



Factors Associated with Urinary Problems among Postpartum Women at Siriraj Hospital.

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Abstract

Background: During the postpartum period, urinary problems are common in women and may lead to chronic illness.

Objective: This study aims to determine the incidence and factors associated with urinary problems in postpartum women who delivered vaginally at Siriraj Hospital.

Material and Method: Study design was descriptive research. Data was collected by using a questionnaire to interview postpartum women within 48 hours after childbirth. During May 2008-June 2008, 198 postpartum women were recruited. Data was analyzed by descriptive statistical analysis which test the hypothesis of association between the variables, the chi-square test was used. Significance level of $\alpha = 0.05$ was applied.

Results: The incidence of urinary problems in postpartum women in this study was 59.1%, included urinary dysuria 54.5 %, urinary retention 6.0% and urinary incontinence 3.0%. There were 9 women (4.5%) who had more than 1 problem. Factors which had significant association with urinary problems were gestational age at delivery, parity, and the duration of the first stage of labour. A factor which had a significant association with dysuria was the duration of the first stage of labour.

Conclusion: Urinary problems, especially dysuria, in postpartum women who had vaginal delivery were common. Proper care during labour would prevent these problems.

Keywords: Urinary problems, Dysuria, Urinary retention, Urinary incontinence, Postpartum.

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Introduction

The postpartum period, also called the puerperium, lasts from delivery of the placenta until 6 to 12 weeks after delivery. Most of the physiologic changes in pregnancy will have returned to pre pregnancy by 6 weeks. However, the meaning usually includes the 6 subsequent weeks during which normal pregnancy involution occurs⁽¹⁾. These were not indicated that postpartum women will be safe, but there still potential risk to morbidity and mortality.

It is generally accepted that the urinary tract becomes dilated during pregnancy, especially the renal pelvis and the ureters above the pelvic brim. Normal pregnancy is associated with an appreciable increase in extracellular water, and diuresis that occurs postpartum is a physiological reversal of this process. This regularly occurs between the second and fifth days and corresponds with loss of residual pregnancy hypervolemia. The puerperal bladder has an increased capacity and a relative insensitivity to intravesical fluid pressure. Overdistention, incomplete emptying, and excessive residual urine are common. The paralyzing effect of analgesics, especially epidural and spinal blocks, is often contributory. The dilated ureters and renal pelvis return to their prepregnancy state over the course of 2 to 8 weeks after delivery^(2,3).

Bladder filling after delivery may be quite variable. In most hospitals, intravenous fluids are infused during labour for an hour after delivery. Oxytocin, in doses that have an antidiuretic effect, is commonly infused after placenta delivery. As a consequence of infused fluid and the sudden withdrawal of the antidiuretic effect of oxytocin, rapid bladder filling is common. Moreover, both bladder sensation and capability to empty spontaneously may be diminished by anesthesia, especially conduction analgesia, as well as by episiotomy, laceration, or hematomas. It is not surprising, therefore, that urinary retention with bladder overdistention is a common complication of the early puerperium⁽⁴⁾.

The urinary problems were common during postpartum, these led to uterine reflex relaxation and uterine atony followed. Occurrence of urinary problems which may lead to postpartum hemorrhage.

In addition, effects of pregnancy and labour on the postpartum urinary function may be maternal morbidity. According to result of vaginal delivery, it usually cause a significant stretching muscular, fascial and ligamentous support of pelvic floor structures⁽⁵⁾

The objective of study

1. To study the incidence of urinary problems in postpartum women which include dysuria, urinary retention and urinary incontinence.
2. To study factors which may be associated with urinary problems in postpartum women which includes general and obstetric characteristics.

Material and Method

This research was a descriptive designed to study factors associated with urinary problems in postpartum women who delivered vaginally within 48 hours after childbirth in Siriraj Hospital during May 2008-June 2008.

Data was collected by using questionnaire to interview postpartum women. One hundred and ninety eight of postpartum women were recruited according to the inclusion criteria. The study was conducted at postpartum ward, Department of Obstetric and Gynecology, Faculty of Medicine, Siriraj Hospital.

Inclusion criteria

1. Spontaneous vaginal delivery and operative vaginal delivery such as forceps extraction, vacuum extraction and breech assisting
2. Women were normal during pregnant and postpartum period, without complication were included.

Exclusion criteria

1. Women who had complication during preg-

nant such as Hypertension, Gestation diabetes mellitus.

2. Women who had illness such as Heart Disease, SLE (Systemic Lupus Erythematosus), Thyrotoxicosis.

3. Post partum women who had cesarean section.

Data were analyzed using frequency, percentage, mean and standard deviation were calculated to characteristic of postpartum women. Analysis statistics by using chi- square test and used to test hypotheses at the significant level of $\alpha < 0.05$.

Data collection

1. The researcher explained the studied to the postpartum women and asked for permission and cooperation.

2. The researcher will interview the postpartum women and check the questionnaire for completeness of data.

Results

The study was conducted among 198 postpartum women who had vaginal delivery, 117 (59.0%) had urinary problems in postpartum. Among these postpartum women 108 (54.5%) had dysuria, 12 (6.06%) had urinary retention and only had 6 (3.0%) urinary incontinence. Some women had more than 1 problems, there were 7 (3.5%) women had dysuria with urinary retention and 2 (1.0%) had dysuria with urinary incontinence (Table 1.)

Fifty four percent of post partum women had dysuria. Most of them developed symptoms within 3-6 hours postpartum (72.2%). About 26.9% of dysuria occurred within 0-2 hours postpartum and only 0.9% of them occurred within 25-48 hours postpartum (Table 2.)

All 12 cases (6.06%) of urinary retention occurred within 3-6 hours postpartum after delivery and all 6 cases (3.0%) of urinary incontinence occurred at the

Table 1 The incidence of urinary problems in postpartum women.

| Urinary problems | Number (n = 198) | Percent |
|--------------------------------|------------------|---------|
| Normal | 81 | 41.0 |
| Abnormal | 117 | 59.0 |
| Dysuria | 99 | 50.0 |
| Retention | 5 | 2.5 |
| Incontinence | 4 | 2.0 |
| Dysuria & urinary retention | 7 | 3.5 |
| Dysuria & urinary incontinence | 2 | 1.0 |
| Total Assessment | 198 | 100.0 |

Table 2 Time of dysuria in postpartum

| Time of incidence | Number (n = 108) | Percent |
|-------------------|------------------|---------|
| Dysuria | | |
| 0 - 2 hr | 29 | 26.9 |
| 3 - 6 hr | 78 | 72.2 |
| 7 - 24 hr | - | - |
| 25 - 48 hr | 1 | 0.9 |
| Total | 108 | 100.0 |



same time.

The study found that 47.0% of postpartum women were catheterized during postpartum. Because of them can not void by oneself while bladder filling after delivery. Most of them were catheterized for once, maximum catheterization was three time (1.5%) (Table 3.)

In this study by using chi-squared test it was found gestational age at delivery, parity and duration of first stage of labour were significantly association with urinary problems in postpartum women. A factor

which had a significant association with dysuria was the duration of the first stage of labour. More than half of dysuria in postpartum women had duration of first stage of labour were 361-720 minutes (51.9%), compare to 31.5% of postpartum women had duration of first stage of labour were 360 minutes or lower and 16.7% of postpartum women were 721 minutes or more. There was statistically significant between duration of first stage of labour and dysuria (p- value < 0.05.) (Table 4.)

Table 3 Number and percent of Catheterization during postpartum.

| Number of catheterization | Number | Percent |
|---------------------------|--------|---------|
| No | 105 | 53.0 |
| Yes | 93 | 47.0 |
| 1 | 81 | 41.0 |
| 2 | 9 | 4.5 |
| 3 | 3 | 1.5 |
| Total | 198 | 100.0 |

Table 4 The association between general and obstetric characteristics with dysuria in postpartum women.

| Characteristics | Dysuria | | | χ^2 | df | p- value |
|---|--------------|-------------|----------------|----------|----|----------|
| | Yes n (%) | No n (%) | Total n (%) | | | |
| 1. Age (years) | | | | | | |
| - ≤ 25 | 52(48.1) | 35(43.2) | 87(46.0) | | | |
| - 26 - 35 | 49(45.4) | 39(48.1) | 88(46.6) | | | |
| - ≥ 36 | 7(6.5) | 7(8.6) | 14(7.4) | 0.614 | 2 | 0.736 |
| 2. Weight at delivery (kilogram) | | | | | | |
| - ≤ 50 | 78(72.2) | 57(70.4) | 135(71.4) | | | |
| - ≥ 51 | 30(27.8) | 24(29.6) | 54(28.6) | 0.078 | 1 | 0.780 |
| 3. Gestational age at delivery (weeks) | | | | | | |
| - ≤ 37 | 32(29.6) | 34(42.0) | 66(34.9) | | | |
| - ≥ 38 | 76(70.4) | 47(58.0) | 123(65.1) | 3.104 | 1 | 0.078 |
| 4. Gravidity | | | | | | |
| - 1 | 43(39.8) | 24(29.6) | 67(35.4) | | | |
| - ≥ 2 | 65(60.2) | 57(70.4) | 122(64.6) | 2.098 | 1 | 0.147 |

* p- value < 0.05

Table 4 The association between general and obstetric characteristics with dysuria in postpartum women (Cont.)

| Characteristics | Dysuria | | | χ^2 | df | p- value |
|--|--------------|-------------|----------------|----------|----|----------|
| | Yes n (%) | No n (%) | Total n (%) | | | |
| 5. Parity | | | | | | |
| - 1 | 60(55.6) | 33(40.7) | 93(49.2) | | | |
| - 2 | 34(31.5) | 28(34.6) | 62(32.8) | | | |
| - ≥ 3 | 14(13.0) | 20(24.7) | 34(18.0) | | | |
| | | | | 5.738 | 2 | 0.057 |
| 6. Type of this delivery | | | | | | |
| - Spontaneous | 99(91.7) | 78(96.3) | 177(93.7) | | | |
| - Operative vaginal | 9(8.3) | 3(3.7) | 12(6.3) | | | |
| | | | | 1.668 | 1 | 0.196 |
| 7. Duration of first stage of labour (minutes) | | | | | | |
| - ≤ 360 | 34(31.5) | 35(43.2) | 69(36.5) | | | |
| - 361 - 720 | 56(51.9) | 42(51.9) | 98(51.9) | | | |
| - ≥ 721 | 18(16.7) | 4(4.9) | 22(11.6) | | | |
| | | | | 7.214 | 2 | 0.027* |
| 8. Duration of second stage of labour (minutes) | | | | | | |
| - ≤ 30 | 73(67.6) | 60(74.1) | 133(70.4) | | | |
| - 31- 60 | 20(18.5) | 14(17.3) | 34(18.0) | | | |
| - ≥ 61 | 15(13.9) | 7(8.6) | 22(11.6) | | | |
| | | | | 1.410 | 2 | 0.494 |
| 9. Duration of third stage of labour (minutes) | | | | | | |
| - ≤ 5 | 13(12.0) | 14(17.3) | 27(14.3) | | | |
| - 6 - 15 | 82(75.9) | 61(75.3) | 143(75.7) | | | |
| - ≥ 16 | 13(12.0) | 6(7.4) | 19(10.1) | | | |
| | | | | 1.881 | 2 | 0.390 |
| 10. Birth weight (grams) | | | | | | |
| - ≤ 2500 | 11(10.2) | 7(8.60) | 18(9.5) | | | |
| - 2501 - 3500 | 88(81.5) | 61(75.3) | 149(78.8) | | | |
| - ≥ 3501 | 9(8.3) | 13(16.0) | 22(11.6) | | | |
| | | | | 2.707 | 2 | 0.258 |
| 11. Head circumference (Centimes) | | | | | | |
| - ≤ 32 | 17(15.7) | 13(16.0) | 30(15.9) | | | |
| - ≥ 32 | 91(84.3) | 68(84.0) | 159(84.1) | | | |
| | | | | 0.003 | 1 | 0.954 |
| 12. Presentation | | | | | | |
| - Cephalic | 106(98.1) | 79(97.5) | 185(97.9) | | | |
| - Breech presentation | 2(1.9) | 2(2.5) | 4(2.1) | | | |
| | | | | 0.085 | 1 | 0.770 |

* p- value < 0.05

**Table 4** The association between general and obstetric characteristics with dysuria in postpartum women (Cont.)

| Characteristics | Dysuria | | | χ^2 | df | p- value |
|--|--------------|-------------|----------------|----------|----|----------|
| | Yes n (%) | No n (%) | Total n (%) | | | |
| 13. Analgesic during labour | | | | | | |
| - Yes | 33(30.6) | 23(28.4) | 56(29.6) | | | |
| - No | 75(69.4) | 58(71.6) | 133(70.4) | 0.322 | 2 | 0.851 |
| 14. Painless labour | | | | | | |
| - Yes | 6(5.6) | 2(2.5) | 8(4.2) | | | |
| - No | 102(94.4) | 79(97.5) | 181(95.8) | 1.088 | 1 | 0.297 |
| 15. Degree of perineal laceration | | | | | | |
| - First & Second degree | 97(89.8) | 76(93.8) | 173(91.5) | | | |
| - Third & Fourth degree | 11(10.2) | 5(6.2) | 16(8.5) | 2.960 | 2 | 0.228 |

* p- value < 0.05

Discussion

The urinary problems included dysuria, urinary retention and urinary incontinence. Among 198 postpartum women the incidence of urinary problems was 59.1 which was high when compared to Sawatsuwanakun C.⁽⁶⁾ who found the incidence of urinary problems was 45.6% by studied in Ramathibodi, Thailand. The incidence is high when compared to other studies because this study may result included all related urinary problems. The incidence of dysuria (50.0%) in postpartum was higher than previous reports by Roberto P et al.⁽⁸⁾, who reported the incidence of 4.84% while Sawatsuwanakun C.⁽⁶⁾, studied in Ramathibodi, Thailand who reported the incidence of 9.2%. The incidence of dysuria was high and it may become chronic illness. Among them 86.1% of postpartum women were catheterization during postpartum, most of them received catheterization within 2 hours postpartum. In addition to trauma the urethra, catheterization may introduce infection and urithritis and cystitis will be develop afterwards.

The incidence of urinary retention was 10.2% (12 cases). The incidence was low when compared recorded in the literatures from Shing - Kai Yip⁽⁹⁾ reported the incidence 14.6% and that high when compared to the study of Carley M.E.⁽⁷⁾ reported the incidence 0.45 %. The incidence of urinary incontinence in this study was only 5.1% (6 cases). The incidence was low when compared to the study of Roberto P et al.⁽⁸⁾ who reported the incidence of 11.73%, by assessment of incontinence was done 3 month after childbirth while in our study evaluation of urinary incontinence was done within 48 hours after childbirth.

Factors significantly associated with dysuria in post partum was duration of first stage of labour. The explanation of the association of duration of first stage of labour and dysuria may be related the duration of pressure exerted by the presenting part of the fetus on the pelvic floor and pelvic soft tissue, which include the pelvic nerve plexus. These pressures which involved injuries to the components of the voiding mechanisms may lead to dysuria. The catheterization

in among postpartum women is high in this study, almost case had received catheterization within 2 hours after child birth. Because may be to prevent further postpartum hemorrhage and comfortable. Both were treated by intermittent catheterization, in addition it to be consequence factors associated with dysuria in post partum women.

Conclusion

Urinary problems in postpartum are common and may become chronic illness. The purpose of this study is to find out the incidence and factors associated with urinary problems in postpartum women who delivered vaginally at Siriraj Hospital. The instrument was a questionnaire for interview postpartum women with in 48 hours after childbirth. Data was analyzed by chi- square test and significant level at $\alpha < 0.05$ was applied. Among 198 postpartum women, this study found the incidence of urinary problems in postpartum women was 59.1%, which included urinary dysuria 54.5%, urinary retention 6.0% and urinary incontinence 3.0%. There were a women (4.5%) who had more than 1 problem.

Secondary dysuria after urinary retention was found 7 cases (58.3%) of urinary retention cases. Secondary dysuria after urinary incontinence was found only 2 cases (33.3%) of urinary incontinence. Among 93 case of postpartum women were catheterization during postpartum, most of them received catheterization within 2 hours postpartum (87.1%)

One hundred and eight of postpartum women had dysuria. Most of them developed symptoms within 3-6 hours postpartum (72.2%) about 26.9% of dysuria

occurred within 0-2 hours postpartum and only 0.9% of them occurred within 25-48 hours postpartum.

By using chi-square test the factors which were statistically significant in association with urinary problems in postpartum were gestational age at delivery, parity and duration of first stage of labour. The duration of first stage of labour was factor, which statistically significant associated with dysuria in postpartum.

The urinary problems in postpartum were especially dysuria seem to a result from trauma and damage to the urethra from catheterization after childbirth and mechanism of labour which included direct compression from the presenting part denervation injury.

Recommendations

The incidence of urinary problems in postpartum women were common with possible sequelae. Attention should be paid on and bladder care. And the results from this study showed that urinary problems especially dysuria were associated with duration of first stage of labour, so proper care during labour would prevent these problems.

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ปัจจัยที่มีความสัมพันธ์กับปัจจัยทางการปัลสาวะในสตรีระดับคลอด โรงพยาบาลศิริราช

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บทคัดย่อ

ปัญหานการปัสสาวะเป็นปัญหาที่พบได้บ่อยในสตรีโดยเฉพาะในระยะหลังคลอด และอาจจะเป็นปัญหารือว่างต่อไป การวิจัยในครั้งนี้มีวัตถุประสงค์เพื่อศึกษาอุบัติการณ์ของการเกิดปัญหานการปัสสาวะ และปัจจัยที่มีความสัมพันธ์กับ ปัญหานการปัสสาวะในสตรีระยะหลังคลอดที่คลอดบุตรทางช่องคลอด ในโรงพยาบาลศิริราช การวิจัยในครั้งนี้เป็นการ วิจัยเชิงพรรณนา เก็บข้อมูลโดยติดตาม ชักถามปัญหานการปัสสาวะภายใน 48 ชั่วโมงของสตรีระยะหลังคลอดที่ คลอดบุตรทางช่องคลอด ในโรงพยาบาลศิริราช จำนวน 198 คน ระหว่างเดือนพฤษภาคม 2551 - กรกฎาคม 2551 และวิเคราะห์ข้อมูลโดยใช้สถิติเชิงพรรณนา ได้แก่ จำนวน อัตรา ร้อยละ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน การทดสอบ สมมติฐานใช้ค่า Chi-square test ที่ระดับ $\alpha = 0.05$

ผลการศึกษาพบว่าอุบัติการณ์ของการเกิดปัญหานการปัสสาวะพบร้อยละ 59.1 เป็นปัญหานการปัสสาวะแบบขัด ร้อยละ 54.5 ปัสสาวะค้างร้อยละ 6.0 และกลั้นปัสสาวะไม่ได้ร้อยละ 3.0 มีสตรีหลังคลอดที่มีปัญหานการปัสสาวะ มากกว่า 1 อย่างร้อยละ 4.5 ปัญหานการปัสสาวะในสตรีระยะหลังคลอด มีความสัมพันธ์กับอายุครรภ์ขณะคลอด ลำดับของการคลอด และระยะเวลาของ การคลอดในระยะที่หนึ่ง อย่างมีนัยสำคัญทางสถิติ ปัญหานการปัสสาวะแบบขัดใน ระยะหลังคลอด มีความสัมพันธ์กับระยะเวลาของ การคลอดในระยะที่หนึ่ง อย่างมีนัยสำคัญทางสถิติ

สรุปปัญหานการปัสสาวะในสตรีระยะหลังคลอดที่คลอดบุตรทางช่องคลอด ในโรงพยาบาลศิริราช เป็นปัญหาที่ พบได้บ่อย โดยเฉพาะอย่างยิ่งปัญหานการปัสสาวะแบบขัด ปัจจัยในดูแลการคลอดมีความสัมพันธ์กับปัญหาที่เกิดขึ้น จึงควร มีการพิจารณาทางแนวทางการดูแลการคลอดที่เหมาะสมเพื่อป้องกันปัญหานการปัสสาวะภายใน 48 ชั่วโมงหลังคลอด