



Bladder Management and Patient Empowerment in Laboring Women with Epidural Anesthesia: a Mixed Methods Study

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Objectives

- Recognize that women would most likely appreciate being allowed to attempt the bedpan prior to catheterization.
- Recognize that women who are offered the bedpan feel more involved in their bladder care and may experience more power and control of their labor.
- Identify practices that will help increase voiding success among women with epidural anesthesia.

The Research Question



- PICOT - "In term, laboring women with epidural anesthesia, are their labor experience and feelings of empowerment improved when 1) the nurse proactively assists her in using the bedpan or 2) she is actively involved in the decision making process for her bladder maintenance?"
- Secondary questions
 - 1) What percentage of women with epidurals are able to void on a bedpan successfully?
 - 2) Does the use of IC or CIF affect the labor experience, including length of labor?
 - 3) Do laboring women appreciate being allowed to use the bedpan?
 - 4) Did the type of bladder management have any effect on her feelings of empowerment during labor?
 - 5) Are there any positive or negative feelings experienced by women directly related to their bladder care during labor?

The Study

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- 427 surveys handed out from July 2017 – June 2018
 - 174 returned and 11 pulled out for not meeting inclusion criteria
 - 163 group (70 Primips/93 Multips)
 - Group A – Bedpan only (16)
 - Group B – IC only (31)
 - Group C – CIF only (47)
 - Group D - Mixed
 - D1 – Bedpan/IC (44)
 - D2 – Bedpan/CIF (15)
 - D3 – Bedpan/IC/CIF (3)
 - D4 – IC/CIF (7)
 - 34 women used the bedpan for the first time with this pregnancy
 - 44 women were able to void at least once (27%)
 - 91 women avoided a Foley altogether (55.8%)
 - 15 women (9.2%) used the bedpan exclusively (20.5% of those offered the bedpan)

Some key questions

Did you appreciate being allowed to attempt the bedpan first before being catheterized?

N = 74 offered the bedpan, 1-5 Likert scale, 95% CI
82.4% + 8.7% appreciated it (4 “mostly” or
5 “very much”, n=61)

70.3% + 10.4% appreciated it “very much” (5)
10.8% 3 “neutral” (n=8)

6.8% seemed not to appreciate it (1 “not at
all” or 2 “a little”, n=5)

By running a hypothesis test, we have a *p-value* of **.0098**, which gives us a strong reason to believe that more than **70% of patients would appreciate “mostly” or “very much” being allowed to attempt the bedpan.**

Some key questions

Did you feel your nurse was helpful in assisting you to void successfully?

N=156; Likert Scale 1-5

Not enough who answered other than 4 “mostly” or 5 “very much” to allow us to create a valid CI

Unable to separate by group due to small fraction who did not answer 5 “very much”

Everyone in the bedpan group answered 5 “very much”

91.7% ± 4.3% (5, n=143)

Regardless of the method used, women felt that their nurse was helpful in assisting them to void.

Some key questions

How would you rate your overall voiding experience during the time when your epidural was placed to when your baby was born?

N=158, Likert Scale 1-5, CI 95%

Everyone in the bedpan group answered "5"

86.1% + 5.4% rated 5 "positive" (n=136)

93% + 4.0% rated 4 "somewhat positive" and 5 "positive" (n=144)

5.7% rated 3 "neutral" (n=9)

1.2% rated 2 "somewhat negative" (n=2)

Those who utilized the bedpan (Groups A and D1-D3) (n=76) were more likely to answer 5 "positive" than those who did not use the bedpan (Groups B, C, and D4) (n=82). P-value of .23

All groups had high rates of overall satisfaction with their voiding experience.

How involved in the decision making process in regards to your bladder care were you?

Likert Scale 1-5; 95% CI, 4 = "involved"; 5= "very involved"

Bedpan	IC	CIF	Mixed
75% + 21.2% (5)	38.3% + 17.7% (5)	34.7% + 13.8% (5)	65.2% + 11.2% (5)
87.5% + 12.1% (4 or 5)	54.8% + 17.5% (4 or 5)	56.5% + 14.3% (4 or 5)	79.7% + 9.5% (4 or 5)
1.9 times as likely to answer 5 as those in IC			1.7 times as likely to answer 5 as those in IC
2.2 times as likely to answer 5 as those in CF			1.9 times as likely to answer 5 in those in CIF

From the negative side...

		Not Involved At all	A Little Involved	Neutral	Involved	Very Involved
bedpan	16	0	0	2	2	12
IC	31	6	2	6	5	12
CIF	46	8	2	10	10	16
mixed	69	2	3	9	10	45

- 19 out of 83 who only used a catheter (22.9%) rated 1 “Not involved at all” or “a little involved” vs 4 out of 79 bedpan users (5.1%)
- So those only using the catheter are more likely to respond that they were “not involved at all” or “a little involved” in the decision process regarding their bladder care than those who used a bedpan ($p < .00001$)

107 women who in a prior delivery
had a catheter **and in this delivery....**

Used a bedpan for the first time
(n=34), 22 (64.7%) answered
they felt 5 “very involved” in
their bladder care

VS

Did not use a bedpan (n=83),
32 (38.6%) answered they felt
5 “very involved” in their
bladder care

*Those who used a bedpan for the first time this pregnancy are
more likely to answer 5 “very involved” than those who had not
uses a bedpan in the past and did not use one this time around
(p =.005)*

Do you feel that by having a voice in regards to your bladder care, that you experienced more power and control of your labor experience?

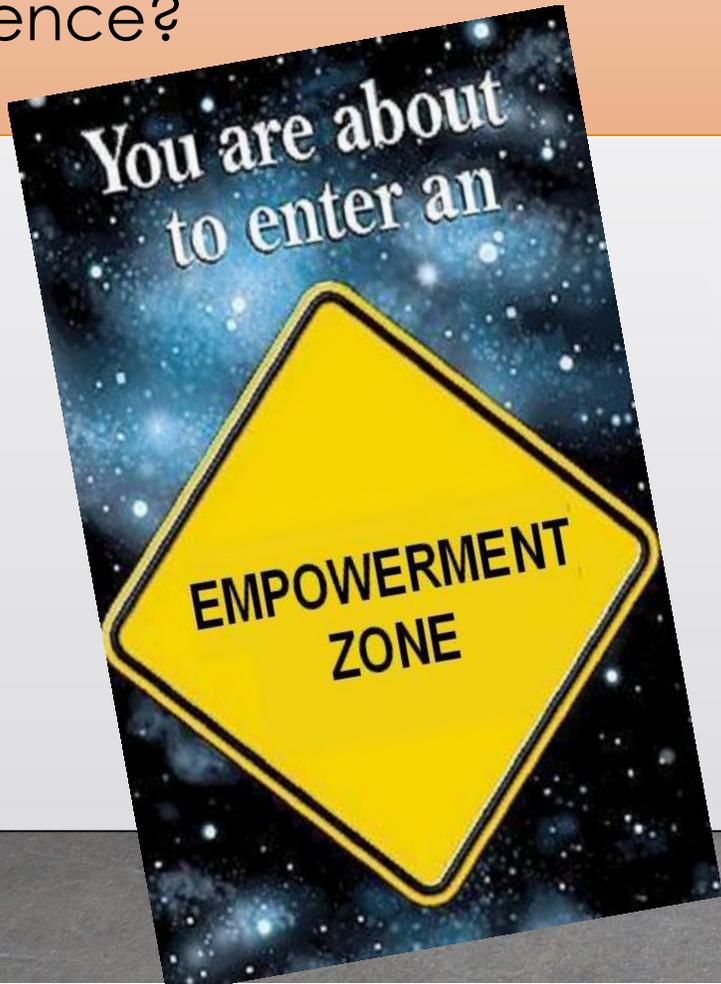
Bedpan	IC	CIF	Mixed
75.0% + 21.2%	25.8% + 15.4%	41.3% +	65.2% + 11.2%
(4 or 5)	(4 or 5)	14.2%(4 or 5)	(4 or 5)

Likert Scale 1-5; 95% CI, 4 = "somewhat", 5= "very much"

Bedpan and Mixed are approximately 1.6 times as likely to answer 4 or 5 than IC and CIF (1.3,2.0)

10 out of 16 (62.5%) in Bedpan answered "5", and 54 out of 146 (37%) not in Bedpan answered "5". There is a solid reason to believe that ***those who use bedpan exclusively*** are more likely to answer 5 than those who do not use a bedpan exclusively (***p-value = .024***)

Do you feel that by having a voice in regards to your bladder care, that you experienced more power and control of your labor experience?



- 41 of 79 (52.9%) who were **offered the bedpan** answered 5 "very much" (Groups A, D1-D3)
- 23 of 83 (27.7%) who were **not offered the bedpan** answered 5 "very much" (Groups B, C, D4)

$p = .0008$, odds ratio of 2.8

Indicates very strong evidence to believe that **those offered a bedpan feel they have more power and control in their labor** than those who were not offered a bedpan.

DO YOU FEEL THAT BY HAVING A VOICE IN REGARDS TO YOUR BLADDER CARE, YOU EXPERIENCED MORE POWER AND CONTROL OF YOUR LABOR EXPERIENCE?

107 women who in a prior delivery had a catheter **and in this delivery....**

Used a bedpan (n=34), 23 (67.6%) answered 4 “somewhat” or 5 “very much”

VS

Did not use a bedpan (n=83), 29 (34.9%) answered 4 “somewhat” or 5 “very much”

p = .000027



In the future, would you like to be more or less involved in your bladder care than you were this time?

- *No one, regardless of their method of voiding, wanted to be less involved in their bladder care in the future*
- In each group, a strong majority want neither more nor less involvement in their bladder care in the future. This *may indicate genuine satisfaction with their level of involvement at the time of the survey*, or at least for some, it may indicate a lack of interest in their bladder care: *“whatever happened this time is good enough for the future.”*
- A significant portion of those answering 5, also indicated that they were very involved in their bladder care. It seems odd that some who felt “very involved” would want to be “a little more involved” or “much more involved” in the future. *Perhaps these answers just indicate the patients’ enthusiasm for involvement – they were very involved this time and wish to remain so in the future.*



How can we best help our patients to void???

The overall success rate for voiding on the bedpan was 60%

9 practices were evaluated individually* and in combination to find what methods offered the highest chance of success

- a. positioned comfortably on the bedpan
- c. sitting as high as possible
- e. turning on the faucet
- g. warm blanket or towel over abdomen
- i. water poured over perineum with peri-bottle
- k. I don't remember doing any of these

- b. instructed in Kegel exercises
- d. encouraged to drink water
- f. offered encouraging words
- h. provided privacy by staff
- j. Other _____

*N=73 who were offered and attempted the bedpan, limiting individual evaluation

What works?



Water poured
over perineum

Probability of success
increased to **76%**



Turning on the
faucet

Probability of success
increased to **79%**

Doing 2 increased success



91%

90%



Water poured over perineum
Offered encouraging words

Water poured over perineum
Encouraged to drink water



*When done within a larger set of practices



Doing 3 or 4 increased success to 90%



Position,
Faucet



Water
poured over
perineum
Encouraging
words



Faucet,
Provide
privacy



Position,
Provide
privacy

The More practices engaged in,
the better the success rate seen

Water poured
over perineum



Provided
Privacy by staff

Offered
encouraging
words



Positioned
comfortably
on the
bedpan

Turning on
the faucet

We cannot say that just performing these 5 things will result in a high success rate, only that **when these 5 actions are present, we tend to see a high success rate.**



What if I don't do these?

- Did not position comfortably on bedpan – success rate fell to 30%
- Did not turn on the faucet – success rate fell to 45%
- Did not offer encouraging words – success rate fell to 52%
- Did not provided privacy – success rate fell to 43%
- Did not pour water over the perineum – success rate fell to 55%

*This does not mean that when a particular action is missing that it drops the success rate to that low, but rather, we see **when a single action is missing, it can mean that other actions are missing as well, and that together they lead to a low success rate.***

Effect on Length of Labor

Mean time from epidural placement to delivery

- Bedpan only (n=16) - 4hr 24min
- IC only (n=31) – 4 hr 49 min
- CIF only (n=47) – 7 hr 10 min
- Mixed (n=65) – 6 hr 33 min

A vs C $p = 0.0039$, large SD

B vs C $p = 0.0018$

A&B vs C $p = 0.0004$

Mean dilation at time epidural was placed

- Group A (n=10)- dilation 6.4 (SD 2.1)
- Group B (n=19) – dilation 5.2 (SD 1.6)
- Group C (n=33) – dilation 3.9 (SD 1.2)

Outliers and those who did not receive pitocin were removed

While those who had CIFs had the longest length of labor time, **that does not necessarily mean that a CIF tends to increase that time**, because we also see that dilation at the time of epidural placement was also much **smaller** for this group.

Effect on Length of Labor

- Since there are other factors clearly at work in the different groups besides the voiding method used, **we used a regression model to tease out the effect of one variable over the effects of the others.** We group Bedpan and IC users and compared with CIF users. With outliers and pitocin removed as a variable we have the following model

Intercept	Dilation (cm)	First Pregnancy	Bedpan/IC use
529 (min)	-38	185	-93
0	<0.0001	<0.0001	0.002

- The presence of Pitocin did not seem to add much. Starting the Pitocin after the epidural correlated somewhat with a longer labor time, but that may have been because Pitocin was started after the epidural in cases where labor was showing signs of taking longer (i.e., late Pitocin administration may be an effect of longer labor rather than a cause of it).

Using a bedpan and/or IC does appear to shorten the length of labor. However $r^2 = 0.36$, which indicates that this model is not explaining a good deal of the variation in labor times.



Qualitative analysis

The woman's point of view

Themes for Bedpan use

In Control

"I feel like using the bed pan made me feel more in control of the situation. It definitely allowed me more control of my body"

"I felt more in control of my own body and I appreciated the feeling of privacy I had due to my urine not being visible to others in a bag"

"Felt more in control"

Self-accomplishment

"I felt more confident that I would be able to control my body and push effectively because I was able to urinate effectively and independently while numbed from the epidural"

"A sense of accomplishment and the nurses were very helpful in making it successful"

"I was a pro"

"Knowing that an empty bladder helps with labor progressing and knowing that I could empty my bladder without a catheter was very positive for me"

Appreciation

"I very much appreciated being able to use the bedpan. I was nervous that the epidural would completely numb me from all feeling. It was great knowing I could do it myself"

"I really appreciated being allowed to attempt voiding before the decision was made not to get the catheter"

"I won't have any more babies (this is my 5th) but appreciated this new opportunity"

Themes for Bedpan use

Participation

"I was given the opportunity to do something for myself before medical intervention was necessary"

"I was very involved and appreciated"

"It was nice to have one less tube. Sometimes you feel like there's so much going on with all the lines! Also I felt less like I was just sitting through the birth - I was actually participating to make it a little less artificial"

Choice

"They offered a bedpan but I didn't want to try it out but liked that we did have the option"

"It was nice having the option of a bedpan"

"I preferred to use bedpan. It was easy and not uncomfortable to use!"

Comfort

"Less painful after delivery when using restroom"

"I haven't had any pain or burning feelings when using the bathroom. Its been very easy to use the bathroom"



Themes for Bedpan use

Positive Expressions

“Using a bedpan was a positive experience”

“It was nice to know that my bladder was still functioning correctly with the epidural in place and being allowed to use the bedpan”

“It was great, I liked using the bedpan than I liked how they only used the catheter once to drain me”

“Less stress”

Birth Process

“Allowed my cervix the chance to dilate more naturally”

“Everything went very well. Being able to void before delivering really helped me to feel better and calmer about having that “feeling” at delivery”

“I felt more comfortable pushing knowing my bladder was emptied. After delivery it was very easy to void because I did not receive a catheter.

Catheter Avoidance

“It was nice not getting a catheter”

“It was nice to be able to use the bedpan instead of using a catheter”

“I completely loved being able to use a bedpan. I hated using a catheter my past deliveries”

“It was very positive not having a catheter”



Bedpan negative comments

- “If I had tried to use the bedpan I would have been **stressed** and unable to go” (CIF user who used CIF in prior delivery)
- “I am the type who can only go in the bathroom. I literally would not have been able to do anything without getting up. It becomes super **stressful**” (CIF user)
- “Bedpan took some getting used to” (Bedpan/IC User who used CIF in prior delivery)
- “Bedpan was very **difficult**” (Bedpan/IC user)
- “Bedpan was very **hard** for me. I had much more relief when a in and out catheter was used” (Bedpan/IC user)

IC Themes

Relief

“Relief after in and out cath”

“Bedpan was very hard for me. I had much more relief when a in and out catheter was used”

“No pain just relieved my bladder”

“Relieve pressure, assisted during pushing to have more room”

“The emptying of my retaining bladder”

Quick and Easy

“It was quick and painless and required no effort from me”

“It was easy, pain free and quick”

Positive Expressions

“Great experience. No complaints!”

“It worked”

“I was able to use the catheter just fine without peeing on myself”

“I had a overall positive experience. I was numb so there wasn't much of awareness for me”

IC Themes

Birth Process

"It made contractions easier to tolerate, made delivery easier, and made everything more comfortable after delivery"

"was able to push better"

"It was comfortable and allowed my cervix to continue dilating at a normal rate"

"Piece of mind about not voiding as much during delivery"

Comfort

"Didn't feel a thing with catheter"

"I could not feel anything, it is wonderful"

"Less discomfort with in/out technique"

"I was comfortable throughout my labor experience"

Catheter Avoidance

"It was nice not to be hooked up to another tube"





IC Negative comments

- “Slight **discomfort** as epidural was wearing off past delivery”
- “I only wished I was helped to “void” more often with the catheter”
- “My pee hole always feels raw after labor is over and I am peeing regularly on my own”
- “1 or 2 times it was hard to place catheter and felt **frustrating**. Distraction from pushing”
- “I kept having diarrhea during labor following my epidural and there was no attempt at helping me to not keep going on myself”
- “I felt a little concerned I might urinate accidentally and I would be uncomfortable and **unclean**”

CIF Themes

Lack of worry

"I appreciated that I didn't have to worry about getting up (uncomfortably) to use the restroom. My nurse never made a big deal about having to attend my restroom needs"

"The catheter made one less thing for me to have to think about while in labor - urinating"

"I didn't have to worry about getting out of bed or making a mess in the bed"

"Being able to have a catheter helped me a lot because I was able to have the epidural and not worry about the bedpan"

"I couldn't feel anything and it was very comfortable not having to worry about going to the bathroom"

"I didn't have to be afraid of peeing on my nurse"

"Loved having the catheter and not having to worry about voiding"

"The catheter gave me one less thing to think about. My only concern was that I was numb prior to it being inserted"

Easy

"Easier to be catheterized - nice to be able to stay in bed!"

"It was much easier getting through labor after I didn't have to get up every few minutes to pee. The catheter was very helpful"

CIF Themes

Birth Process

“After voiding by way of foley labor sped up“

"I felt like I could have more fluids because I didn't have to get up to pee so frequently“

"I didn't feel it effected my labor experience"

Comfort

"I did not feel any pain at all throughout the whole length of my labor and delivery"

IC avoidance

“The epidural made it so I couldn't really move and I couldn't void on my own so I was glad I didn't have to have a team of nurse move me or repeated catheters in and out“

"Had an epidural with foley placement, was nice so I wouldn't have to be in & out cath'd continuously"

"Placing a catheter and leaving it was much easier than the repeated in and out caths I had previously"

Positive Expressions

“It was a great and positive experience overall“

“It was a good experience“

"I liked that I had a catheter. I would rather have it that way"

“Our nurse was really great at explaining why the catheter was being placed and all other details“

“No negative experience with catheter“

“It was perfect for my situation“

CIF negative comments



- “Catheter makes it **hurt** to use the restroom afterwards” (Bedpan user who had CIF in prior delivery)
- “Not during labor, but after the epidural wore off, I experienced **pain**” (CIF user)
- “Catheter **hurt** a lot at first and it still felt like I had to pee and lots of discomfort. Overtime, the epidural must have numbed it because I didn't feel it after a couple of hours” (Bedpan/CIF user who did not remember what she had in prior delivery(s))
- “the catheter is not comfortable when inserting” (Bedpan user who had CIF in prior delivery)
- “Having a catheter is an **uncomfortable** and **stressful**” (Bedpan user who had IC and CIF in prior deliveries)

The Research question - **Answered**

- PICOT - " In term, laboring women with epidural anesthesia, are their labor experience and feelings of empowerment improved when 1) the nurse proactively assists her in using the bedpan or 2) she is actively involved in the decision making process for her bladder maintenance?" **Women generally wanted to be involved in their bladder care and felt their nurse was helpful to them.**
- Secondary questions
 - 1) What percentage of women with epidurals are able to void on a bedpan successfully? **60%**
 - 2) Does the use of IC or CIF affect the labor experience, including length of labor? **Adjusting for parity and dilation at time of epidural placement, IC and bedpan use appears to decrease length of labor by 90 min**
 - 3) Do laboring women appreciate being allowed to use the bedpan? **over 70% would**
 - 4) Did the type of bladder management have any effect on her feelings of empowerment during labor? **Yes, those who use and/or attempt the bedpan are 1.6 times more likely to say they have increase feelings of empowerment than those who just used IC or CIF**
 - 5) Are there any positive or negative feelings experienced by women directly related to their bladder care during labor? **Yes, but only those who used the bedpan addressed themes of self-accomplishment, participation, appreciation, and being in control**



The take away

- Every woman and every labor is different – So leave the cookie cutters in the kitchen
- Recognize that most women would appreciate being able to attempt the bedpan prior to catheterization
- Stay flexible - What works for one woman may not work for another, so you may need to use different tools to help her void successfully
- Look for ways to protectively empower women – whether it is with the bedpan or the choice of catheter



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