Original Article

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The Effects of Postpartum Home Care on Constipation and Hemorrhoids at Sixty Days Postpartum

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ABSTRACT

BACKGROUND AND OBJECTIVE: Constipation and hemorrhoids are common problems during the postpartum period. Therefore, effective measures should be taken to diminish the deleterious effects of these complications on maternal health. In this study, we aimed to determine the efficacy of postpartum home care on the rate of constipation and hemorrhoids.

METHODS: This clinical trial was conducted in two phases on 276 women, who gave birth at hospitals, affiliated to Shahid Beheshti University of Tehran, Iran in 2013. The subjects were divided into intervention (n=92) and control (n=184) groups. First, a model of care was designed by comparative analysis and collection of data on home care guidelines for mothers and newborns, applied in different countries. In the second stage, women received home care services, based on the proposed model (on days 3-5 and 13-15 postpartum). On the other hand, subjects in the control group did not receive any services. The rates of constipation and hemorrhoids were recorded and compared via history taking and clinical examinations by midwives on day 60 following delivery. (IRCT:2013060313565N1)

FINDINGS: The mean age of the participants was 27±5 years. Based on the evaluation of outcomes on day 60 following delivery, constipation was reported in 13% of cases in the intervention group and 26.1% of subjects in the control group (p=0.013). Moreover, hemorrhoids were reported in 12% and 9.8% of women in the intervention and control groups, respectively; however, there was no significant difference between the two groups in terms of these complications.

CONCLUSION: Based on the results of this study, postpartum home care, complemented with physical exercise, a healthy diet, and use of laxatives in unresponsive cases to supportive treatment, could reduce constipation, whereas hemorrhoids remained unaffected.

KEY WORDS: Postpartum Care, Home Visit, Constipation, Hemorrhoids, Women's Health.

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Introduction

Women constitute half of the world's population. In fact, women's health guarantees the health of children and families in general (1). Postpartum period is one of the most critical stages in a woman's life, with significant impacts on her well-being (2).

This period is in fact one of the most sensitive stages of women's development (3). Consequently, complications during this period can disrupt women's daily activities and reduce their quality of life (4). According to World Health Organization (WHO), about 200 million pregnancies occur each year in the world (5).

In total, 1000 women die each day due to complications associated with pregnancy and childbirth, with developing countries accounting for 90% of these cases. Overall, with each case of maternal death, 30 women suffer from short- and long-term complications of pregnancy and childbirth (1).In the postpartum period, women experience different physiological and psychological changes, which can lead to serious adverse consequences (6).

According to the literature, various physical and psychological problems such as fatigue, hemorrhoids, constipation, breast problems, anxiety, stress, and depression may occur during the postpartum period (7). Constipation, which is a common postpartum complication (about 15%), in addition to direct adverse impacts on maternal health, can negatively affect mothers' child care abilities and disrupt their relationship with other members of the family (8).

Moreover, constipation can lead to various complications such as loss of appetite, hemorrhoids, and depression (9). The three major criteria for constipation include straining during defecation, stool hardness in more than 75% of defecations, and less than two or three bowel movements per week (10). Overall, chronic constipation may compromise maternal health and reduce the quality of life (11).

Hemorrhoids are one of the most common digestive problems. Pregnancy, difficult and prolonged labor, chronic constipation, and spending excessive periods of time on the toilet are among the contributing factors. The severe pain caused by hemorrhoids can restrict patients' activities, leave negative effects on their life, and induce heavy costs for the patients and government (12). Considering the serious adverse effects of hemorrhoids and constipation on maternal health, effective measures are required for the prevention, early detection, and treatment of these complications (7). Implementation of targeted postpartum care programs can be effective in the prevention, alleviation, and prompt treatment of complications of hemorrhoids (8). Postpartum care is neglected in both developed and developing countries, and maternal needs during this period are mostly overshadowed by pregnancy and childbirth (13). Currently, mothers are discharged from hospitals within a short period after delivery and receive no services within the first days. The majority of these women do not discuss their problems with healthcare providers and prefer self-treatment in general (14). Postpartum care services are essential to the prevention and early detection of complications during this period.

Therefore, postnatal care for all mothers and newborns is crucial after childbirth (6). As recommended by the National Association for Home Care & Hospice (NAHC), home care is required for the improvement of individuals' health. The main characteristic of home-based care is the provision of services at home (15). By the use of these services, we can provide postpartum care and training for mothers at home (16). In fact, postpartum home visit is the best strategy for meeting the supportive needs of families, since transport can be challenging for these recently extended families and postpartum home care services are essential on the first days following delivery (17). Despite the importance of postpartum home visits for mothers and newborns, these services have been neglected in different cities of Iran. Also, limited studies have been conducted on mothers' health problems during the postpartum period across the world (14, 18).

Overall, few studies have examined the effects of postpartum care, especially home visit programs, and no previous research has focused on the effects of home care on constipation and hemorrhoids. According to a study by Christie et al., home visits by healthcare providers could increase maternal satisfaction and reduce postpartum depression in nulliparous women in the intervention group (19). Also, in a study by Mirmolaei et al., postnatal care at home had positive effects on maternal satisfaction with the provided emotional, communicative, and educational services (4). Considering the importance of home care and the scarcity of studies on this subject, we aimed to evaluate the effects of postpartum home visits on the incidence of constipation and hemorrhoids

Methods

This clinical trial was performed on women, who gave birth at Taleghani, Shohada, Mahdieh, and Imam Hossein hospitals in Tehran during August-November 2013. Permission was obtained from the Ethics Committee of Shahid Beheshti University (IRCT: 1N201306031356). After obtaining informed consents from the participants, 276 eligible mothers, selected on the day of delivery, were recruited (68 cases from each hospital). The participants were consecutively divided into intervention (n=92) and control (n=184) groups; for each case in the intervention group, two cases were allocated to the control group. In the first stage of the study, revisions were made in the national guideline on postpartum care, which is the main reference for care provision at healthcare centers. This guideline includes examinations, observations, common questions, training on personal hygiene and mental, sexual, and oral health, warning signs, common postpartum complaints, nutrition, medicinal supplements, lactation, problems and their persistence, infant care, and family planning (2, 20). In the national guideline, some common problems among mothers and instructions on how to perform physical exercises are overlooked. Therefore, in the present study, by performing comparative analyses, postpartum care guidelines applied by the National Institute for Health and Care Excellence (NICE) in UK, Latin America, Australia, the United States, Canada, and WHO were reviewed (21-29). Then, a comparison was made between the guidelines of these countries. Moreover, revisions were made in the national guideline by applying the viewpoints of obstetricians, gynecologists, pediatricians, social medicine experts, and preventive medicine specialists in accordance with the conditions of our country. Finally, these revisions were integrated in the national postpartum care program. Moreover, a checklist on postpartum home care instructions was designed, according to which, all mothers were examined on days 3-5 and13-15 postpartum(table 1). The examinations were performed by trained midwives. The mothers were allowed to contact the service providers in case they had any questions or problems. The service providers were trained before the intervention and care provision was homogenous in all cases. Demographic characteristics and pregnancy-related data were recorded during sampling.

Table 1. The ways to overcome infrequent bowel movements and perform physical exercises in the postpartum period

Recommendations	
Constipation	Women are recommended to adhere to a high-fiber diet (including bran, fruits, and vegetables), supplemented with at least 6 to 8 glasses of liquid per day. Women should be informed about some medicinal treatments (e.g., use of iron and codeine), which may cause constipation. If the bowel movements are not regular or normal, laxatives should be prescribed on the third day after delivery. Glycerin suppositories should be used if the problem persists for 4-5 days after delivery and the patient has no anal fissures or hemorrhoids. In case of unresponsiveness to treatment, the patient should be referred to a physician.
Physical exercise	**The first three weeks after delivery:** Walking, exercises for core abdominal muscles, and pelvic floor exercises involving contractions **Day one after delivery:** 1) Kegel exercises including pelvic muscle contraction for 10 sec, followed by muscle relaxation for 10 sec for a total period of 15 min (80-100 contractions daily); 2) Isometric abdominal tightening: After counting to three, tighten and then relax the abdominal muscles. This exercise should be repeated five times (three times a day); 3) Arm lifts: While lying on the back, open the hands wide open on both sides and then raise them overhead. As the opposite hands approach each other, go back to the initial state and pause. This exercise should be repeated five times. **Days two and three after delivery:** Chin lifts: While lying on the back (with no pillows under the head), raise the head in a way that the chin touches the chest (without moving any other body parts). Repeat this exercise 10 times.Leg lifts: While lying on the back, hold up one leg above the other and count to three. Repeat this exercise five times at three different intervals each day.Stretching exercise: Lie on the stomach, hold the legs next to each other, and lock the hands over the head. Raise the head and lift the arms as far as possible. Tighten the abdominal and buttock muscles and then relax them all; repeat this exercise every day. **A week after delivery:** Simple aerobic exercises such as walking for short periods of time **3-8 weeks after delivery:**Before performing physical activities, it is recommended that a physician or midwife perform examinations on the mother six weeks after delivery. With the confirmation of the examiner, the following exercises should be performed: 1) walking; 2) swimming (in the absence of bleeding); 3) fitness exercises and muscle relaxation without holding the breath; 4) contraction exercises for core abdominal and pelvic muscles; 5) low-intensity aerobic exercises; and 6) low-intensity water aerobic exercises (in the absence of bleeding)

The required information was collected and recorded in the checklist by trained midwives through observation, interview, history taking, and physical examinations.Constipation was confirmed, based on the questions in the guideline. Also, diagnosis of hemorrhoids was made via examination by midwives. For data analysis, Chi-square, Fisher's test, and t-test were performed and $p<0.05$ was considered statistically significant

Results

According to the results in the first stage of the study, no instructions were available on the prevention or treatment of constipation or ways to perform physical exercises (e.g., the proper time to start exercising) in the national guideline, implemented by healthcare centers across the country. The mean age of mothers was 27.03±5.20 and 27.37±5.45 years in the intervention and control groups, respectively. The majority of participants had high school education (44.6% and 48.4% of subjects in the intervention and control groups, respectively).

The majority of subjects were housewives (94.6% in the interventional group and 92.4% in the control group) and had undergone caesarian section (60.9% and 65.2% of subjects in the intervention and control groups, respectively). The two groups were matched in terms of demographic characteristics (table 2). The rate of patient referral for postpartum care was 70.7% in the control group (at least once within 60 days after delivery). About 30% of women, who did not receive home care services, did not refer to healthcare centers or private clinics for postpartum care within 60 days following delivery. Overall, 12 cases (13%) in the intervention group and 48 cases (26.1%) in the control group suffered from constipation by day 60 following delivery ($p<0.05$). Moreover, the frequency of hemorrhoids was 11 cases (12%) in the intervention group and 18 cases (9.8%) in the control group.

According to the findings, 88% of women in the intervention group regularly received iron supplements by day 60 postpartum, while 12% of them irregularly used iron supplements; all women in the intervention group used the supplements. In the control group, 73.4% of women used iron supplements regularly for 60 days after delivery, while 19.6% did not take iron supplements regularly; about 13% of subjects in the control group did not use iron supplements at all. There was a significant difference between the two groups in term of iron supplement use ($p<0.05$) (table 3).

Table 2. Frequency of subjects based on demographic characteristics in the intervention and control groups

Group Demographic info	Control	Intervention	P-value
Age (years) Mean±SD	27.03±5.02	27.37±5.45	0.72
Mean gravidity	2.12	2.03	0.52
Mean parity	0.80	0.77	0.73
Educational Level (%)			
Illiterate	6.5	2.2	0.46
Primary education	16.3	14.7	
Junior high	20.7	21.7	
High school	44.6	48.4	
University	12.0	13.0	
Occupational status(%)			
Housewife	94.6	92.4	0.50
Employed	5.4	7.6	
Mode of delivery(%)			
Caesarean section	60.9	65.2	0.47
Vaginal delivery	39.1	34.8	
Number of abortions	0.34	0.26	0.73

Table 3. Frequency distribution of participants in terms of iron supplement use in the intervention and control groups

Group Iron use	Intervention N(%)	Control N(%)	Total N(%)
Regular consumption	81(88)	135(73.4)	216(78.3)
Irregular consumption	11(12)	36(19.6)	47(17)
No use	0(0)	13(7.1)	12(4.3)
Total	92(100)	184(100)	276(100)
P-value		0.010	

Discussion

The present findings showed that provision of home care services, based on the revised guideline led to a decline in constipation in the intervention group, unlike the control group by day 60 postpartum. However, there was no significant difference between the two groups in the frequency of hemorrhoids. According to a study by Bao et al., changes in diet and lifestyle could lead to a decline in constipation and hemorrhoids in mothers. The

provided services, complemented with physical activities and a balanced diet (i.e., frequent consumption of whole grains, fruits, and vegetables and adequate use of fish, meat, eggs, and milk), led to decreased constipation on day 60 after delivery (13). These findings were in accordance with the present results; on the other hand, the frequency of hemorrhoids remained unchanged in the mentioned study (13).According to the present findings, there were no instructions on the prevention or treatment of constipation or ways to perform physical exercises in the postpartum period in the national guideline, implemented by healthcare centers in Iran (20). On the other hand, in the guidelines implemented by South America, England, Australia, and WHO, instructions were provided on how to deal with constipation during this period (21-25). Moreover, elaborate instructions on how to perform physical exercises during the postpartum period were available in the guidelines implemented in Canada, Australia, and the United States (26-29). However, there were no instructions on how to perform physical activities after delivery in NICE guidelines in UK (22). In a study by Renata et al., use of psyllium powder during the third trimester of pregnancy significantly reduced the incidence of constipation and hemorrhoids. However, use of psyllium powder for the prevention of constipation could also lead to various complications (30).

In the present study, although the rate of constipation significantly decreased during the postpartum period in the intervention group (which received postnatal home care based on the proposed model), there was no significant difference between the intervention and control groups in terms of hemorrhoids. This indicates the ineffectiveness of these instructions on hemorrhoids. In fact, this lack of difference between the groups may be due to the severity of hemorrhoids and the possibility of recurrence in each episode. Today, home care services are essential in developing countries, given the associated economic and social advantages. Individualized care services by utilizing the capacity of families and societies plays a significant role in the provision of healthcare services.

Moreover, these services can improve one's sense of security, hopefulness, and quality of life (31). Since most maternal and neonatal problems occur in the first 10 days after delivery (when referring to healthcare centers is difficult for the mothers), home visits in the first postpartum week can have significant impacts on maternal adjustment with her new conditions and facilitate her access to care services. Therefore, provision of home care services for the prevention of constipation is an effective strategy, which must be considered by researchers and experts as a means to improve maternal health.

According to the results of the present study, postpartum home care for mothers can decrease constipation as a common problem after delivery. Therefore, provision of these services at home is recommended to health staff and authorities. However, providing home care services requires careful management and planning by midwifery experts. It should be noted that these strategies by improving care services and health of individuals can prevent various costly problems in the long run. It is suggested that future studies include longer follow-ups in the evaluations (e.g., evaluations at six months after delivery)..

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