian Kontrasepsi Terhadap Tekanan Darah Dan Kadar Kolesterol Total Pada Akseptor KB Suntik 3 Bulan. *Jurnal Ilmiah Biosaintropis (Bioscience-Tropic)*, 11(1), 150–158. <https://doi.org/10.33474/ejbst.v11i1.603>.
12. HI.Sanuddin, N., Nurhayati, & Evi Istiqamah. (2023). Asuhan Kebidanan Keluarga Berencana pada Ny. N Akseptor KB Depo Progestin. *Window of Midwifery Journal*, 86–93. <https://doi.org/10.33096/wom.vi.896>
13. Azizah, D. L., & Fitriahadi, E. (2024). Asuhan komprehensif Efek Samping Kenaikan Berat Dadan Pada Akseptor KB Suntik 3 Bulan. *Prosiding Seminar Nasional Penelitian Dan Pengabdian Kepada Masyarakat LPPM Universitas’ Aisyiyah Yogyakarta*, 2, 135–138. DOI: 10.31004/jkt.v6i1.41675
14. Sumaifa, S., Ibrahim, S. H., & Ramadhani, R. S. (2025). Peningkatan Berat Badan Pada Akseptor Kb Suntik 3 Bulan Dengan Pendektan Asuhan Kebidanan. *Jurnal Kesehatan Tambusai*, 6(1), 841–849. <https://doi.org/10.31004/jkt.v6i1.41675>
15. Kemenkes. (2021). *Pedoman Pelayanan Kontrasesi dan Keluarga Berencana*.
16. Ratmawati, Handini, K. D., & Fachri, I. (2024). *Manajemen Obesitas*. In DeepublishDigitalAvailable from: <https://books.google.co.id/books>
17. Dwi Astuti, N., Maineny, A., Jesdika Longulo, O., Sumiaty, Widyayanti, A., & Suryani, S. (2024). Efek KB Suntik 3 Bulan (DMPA) terhadap Berat Badan. *Napande: Jurnal Bidan*, 3(1), 41–48.
18. Yulianingsih, N. (2023). *Pengaruh KB Suntik 3 Bulan Terhadap Penigkatan Berat Badan di Wilayah Kerja Puskesmas Bulukerto*. FAKULTAS ILMU KESEHATAN UNIVERSITAS KUSUMA HUSADA SURAKARTA.
19. Meysetri, F. R., Amir, A. Y., & Jesica, F. (2021). Pengaruh KB suntik pada akseptor KB terhadap efek samping pemakaian kontrasepsi suntik. *Prosiding Seminar Nasional STIKES Syedza Saintika*, 1(1).
20. Raharjo, R. (2025). Analisis Perbedaan IMT Antra Aseptor KB Suntik 1 Bulan dan 3 Bulan Pada Wanita Usia Subur. *ASSYIFA: Jurnal Ilmu Kesehatan*, 3(1), 94–100. DOI: 10.62085/ajk.v3i1.142
21. Purwaningtyas, D. R., Tanjung, N. P., & Dhanny, D. R. (2023). Analisis Faktor yang Terkait dengan Kejadian Obesitas Sentral pada Wanita Dewasa. *Nutri-Sains: Jurnal Gizi, Pangan Dan Aplikasinya*, 7(1), 25–38. <https://doi.org/10.21580/ns.2023.7.1.10771>
22. Fadila. (2024). *Provil Pengetahuan dan Deskripsi Efek Samping pada Aseptor KB Suntik 3 Bulan di Puskesmas Samudra Kabupaten Aceh Utara*. Doctoral Dissertation, Universitas Bina Bangsa Getsempena.Available from: <https://books.google.co.id/books>