



Cedarville University
DigitalCommons@Cedarville

Pharmacy and Nursing Student Research and Evidence-Based Medicine Poster Session

11-2012

A Literature Review of Outcomes Related to Delayed and Spontaneous Pushing in Women During the Second Stage of Labor

Lydia Douglas

Cedarville University, lrddouglas@cedarville.edu

Katherine Drake

Cedarville University, kdrake@cedarville.edu

Sarah Schmidt

Cedarville University, sarahschmidt@cedarville.edu

Follow this and additional works at: http://digitalcommons.cedarville.edu/pharmacy_nursing_poster_session

 Part of the [Obstetrics and Gynecology Commons](#)

Recommended Citation

Douglas, Lydia; Drake, Katherine; and Schmidt, Sarah, "A Literature Review of Outcomes Related to Delayed and Spontaneous Pushing in Women During the Second Stage of Labor" (2012). *Pharmacy and Nursing Student Research and Evidence-Based Medicine Poster Session*. 24.

http://digitalcommons.cedarville.edu/pharmacy_nursing_poster_session/24

This Poster Session is brought to you for free and open access by DigitalCommons@Cedarville, a service of the Centennial Library. It has been accepted for inclusion in Pharmacy and Nursing Student Research and Evidence-Based Medicine Poster Session by an authorized administrator of DigitalCommons@Cedarville. For more information, please contact digitalcommons@cedarville.edu.



A Literature Review of Outcomes Related to Delayed and Spontaneous Pushing in Women During the Second Stage of Labor

Lydia Douglas, Katherine Drake, and Sarah Schmidt

Cedarville University School of Nursing

PATIENT CARE ISSUE

- ❖ 267 births each minute throughout the world¹²
- ❖ Two different pushing methods:
 - ❖ *Delayed & spontaneous*: withhold pushing after full dilation until irresistible urge¹⁰
 - ❖ *Immediate*: push as soon as completely dilated^{4, 15}
- ❖ Inconsistencies and gaps in research regarding the two methods of pushing in terms of maternal and fetal outcomes⁴

4. Chang, RN, CNM, MS, S. C., Chou, MD, M. M., Lin, PhD, K. C., Lin, RN, MS, L. C., Lin, RN, CNM, MS, Y. L., & Kuo, RN, CNM, PhD, S. C. (2011). Effects of pushing intervention on pain, fatigue and birthing experiences among Taiwanese women during the second stage of labour. *Midwifery*, Vol. 27, 825-831.

10. Lai, M. L., Lin, K. C., Li, H. Y., Shey, K. S., & Gau, M. L. (2009). Effects of delayed pushing during the second stage of labor on postpartum fatigue and birth outcomes in nulliparous women. *Journal of Nursing Research*, Vol. 17(No. 1), 62-71.

12. Roberts, S. (2010, July 29). Population research presents a sobering prognosis. *The New York Times*. Retrieved from http://www.nytimes.com/2010/07/30/world/30population.html?_r=2.

15. Yildirim, PhD, G., & Beji, MD, N. K. (2008). Effects of pushing techniques in birth on mother and fetus: A randomized study. *Birth*, Vol. 35, 25-30.

EVIDENCE-BASED PRACTICE QUESTION

Is delayed and spontaneous pushing in the second stage of labor the safest and most effective method?

Population – hospitalized women in labor

Interventions – making the labor & delivery process as comfortable and problem-free as possible

Comparison – delayed & spontaneous vs. immediate pushing

Outcomes – length of labor, maternal pain and fatigue, instrument assistance, newborn outcomes, and overall experience⁶

6. Higgins, J. P., & Green, S. (2008). *Cochrane handbook for systematic reviews of interventions*: Cochrane book series. West Sussex, UK: The Cochrane Collaboration and John Wiley & Sons.

REGISTERED NURSE INTERVIEW

Kettering Medical Center Labor & Delivery RN interviewed but unaware of hospital policy:

- ❖ Nulliparas withhold pushing until urge is felt
- ❖ Multiparas & women with epidurals push at complete dilation

Kettering Medical Center policy:

- ❖ Upright position using delayed or non-directed pushing techniques as appropriate⁹

9. Kettering Health Network. (2010). *Policy: care of the labor patient*. Kettering, OH.

METHODS

- ❖ Exhausted six databases:
 - ❖ AHRQ, CINAHL, CU Library, Medline, NGC, & PubMed
- ❖ Key words searched:
 - ❖ *Delayed pushing, spontaneous pushing, vaginal deliveries, pushing childbirth, vaginal birth, second stage of labor, pushing, childbirth, nursing, vaginal pushing*
- ❖ Inclusion Criteria:
 - ❖ Research within past 5 years, vaginal deliveries during second stage of labor, and focused on pushing techniques
- ❖ Exclusion Criteria:
 - ❖ Non-English articles, alternative methods of birthing assistance

RESULTS

Database Searched	Date of Search	Search Strategy	Number of Articles found	Percentage of Articles Relevant
CINAHL	9/20/12, 9/25/12	Delayed Pushing	2	100%
		Spontaneous Pushing AND Delayed Pushing AND Vaginal Deliveries	178	2.8%
		Vaginal Birth AND Delayed Pushing AND Second Stage of Labor	172	2.9%
		Spontaneous Pushing AND Delayed Pushing AND Vaginal Deliveries	28	17.8% (repeated articles)
		Spontaneous Pushing AND Vaginal Delivery AND Second Stage of Labor	14	28.6%
PubMed	9/15/12, 9/20/12	Pushing AND Vaginal Delivery AND Second Stage of Labor	12	33.3%
		Spontaneous Pushing AND Vaginal Delivery AND Vaginal Delivery AND Delayed Pushing	4	25%
		Spontaneous Pushing AND Vaginal Delivery AND Second Stage of Labor	8	62.5%
		Spontaneous Pushing AND Vaginal Delivery AND Delayed Pushing AND 2 nd Stage of Labor	3	33.3%
		Second Stage Labor AND Delayed Pushing	17	0% (repeated articles)
AHRQ	9/4/12, 9/19/12, 9/27/12	Second Stage Labor AND Spontaneous Pushing	17	0% (repeated articles)
		Spontaneous Pushing	16	31.3%
		Delayed Pushing AND Spontaneous AND Nursing	8	0% (repeated articles)
		Delayed Pushing	19	10.5%
		Spontaneous Pushing	7	14.3%
NGC	9/23/12, 9/27/12	Vaginal Pushing	5	0% (repeated articles)
		Second Stage of Labor	30	6.7%
		Delayed Pushing AND Vaginal Delivery	11	9.1%
		Spontaneous Pushing AND Vaginal Delivery	22	4.5%
		Second Stage of Labor AND Delayed Pushing	48	4.2%
CU Library	09/15/12	Second Stage of Labor AND Spontaneous Pushing	47	2.1%
		Delayed Pushing AND Second Stage of Labor AND 2008-2012	28	7.1%
		Spontaneous Pushing AND Second Stage of Labor AND 2008-2012	10	20%
		Delayed Pushing AND Vaginal Delivery AND 2008-2012	13	0% (repeated articles)
		Delayed Pushing AND Spontaneous Pushing AND 2008-2012	4	0% (repeated articles)
MedLine	09/24/12	Delayed Pushing AND Second Stage of Labor AND 2008-2012	28	7.1%
		Spontaneous Pushing AND Second Stage of Labor AND 2008-2012	10	20%

SYNTHESIS OF EVIDENCE

- ❖ Literature review of eight research articles provided seven findings related to delayed and spontaneous pushing
 - ❖ Lower rate of instrument-assisted delivery
 - ❖ 3/8 evaluated^{3, 10, 14}
 - ❖ 2/8 supported^{3, 10}
 - ❖ Shortened second stage of labor
 - ❖ 8/8 evaluated^{3, 4, 5, 7, 8, 10, 14, 15}
 - ❖ 8/8 supported^{3, 4, 5, 7, 8, 10, 14, 15}
 - ❖ More positive labor experience
 - ❖ 3/8 evaluated^{4, 5, 15}
 - ❖ 2/8 supported^{4, 15}
 - ❖ Improved newborn outcomes
 - ❖ 4/8 evaluated^{3, 5, 8, 15}
 - ❖ 0/8 supported
 - ❖ Decreased maternal fatigue
 - ❖ 6/8 evaluated^{3, 4, 5, 8, 10, 14}
 - ❖ 1/8 supported⁴
 - ❖ Decreased maternal pain
 - ❖ 1/8 evaluated⁴
 - ❖ 1/8 supported⁴
 - ❖ Higher Apgar score
 - ❖ 3/8 evaluated^{5, 8, 15}
 - ❖ 1/8 supported⁵

3. Brancato, R., Church, S., & Stone, P. (2008). A meta-analysis of passive descent versus immediate pushing in nulliparous women with epidural analgesia in the second stage of labor. *JOGNN: Journal Of Obstetric, Gynecologic & Neonatal Nursing*, 37(1), 4-12. doi:10.1111/j.1552-6909.2007.00205.x

4. Chang, RN, CNM, MS, S. C., Chou, MD, M. M., Lin, PhD, K. C., Lin, RN, MS, L. C., Lin, RN, CNM, MS, Y. L., & Kuo, RN, CNM, PhD, S. C. (2011). Effects of pushing intervention on pain, fatigue and birthing experiences among Taiwanese women during the second stage of labour. *Midwifery*, Vol. 27, 825-831.

5. Gillesby, E., Burns, S., Dempsey, A., Shirley, K., Mogensen, K., Naylor, K., ... & Whelan, B. (2010). Comparison of delayed versus immediate pushing during second stage of labor for nulliparous women with epidural analgesia. *JOGNN*, 39(6), 635-644. doi:10.1111/j.1552-6909.2010.01195.x

7. Jahdi, F., Shahnazari, M., Khashanian, M., Farahani, M. A., & Haghani, H. (2011). A randomized control trial comparing the physiological and directed pushing on the duration of the second stage of labor, the mode of delivery and apgar score. *International Journal of Nursing and Midwifery*, 3(5), 55-59. Retrieved from <http://www.academicjournals.org/ijnm>.

8. Kelly, M., Johnson, E., Lee, V., Massey, L., Purser, D., & Ring, K. (2010). Delayed versus immediate pushing in second stage of labor. *Maternal and Child Nursing*, 35(2), 81-88.

10. Lai, M. L., Lin, K. C., Li, H. Y., Shey, K. S., & Gau, M. L. (2009). Effects of delayed pushing during the second stage of labor on postpartum fatigue and birth outcomes in nulliparous women. *Journal of Nursing Research*, Vol. 17(No. 1), 62-71.

14. Tuuli, M., Frey, H., Odibo, A., Mascones, G., & Cahill, A. (2012). Immediate compared with delayed pushing in the second stage of labor: A systematic review and meta-analysis. *American College of Obstetricians & Gynecologists*, 120 (3), 660-668.

15. Yildirim, PhD, G., & Beji, MD, N. K. (2008). Effects of pushing techniques in birth on mother and fetus: A randomized study. *Birth*, Vol. 35, 25-30.

EVIDENCE-BASED PRACTICE RECOMMENDATIONS

- ❖ Sufficient research supports delayed and spontaneous pushing
 - ❖ Decreases length of second stage of labor
- ❖ Recommendation to educate women about benefits of delayed and spontaneous pushing during the first stage of labor
- ❖ Further research recommended regarding maternal pain levels and fatigue, Apgar scores, labor experiences, newborn outcomes, and instrument-assisted deliveries as they relate to delayed and spontaneous pushing

LIMITATIONS

- ❖ Multiple countries studied with possible differences in standards of routine vaginal delivery
 - ❖ Canada, Europe, Iran, Taiwan, and United States
- ❖ Lack of outcome overlap between studies