Chiropractic and Pregnancy Survey

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Abstract

The purpose of the study was to investigate the effect of Chiropractic care versus non-chiropractic care on the length of labor and pain experienced by mothers during delivery. This study was conducted through the use of a questionnaire containing 23 questions ranging from the types of care the mothers received during their pregnancy, to factors affecting the pain experienced during delivery. The survey was given to women that have met the proposed criteria for participating with no prior knowledge of the survey to ensure that their responses were spontaneous and reflected their true experience. Frequency analysis, mean values, standard deviation, and analysis of variance (ANOVA) were used for their statistical analysis. A total of 167 women completed the survey. Their ages ranged from 17 to 45 years with an average of 27 years. The women reported the length of labor and the feelings of pain during their respective deliveries. The findings displayed positive results with the mean length of labor of women who sought chiropractic care being 13.62 hours versus 15.71 hours reported by women who only received care through a medical practitioner. The decrease of over two hours supports that chiropractic care during pregnancy can reduce the labor and delivery time. The subjective experience of pain reported did not display a significant difference between the groups analyzed. Many questions were asked in regards to the treatment time and frequency, delivery process and type of delivery, experienced by each woman.

Key words: pregnancy, chiropractic, labor, delivery

Introduction

Chiropractic care throughout pregnancy is not only safe; it is essential (1). Due to the increased amount of stress placed on the mother's adapting musculoskeletal system, pelvis, and spinal column during pregnancy, her body experiences many physiological, structural, biomechanical, and nervous system changes. During pregnancy the mother's systems and organs have an increased demand placed on them due to the growing fetus, and thus their optimal function is critical for her health and well being, and for the proper development of the baby. All of these compensations and adaptations in the mother's body are natural, normal and inevitable as the mother's body prepares for the upcoming birth of the child. However because of the many changes that occur in her body, interference to the nervous system is increased. Specific chiropractic care during pregnancy will enhance the function of the nervous system and allow for better mechanics in the mother's body. This ultimately result in an easier, and decreased labor and delivery time of the child with less pain experienced by the mother and child.

Another important reason for chiropractic care throughout pregnancy is to help establish a balance in the pelvis (4). Due to the lifetime of constant stresses and trauma to the mother's spine and pelvis before conceiving the child, her pelvic structure and pelvic outlet area are compromised, resulting in a less than optimum passage for the baby (4). This can result in dystocia. Any contraction of the pelvic diameters that diminish the capacity of the pelvis can lead to dystocia, or difficulty during labor (5). The diameter of the woman's pelvis can also be decreased when the sacrum is displaced. Deformation of the pelvis can occur either from trauma to the pelvis or sacrum, or from spinal or pelvic

misalignment.

The misalignments in the woman's spine and pelvis during pregnancy are likely to imbalance her pelvic muscles and ligaments as well. The woman's pelvis supports the growing fetus with support from the pelvic ligaments. When the pelvic bones are balanced the uterus is able to enlarge properly and simultaneously with the growing baby. Unequal ligament support of the pelvis and uterus will reduce the maximum amount of room for the developing baby, called intrauterine constraint (5). In some cases, this constraint restricts the baby's positions during pregnancy adversely and affects their developing spine and cranium (5). These constraints also limit the baby's movement during pregnancy and may prevent the baby from getting into the best possible position for birth. Such positions as breech, occiput anterior, and many other constraint positions lead to longer more painful labors with the need for increased medical intervention at birth. Often times a c-section will have to be preformed resulting in excess trauma to the mother's body, not to mention the many benefits that both mother and child are not able to receive from delivering vaginally.

The purpose of our study is to survey women who have received chiropractic care throughout pregnancy and women who have not received chiropractic care during pregnancy. We are going to compare the labor/delivery results from both groups. The comparisons that we are interested in are what type of care the mother received during pregnancy. If the women during pregnancy received chiropractic care or not, the amount of time the mother was in labor, and the subjective amount of pain the mother experienced during labor/ delivery.

After reviewing numerous sources on the length of time women are in labor, and

the pain they experienced during labor and delivery, there were many correlations that the articles made with women who received chiropractic care during their pregnancy and those mother's who did not. We feel, along with the already published data we gathered thus far, that the women who received chiropractic care during pregnancy will have had experienced shorter labor and delivery times, less complications during pregnancy and labor and delivery, less pain during the labor and delivery process, and higher rates of vaginal births.

Methods

The survey that we used involves the subject answering 23 different questions. The questions are located on the survey that is attached as (appendix 1) reference. The inclusion criteria for both groups of women who participated in the survey are that the subjects completing the survey must be women with previous pregnancy and delivery of a child. No restrictions have been set on the number of births, race, age, or chiropractic technique used on the subjects. The exclusion criteria for both groups are that the subjects must not be male, or a female without any pregnancy and delivery experienced. Subjects who fail to cooperate or give false information on the surveys were excluded in the data analysis process. The recruitment of the subjects was completed by distribution of the surveys to Logan College of Chiropractic Satellite clinics, Logan College of Chiropractic student population, and the Logan College of Chiropractic employee population. The investigators distributing the surveys were HIPPA compliant regarding the confidentiality of the participating subject's personal information.

Correlation of the data after it is collected was done by comparing the subjects in group 1, women that had chiropractic care during their pregnancy, with women in group 2, who are defined as a group by, women that have not had any chiropractic care during their pregnancy. The main correlations that we were interested in were the women in group 1 compared to the women in group 2 regarding the amount of time they stated they were in labor, and the amount of pain that they subjectively reported being in during their

labor and delivery. Other noncorrelated data was gathered from the subjects as well, but were not an influential part in the main purpose of the study's outcome.

Results

A total number of 167 women participated by completing the survey. The participant's ages ranged from 17 to 45 years old with the mean age of 27. Two of the 167 deliveries that were reported resulted in the delivery of twins. Out of the 167 women surveyed, 94 sought care only by their OB/GYN, 31sought care from both their OB/GYN and chiropractor, 20 women sought care only through their family medical doctor, 8 women utilized care from both their OB/GYN and family medical doctor, 4 surveyed received care through their chiropractor, OB/GYN and midwife, 4 sought care from both a family medical doctor and midwife, 3 received care from only a midwife, 2 received a combination of care through chiropractic, OB/GYN and family medical doctor sources, and 1 women sought care from both a chiropractor and a midwife.

Analysis of surveys revealed a decrease in the mean length of labor for the women that received chiropractic care in comparison to those who did not. The women in group 1 who reported receiving chiropractic care, reported their length of labors ranging from the lower bound of 10.44 hours to an upper bound of 16.81 hours with a mean labor time of 13.62 hours. The women in group 2, who reported not receiving chiropractic care during pregnancy, reported labor times ranging from the lower bound of 8.45 hours to an upper bound of 22.98 hours with a mean labor time of 15.71 hours. The

group 1 women subjects resulted in decreasing their mean length of labor by over 2 hours compared to OB/GYN and midwife care (table A).

The subjective findings of the pain scale were rated equal amongst all groups in the care that was received (table B). Various pre-birthing classes and techniques were attended by the mothers such as; Lamaze Breathing, Kegal pelvic floor exercises, Bradley technique and nutritional classes (table C, D) with no clinical correlation in this particular study performed. The women surveyed sought chiropractic care at varying times and frequencies before, during and after delivery. No clinical significance was made with the difference in these times. The women surveyed that received chiropractic care ranged in numerous techniques, (table E). Twenty women surveyed had emergency or scheduled C-sections, 114 went into labor naturally, and 32 deliveries were induced. Fifteen percent of the mothers were given just ptosin, 0.3% received ptosin and magnesium, 0.3% received Vistaril/Stadol, 1% was given general/local anesthetic, 0.7% used a cervical or caudal block and the remaining 5.1% were unsure (table F). Of the 167 women, 21% received an epidural. Method of delivery resulted in 10.6% C-section, 44.3% vaginal and 0.8% unsure.

Discussion

Chiropractic care during pregnancy has proven to be effective by enhancing the delivering mothers' nervous system and improving the biomechanics of the spine and pelvic girdle. It is evident from the research data stated above the women who received chiropractic care during their pregnancy, on average, had a greater than 2 hour decrease in the length of labor compared to the women who did not receive chiropractic care during their pregnancy. The women surveyed did not support the proposed objective of a decreased experience of pain during labor. Many factors such as medications, epidurals and c-sections, affected the obtained pain scale ratings experienced by the surveyed population of delivering mothers. These factors affect the mothers' perception of pain during labor, therefore subjective reporting of the pain was decreased and the results thus skewed.

There were many other factors considered in the questions asked in the survey completed by the women such as; the number of children the mother has had, the mother's age at birth of her child, pre-birthing classes the mom attended, if chiropractic care was utilized during pregnancy and what type of techniques were used. Other questions asked were the method of delivery, types of medication used during labor and delivery, and if the baby was breech and if so, how or was it corrected, type of labor the mother experienced, position of the mother during delivery, did the delivery result in a single birth or multiple birth, as well as did the mother exercise before, during, and/or after birth of her child. Correlations of the above stated data where not made with a breakdown of those who received chiropractic care and those who did not receive chiropractic care. These other findings were reported in tables C, D, E, and F. Further

investigation and study correlations are needed to truly add this other data to our initial purpose findings.

Conclusion

Even though the subjective pain scale rating by the mothers showed no significant different between women who had chiropractic care and those who did not during their pregnancy. The amount of time a mother spends in labor has a major affect on the well being of the mother and child. Women whom seek chiropractic care during their pregnancy can have, a decrease in labor time, thus improving the labor and delivery process as a whole. Chiropractic care during pregnancy improves the mother's nervous and musculoskeletal systems affecting the biomechanics of her body from the structural changes and weight gain experienced during pregnancy. By reducing the constant stress placed on the pelvis while pregnant, chiropractic helps to re-establish balance in the pelvis allowing for optimum passage for the baby during delivery. Chiropractic care throughout pregnancy can make the labor and delivery process more enjoyable and less stressful for both the mother and child.

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(Appendix A)

Survey: Chiropractic versus Non-Chiropractic Care During Pregnancy.

The purpose of our study is to survey women who have and have not received chiropractic care throughout their pregnancy. From the surveys, comparisons will be performed between the labor and delivery processes in both groups.

Please take one survey for each child you have delivered. Answer the following questions to the best of your ability. If you feel we should know any added information about your delivery you may write it on a separate sheet of paper and staple it to this survey. Thank you so much for your participation.

1. How many children have you had? _____
2. Which birth order child are you filling out this survey for? _____
3. What was your age at the time of delivery? _____
4. What type of care did you receive during this pregnancy? (Circle all that apply)

   OB/GYN Chiropractic

   Midwife/Doula Family Medical Doctor

   None Other: _____

5. Did you attend Lamaze class? Yes No

   Or did you attend any other pre-birth preparation class? Yes No

   If yes, what was the class?_____

   Did you use the techniques during labor and delivery? Yes No

If yes, which techniques did you use?_____

6. If Chiropractic care was received, was it: (circle all that apply)

   Before Pregnancy

   During Pregnancy: 1st 2nd 3rd Trimester.

   After Pregnancy

7. If Chiropractic care was received: How often? How long?

   Before Pregnancy_____

   During Pregnancy_____

   After Pregnancy_____

8. What type of Chiropractic technique was utilized? _____

   _____

9. Where did the birth take place? (circle one)

   Hospital Home Other: _____

10. Did you go into labor? (Circle one)

Naturally Induced Scheduled C-section

11. If medications were used, what were they? Ptosin Other: _____

12. Did you receive an epidural? Yes No

13. Was the baby breech? Yes No

if yes:(Circle all that apply) during pregnancy near delivery?

14. If yes to the question above, was anything done to correct it before birth?

_____

_____

15. What was the method of delivery? Vaginal C-section

16. What was length of time from the start of labor to completion of delivery?

_____

17. On the pain scale below rate your pain experience during delivery?

(least) 1 2 3 4 5 6 7 8 9 10 (most)

18. What type of labor did you experience? (circle all that apply)

Regular/Uterine Labor Back Labor Both

19. Was the baby? (circle one) Premature Full term Post-term

20. During this delivery, did you have? (circle one)

Single birth Twins Triplets Other: _____

21. What was your body position during birth? (circle one)

Lying on back Water birth Squatting Other: _____

22. Did you exercise? What type of exercise? How often? How long?

	Yes/No	Type	Frequency	Duration
Before Pregnancy				
During Pregnancy				
After Pregnancy				

Table A

Length of Labor

	N	Mean	Std.Dev'n	Std.Error
Chiropractic Care	34	13.62	9.31	1.57
OB/GYN	93	15.71	35.27	3.66
Other	7	7.89	3.52	1.33
Total	134	14.77	29.75	2.57

Length of Labor

	Lower Bound	Upper Bound	Minimum	Maximum
Chiropractic Care	10.44	16.81	0	34
OB/GYN	8.45	22.98	0	336
Other	4.63	11.14	1	12
Total	9.69	19.86	0	336

Table B

Pain Scale During Delivery	N	Mean	Std.Dev'n	Std. Error
Chiropractic Care	36	6.53	2.72	0.45
OB/GYN	92	6.68	2.97	0.31
Other	7	6.86	1.68	0.63
Total	135	6.65	2.84	0.24

Table C

Pre-birthing Pregnancy Care Classes	Frequency	%	Valid %	Cum.%
Basic Caring for baby	9	2.9	2.9	91.9
Bradley	13	4.3	4.3	96.2
Breastfeeding/Nutrition Class	2	0.6	0.6	96.8
Hospital/midwife Class	9	3.2	3.2	100

Table D

Pre-birthing Technique Classes	Frequency	%	Valid %	Cum.%
Bradley	9	3	3	61.7
Lamaze Breathing	71	23.1	23.1	84.8
Bradley and Lamaze	5	1.6	1.6	86.4
Kegal and Lamaze	3	0.9	0.9	87.3
None	34	12	12	99.3
Did not deliver yet	2	0.7	0.7	100

Table E

Chiropractic Techniques Used	Frequency	%	Valid %	Cum. %
Diversified	16	4.6	4.6	90.6
Activator	8	2.6	2.6	93.2
Basic	2	0.7	0.7	94.1
Best	2	0.7	0.7	94.7
Acupunture+Thompson	1	0.3	0.3	95
Cox	1	0.3	0.3	95.3
ElectroShock	2	0.7	0.7	95.9
Sot	2	0.7	0.7	96.5
Sot and Webster	1	0.3	0.3	96.8
Webster+Diversified	1	0.3	0.3	97.1
Acupuncture+Best	2	0.7	0.7	97.7
Thompson,Diversified,Activator	1	0.3	0.3	98
Diversified+Activator	5	1.3	1.3	99.2
Diversified+Basic	2	0.7	0.7	99
Basic+Diversified+Activator	1	0.3	0.3	99.7
Basic+Activator	1	0.3	0.3	100

Table F

Medication Used During Delivery

	Frequency	%	Valid%	Cum.%
Ptosin	46	15.3	15.3	92.6
Ptosin and Magnesium	1	0.3	0.3	92.9
Vistaril/Stadol	1	0.3	0.3	93.2
General/Local Anesthesia	3	1	1	94.2
Caudal/Cervical Block	2	0.7	0.7	94.9
Not sure/other	15	5.1	5.1	100