

The Uterine Involution On The First Day In Postpartum Mothers With Normal Delivery

Puji Astutik^{1*}, Deva Tiananda Putri²

STIKes Satria Bhakti Nganjuk

*Corresponding author: puji73sbn@gmail.com

ABSTRACT

After delivery, the uterus gradually shrinks back to its pre-pregnancy shape, a process known as uterine involution. One indicator of this process is a decrease in Fundal Height (FH). FH normally descends 1–2 cm every 24 hours; on the first day postpartum, FH is typically 1 cm below the umbilicus. This study aimed to describe uterine involution on the first day postpartum among mothers with normal delivery in the Maternity Ward (Delima Room) of Kertosono Regional Hospital. A descriptive design was used. Data were collected from January 13 to February 13, 2025, and April 9 to May 9, 2025. The population consisted of 29 postpartum mothers with normal delivery, from whom 25 respondents were selected using accidental sampling. Uterine involution was assessed by measuring fundal height on the first postpartum day using a measuring tape (metline). The results showed that the majority of respondents, 14 out of 25 (56%), experienced uterine involution at 2 cm below the umbilicus, while 11 respondents (44%) experienced uterine involution at 1 cm below the umbilicus. These findings indicate that uterine involution of 2 cm below the umbilicus was more common than 1 cm below the umbilicus among postpartum mothers with normal delivery on the first postpartum day. The study concludes that the majority of postpartum mothers with normal delivery experienced uterine involution of 2 cm below the umbilicus on the first postpartum day. Further studies using analytical research designs are recommended to identify factors associated with uterine involution.

Keywords: First-Day Postpartum, Normal Delivery, Uterine Involution

I. Introduction

In postpartum mothers, uterine involution is a critical process that requires careful monitoring and support to restore maternal health to its pre-pregnancy state (Saleha, 2009). One indicator of involution is a decrease in FH (Eny, 2022). Immediately after placental delivery, FH is approximately midway between the symphysis pubis and the umbilicus.

After 24 hours, uterine tone partially recovers, and the fundus rises to the level of the umbilicus. FH then descends 1-2 cm every 24 hours; on the first and second days postpartum, FH is typically 1 cm below the umbilicus. This gradual shrinkage (involution) continues until the uterus returns to its pre-pregnancy size (Walyani, 2015). Failure of the uterus to undergo this process is termed subinvolution (Anggraini, 2010).

Uterine involution is the process by which the uterus returns to its pre-pregnancy state, weighing approximately 60 grams, driven by contractions of the uterine smooth muscle following placental delivery (Heryani, 2012). The speed of involution is influenced by several factors, including early mobilization, EIBF, nutritional status, maternal age, and parity. Early mobilization accelerates uterine recovery by improving blood circulation and facilitating lochia expulsion. Parity and uterine size in primiparous and multiparous mothers also affect the involution process. Maternal age is likewise a factor: at age 20, uterine muscle elasticity is not yet optimal, whereas at age 35 and above, elasticity declines (Setyowati, 2013). Inadequate or disrupted contraction is termed subinvolution (Eny, 2022), most commonly caused by retained placental fragments or infection. Subinvolution is indicated by a persistently enlarged uterus on palpation, a high fundus, profuse and possibly malodorous lochia, and

bleeding, which may be secondary (late puerperal hemorrhage) occurring more than 24 hours postpartum, typically in the second week. This condition is dangerous, as rapid, excessive blood loss can lead to shock and even maternal death (Eny, 2022).

Early breastfeeding initiation after delivery accelerates uterine involution through oxytocin release, which stimulates uterine contractions. Other supportive measures include encouraging regular movement, ensuring adequate nutrition, and providing postpartum counseling to prevent subinvolution (Eny, 2022).

II. Methods

This study employed a descriptive design, conducted from January 13 to May 9, 2025, in the Maternity Ward (Delima Room) of Kertosono Regional Hospital. The population consisted of all postpartum mothers with normal delivery on the first day, totaling 29 women. A sample of 25 respondents was selected using accidental sampling. Research ethics, including respondent anonymity, were upheld throughout data collection. The study variable was uterine involution on the first day postpartum among mothers with normal delivery, assessed using a measuring tape (metline) to determine FH.

III. Results and Discussion

Table 1 Respondent Characteristics

Variable	N	Prosentase (%)
Age		
14 – 24 Years	8	32
25– 34 Years	11	44
35 – 44 Years	6	24
45 – 49 Years	0	0
Education		
Elementary School	1	4
Junior High School	8	32
Senior High School	14	56
College	2	8
Work		
Housewife	20	80
Servant	0	0
Private	4	16
Self Employed	0	0
Civil Servants	1	4
Others	0	0
BMI of Postpartum Mother		
< 18,5 kg/m ²	0	0
18,5 – 24,9 kg/m ²	7	28
25 – 29,9 kg/m ²	15	60
>30 kg/m ²	3	12
Child		
1 st Child	9	36
2 nd Child	9	36
3 rd Child	4	16
4 th Child	3	12
Early Initiation of Breastfeeding (EIBF)		
Already	14	56
Not Yet	11	44
Independent Activities(Toileting)		

Yes	25	100
No	0	0

Based on Table 1, all 25 respondents (100%) were able to perform independent activities (toileting). The majority were housewives (20 respondents; 80%). More than half of the respondents had already initiated EIBF (14 respondents; 56%), had completed senior high school (14 respondents; 56%), and had a BMI of 25.0-29.9 kg/m² (15 respondents; 60%). The largest age group was 25-34 years (11 respondents; 44%), while the largest proportion of respondents were giving birth to their first or second child (9 respondents each; 36%).

Tabel 2 Distribution of Uterine Involution on the First Day Postpartum in Mothers with Normal Delivery, Maternity Ward (Delima Room), Kertosono Regional Hospital, January 13–May 9, 2025

No.	Uterine Involution on the First Day	F	%
1.	1 cm bottom center	11	44
2.	2 cm bottom center	14	56
Total		25	100

Based on Table 2, 14 of the 25 respondents (56%) experienced uterine involution 2 cm below the umbilicus on the first day postpartum, whereas 11 respondents (44%) experienced uterine involution 1 cm below the umbilicus.

Based on Table 2, 14 of the 25 respondents (56%) experienced uterine involution 2 cm below the umbilicus on the first day postpartum, while 11 respondents (44%) experienced uterine involution 1 cm below the umbilicus.

Uterine involution is the process by which the uterus returns to its pre-pregnancy state, weighing approximately 60 grams (Heryani, 2012). Its speed is influenced by several factors, including early mobilization, EIBF, nutritional status, age, and parity. Early mobilization helps maintain optimal uterine involution by supporting maternal recovery, regaining control of pelvic and abdominal muscles and accelerating the elimination of urine, blood, and waste. However, many postpartum mothers avoid moving due to pain, which can increase the risk of bladder problems, constipation, and uterine subinvolution (Savita Riza, 2022).

EIBF is also crucial for achieving Sustainable Development Goal (SDG) 3, which aims to promote healthy lives and well-being for all by 2030, including reductions in maternal and infant mortality. Breastfeeding within the first hour after birth induces uterine smooth muscle contractions and should ideally begin within 30 to 60 minutes of delivery (Savita Riza, 2022). During breastfeeding, infant suckling stimulates the posterior pituitary gland to release oxytocin, which is transported via the bloodstream to the uterus, promoting contraction and involution (Walyani, 2015). This is consistent with a study by Helen Evelina Siringoringo (2021), who found that infant suckling during EIBF stimulates natural oxytocin release, causing uterine contraction. The substantial benefits of EIBF for both mother and infant therefore support its promotion as a strategy to reduce maternal and infant mortality.

Poor nutritional status in postpartum mothers may compromise immune defense at the site of placental attachment, increasing susceptibility to infection and delaying uterine involution, whereas adequate nutrition supports infection resistance and promotes normal involution (Walyani, 2015). This is consistent with a study by Alvionita Vinny (2022), in which 32 of 50 postpartum mothers (64%) with normal nutritional status experienced normal uterine involution; these respondents reported routine supplement intake, consumption of pregnancy-formula milk, adequate nutrition during pregnancy, and

regular uterine massage as recommended.

Maternal age of 20–30 years is considered optimal for childbirth, as reproductive organ function is at its peak during involution. In contrast, mothers over 35 may experience reduced muscle flexibility, which can impair involution through altered fat, protein, and glucose metabolism, further compounded by reduced protein levels (Savita Riza, 2022). This is consistent with a study by Siti Erniyati Berkah Pamuji (2015), which identifies 20–35 years as the healthy reproductive age range, during which fertility and involution outcomes are optimal.

Similarly, parity affects involution speed: uterine contractions are typically stronger in primiparous mothers, whereas in multiparous mothers' contractions tend to be more prolonged, which may slow the involution process. This is supported by Poppy (2021), who found that most multiparous mothers experienced normal uterine fundal descent, while a smaller proportion experienced abnormal descent, particularly grand multiparas (more than five deliveries), who face increased risk of suboptimal uterine contraction.

Based on these findings, uterine involution on the first day postpartum among mothers with normal delivery at the Maternity Ward (Delima Room), Kertosono Regional Hospital, generally proceeded normally. The majority of respondents, 14 (56%), experienced involution at 2 cm below the umbilicus. These findings suggest that early mobilization (toileting), EIBF, good nutritional status, maternal age of 20–30 years, and multiparity are key supporting factors in uterine involution, with early mobilization and EIBF appearing to be the most influential, given their role in promoting blood flow and oxytocin release that stimulates uterine contraction. Health workers should therefore continue to promote early mobilization, EIBF, and adequate nutrition among postpartum mothers to support optimal recovery and prevent postpartum complications, thereby improving maternal quality of life.

IV. Conclusion

The results of this study showed that the majority of postpartum mothers with normal delivery in the Delima Maternity Ward of Kertosono Regional Hospital experienced uterine involution of 2 cm below the umbilicus on the first day postpartum, accounting for 14 of the 25 respondents (56%).

V. References

- Alvionita Vinny, T. P. (2022). Hubungan Status Gizi Dan Menyusui Dengan Involusio Uteri Pada Ibu Post Partum. *Jurnal Keperawatan Muhammadiyah* 7 (2), 212-217.
- Anggi Septyara, Y. I. (2020). Gambaran Faktor-Faktor Yang Mempengaruhi Proses Involusi Uterus Pada Ibu Post-Partum di Wilayah Kerja Puskesmas Langensari Kota Banjar. *Journal Of Midwifery and Public Health*, 63-67.
- Anggraini, Y. (2010). *Asuhan Kebidanan Masa Nifas*. Yogyakarta: Pustaka Rihama.
- Dewi, V. N. (2014). *Asuhan Kebidanan Pada Ibu nIfas*. Jakarta: Salemba Medika.
- Eny, A. d. (2022). Analisis Proses Involusi Uterus Pada Ibu Post Partum Hari Ke Tiga Di Praktik Bidan Mandiri Lystiani Gresik. *Jurnal Kebidanan*, 22-26.
- Helen Evelina Siringoringo, S. (2021). INISIASI MENYUSU DINI MEMPERCEPAT INVOLUSI UTERUS PADA IBU BERSALIN. *Portal Jurnal Malahayati*, 466-471.
- Heryani, R. (2012). *Asuhan kebidanan ibu nifas dan menyusui*. Jakarta: Trans Info Media.
- Irnawati, U. M. (2023). Mobilisasi Dini terhadap Proses Involusio Uteri pada Ibu Nifas . *Jurnal Ilmiah Kebidanan Dan Kesehatan (JIBI)*, 28-35.
- Kasmianti, S. (2023). *ASUHAN KEBIDANAN MASA NIFAS*. Malang: CV. Literasi Nusantara Abadi.
- Kody, M. M. (2023). *Kecepatan Proses Involusi Uterus Pada Ibu Post Partum Fisiologis Prmi*. Cilacap,

Jawa Tengah: PT Media Putaka Indo.

- Masaong Abdul Kadim, S. B. (2023). Hubungan Pemberian Asi Eksklusif Terhadap Involusi Uteri di Wilayah Kerja Puskesmas Telaga. Jurnal Ventilator: Jurnal riset ilmu kesehatan dan Keperawatan , 1-13.
- Nancye Pandeiro, H. D. (2021). FEKTIFITAS MENYUSUI TERHADAP PERCEPATAN PENURUNAN TINGGI FUNDUS. Journal STIKes William Booth Surabaya, 12-22.
- Notoatmodjo, P. D. (2018). Metodologi Penelitian Kesehatan. Jakarta: PT Rineka Cipta.
- Nursalam. (2020). Metodologi Penelitian Ilmu Keperawatan Edisi 5. Jakarta Selatan: Salemba Medika.
- Poppy, F. (2021). Hubungan Paritas Dengan Penurunan Fundus Uteri Pada Ibu Setelah Melahirkan Di Tulungagung. Jurnal Ilmiah Pamenang - JIP, 16-21.
- Retna, A. E. (2010). Asuhan Kebidanan Nifas. Jogjakarta: Nusa Medika.
- Saleha, S. (2009). Asuhan Kebidanan Pada Masa Nifas . Jakarta: Salemba Medika.
- Savita Riza, H. H. (2022). Buku Ajar Nifas DIII Kebidanan Jilid II. Jakarta: Mahakarya Citra Utama.
- Setyowati. (2013). Karakteristik Yang Mempengaruhi Mobilisasi Dini Pada Ibu Nifas Post Sectio Caesarea Embrio. Jurnal Kebidanan, Gol II.
- Siti Erniyati Berkah Pamuji, T. J. (2015). HUBUNGAN ANTARA USIA IBU DENGAN INVOLUSI UTERI PADA . Journal Prodi DIII Kebidanan STIKES Bhamada Slawi , 61-67.
- Sugiyono. (2019). Metodologi Penelitian Kuantitatif dan Kualitatif Dan R & D. Bandung: Alfabeta.
- Walyani, E. S. (2015). Asuhan kebidanan masa nifas dan menyusui. Yogyakarta: PT. Pustaka Baru.
- Widyastutik, D. E. (2021). Upaya Peningkatan Perilaku Ibu Postpartum Melalui Edukasi Family Centered Maternity Care (Fcmc) Tentang Perawatan Masa Postpartum di Wilayah Kerja Puskesmas Gambirsari Surakarta. Jurnal Salam Sehat Masyarakat (JSSM), 44.