Effect of Maternal Semi-Sitting, Dorsal Recumbent and Lithotomy Positions on the Labor Outcome: A Comparative Approach

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Abstract:

The interest in the evaluation of the various positions adopted during labor and delivery with respect to pain relief and comfort for women, in addition to better outcomes, have yet to be fully clarified and there is thus as yet no consensus with regard to the optimal position to be adopted . **The aim of this study** was to compare the effect of maternal semi-sitting and dorsal recumbent versus lithotomy positions on labor outcome and women satisfaction. A quasi-experimental **design** was adopted in this study. **Setting:** the study was carried out in the labor ward of the General Hospital and the Health Insurance Hospital in Beni Suef Governorate. **The sample:** eighty parturient women were recruited in each of the three labor positions: semi-sitting (SS), dorsal recumbent (DR), and lithotomy (LI) positions. **Tools of data collection** were; a structured interview schedule, an assessment checklist, and a satisfaction sheet. **Results:** revealed that women in the SS group had significantly lower rates of episiotomy, labial injury, vaginal edema, perineal lacerations, and postpartum hemorrhage ($p=0.001$). Their newborns had the highest Apgar scores at the first and fifth minutes, and none of them had fetal complications ($p<0.001$). Most (88.8%) women in the SS group were satisfied with the position, had less problems, preferred to assume this position in the next labor, and will recommend the position to others ($p<0.001$). **Conclusion:** semi-sitting position during labor and delivery was found to have clinical advantages without risk to mother or infant. Enhanced maternal and fetal outcomes included better Apgar score, improved perineal integrity, vulvar edema, less blood loss and better women satisfaction. **Recommendation**s: the utilization of the semi-sitting labor position must be encouraged, with randomized clinical trial to provide further confirmation of the study findings.

Keywords: Semi-sitting, Dorsal recumbent, Lithotomy, labor outcomes.

Introduction:

Effective maternity care with least harm is optimal for childbearing women and newborns. However, practices that are disproved or appropriate in limited circumstances are in wide use, and beneficial practices are underused **(Hodnett et al., 2009).**

Factors that contribute to maternal and fetal wellbeing are becoming an increasingly common requirement both for maternity hospitals committed to the humanization of childbirth and for women themselves. **(Miquelutti et al., 2009)**. Maternal positioning may affect the physiological health of the mother and infant, as well as the psychological wellbeing of the mother **(Taiema, Shoaeib & El- Habashy, 2008)**.

A perfect position would provide a better fetal position with a smooth path for the baby to descend through the birth canal using the advantages of gravity; giving the mother a sense of being safe and in control of the

process; and most importantly, decreasing the risk of injury to the baby and to the mother **(Hunter, Hofmeyr & Kulier, 2007; Goer, Leslie & Romano, 2007)**.

Lithotomy position has been widely used by obstetricians as it allows easiest access to the mother although not based on evidence and not satisfactory to many women **(Dwight & Weiner, 2009)**. Also, dorsal recumbent position is still accomplished in most deliveries. **(Declercq et al., 2002; Ricci, 2007)**.

Dorsal recumbent position and lithotomy position, in which women lie flat on their backs have disadvantages include adverse effects on blood flow; the weight of the uterus compresses large blood vessels so blood flow to the uterus decrease and ultimately decrease oxygen to the baby, thus fetal distress can occur. For the mother, they can't participate in birth and their ability to push decreased. **(Miquelutti et al., 2009)**. Moreover, lying flat on the back creates the most stress on the perineum, making a tear or episiotomy almost impossible to avoid, and causes laceration **(Terry et al. 2006** and **Wold, 1997)**.

On the other hand, upright positions including standing, kneeling, sitting on a birth chair, and squatting have many advantages. It reduces the incidence of fetal distress and neonatal asphyxia **(Roberts, 1995; Adachi, Shimada & Usai, 2003)**. Moreover, **Spiby et al., 2003** found a reduction in reported pain during labor with the adoption of non-supine position. The semi-sitting position is also used during childbirth. Although this position does not have all the benefits of upright positioning but it is better than lying flat on back. **(Murraym,McKinney& Gorrier, 2002)**

An important nursing responsibility is to help the parturient woman to obtain a position that is safe, and as comfortable as possible. **(Romano & Lothian, 2008, Lowdermilk & Perry, 2004)**. Non-pharmacological and non-invasive interventions to relieve pain and ensure the comfort of women during labor should be a primary concern and it is the responsibility of healthcare workers to provide guidance on practices based on scientific evidence in order to guarantee the safety of both mother and fetus **(Miquelutti et al., 2009)**.

Significant of the study:

The evaluation of the positions adopted during labor with respect to pain relief and comfort for women, in addition to better outcomes, have yet to be fully clarified and there is thus as yet no consensus with regard to the optimal position to be adopted. **(Phumdoung et al., 2010)**. So this study aimed to assess the labor outcome when semi-sitting position and dorsal recumbent are used versus lithotomy that is routinely used.

Aim of the study:

The aim of this study was to compare the effect of maternal semi-sitting and dorsal recumbent versus lithotomy positions on maternal and fetal outcome, as well as women satisfaction.

Study hypothesis:

Semi-sitting position (SS) was associated with better maternal and fetal outcome and women satisfaction compared to dorsal recumbent (DR) and Lithotomy (LI) positions.

Subjects and methods:

Study design:

A quasi-experimental research design was adopted in this study.

Study Setting:

The study was carried out in the labor ward of the General Hospital and the Health Insurance Hospital in Beni Suef Governorate.

Sample:

Any woman admitted to the delivery unit in the study settings during the time of the study was eligible for being recruited in the study sample according to the following criteria.

Inclusion criteria:

- Multiparous
- Had a previous normal vaginal delivery (NVD)
- Expecting spontaneous normal vaginal delivery.

Exclusion criteria:

- Use of any medication to stimulate, accelerate, or slowdown uterine contractions
- Fetal or maternal distress manifested during first or second stages of labor
- Use of epidural anesthesia.

Sample Size and Sampling Technique:

The sample size was estimated according to the following equation to detect a mean difference of the duration of the second stage of 5.4 minutes between women in the semi-sitting versus recumbent position according to **Gupta** and **Nikodem (2002)**, with a standard deviation of 10 minutes, at a 95% level of confidence (α error = 5%), and a study power of 80% (β error=20%). Using the equation for the difference between two means **(Schlesselman, 1982).**

Accordingly, the estimated sample size was 72 women per group. After adjustment for a dropout rate of 10%, the sample size was increased to 80 women per group.

Purposive sample was consecutively recruited according to the inclusion and exclusion criteria. Women were then assigned to one of the three groups (semi-sitting, dorsal recumbent, and lithotomy positions) in an alternating manner until the sample sizes were fulfilled.

Data Collection Tools:

1- Structured interview schedule: included the following parts:

- Socio-demographic characteristics of women such as age, education, job.
- Obstetric history: gravidity, parity and the history of last delivery.

2- Assessment checklist for maternal and neonatal outcomes: It included data about:

A] Maternal condition:

- Episiotomy, traumatic injuries.
- The condition of the uterus after labor.
- Blood transfusion.
- Immediate postnatal problems that might be encountered by the woman such as: postpartum hemorrhage, hysterectomy, or ICU admission. In addition to mode of delivery, delivery of the placenta, and time of discharge from hospital.

B] Evaluation of the neonatal condition:

For evaluation of the neonatal condition, the following data was obtained:

- Apgar scores at the first and fifth minute.
- Admission to Neonatal Intensive Care Unit (NICU).

- Neonatal complications (premature, congenital anomalies, respiratory distress, need for resuscitation, birth injury, and neonatal death**)**.

3- Satisfaction sheet:

A satisfaction scale ranging from 1 (completely dissatisfied) to 10 (completely satisfied). A score of 7 or more was considered as satisfied, or otherwise dissatisfied. It also includes data about the problems experienced with the assumed position: such as back or leg pain, and discomfort. Also, whether the woman was able to keep position all time preferred this position for next labor or will advise others for this position.

Administrative design:

An official permission to conduct the study was gained from the pertinent authorities of the study settings. The aim and procedures of the study were explained to the directors of the settings to obtain their consent and cooperation in data collection.

Ethical considerations:

The researcher explained the study aim in a simple and clear manner to be understood by eligible women before asking them to participate in the study and taking her consent. No harmful maneuvers were performed or used, and no foreseen hazards were anticipated from conducting the study on parturient women. All Participants were informed about their right to withdraw from the study at any time without giving reason. Data were dealt with confidentially and not be used except in this study.

Content validity and reliability:

Content validity was used for the tools to make sure that they cover the aims of the study. The stage developed by a Jury of 5 experts in the field of Obstetrics Gynecological Nursing. Test reliability of the proposed tools was done by conbach's alpha test to show the relation between test A and retest B in data recorded.

Pilot study:

A pilot study was carried out on 10 percent of the total sample for each position to test the feasibility and applicability of the study maneuvers, and to assess the clarity and completeness of the tools. It also helped to set the timeframe of the study according to the time required to fill out the forms. The results were excluded from the study.

Fieldwork:

An official permission to conduct the study was gained from the pertinent authorities of the study settings. The aim and procedures of the study were explained to the directors of the settings to obtain their consent and cooperation in data collection.

Review of the current available literature relevant to the problems and theoretical knowledge of various aspects of problems using books, articles, periodical magazines in order to get a clear picture of all aspects related to the problems of research as well as to develop the study tools for data collection and prepare for field work.

Upon securing official permissions, the researcher started the actual fieldwork. This was started in January 2010 and ended in November 2011. The researcher attended each of the two study settings three days per week. The work procedures were explained

to the healthcare providers to gain their cooperation during the application of the maneuver and each eligible woman, according to the inclusion and exclusion criteria, was approached by the researcher who explained to her the procedure and the associated benefits and risks. Upon obtaining her consent, she was assigned to one of the three labor position groups. All women in the three groups received the same support and care from the researcher.

Each parturient woman was interviewed by the researcher using the structured interview questionnaire form. Then, physical assessment was done upon admission to labor room using the assessment checklist. Maternal and fetal outcome of labor was recorded in the summary of labor and newborn sheet as well as women satisfaction pertaining to the practiced position.

Statistical design:

Data entry and statistical analysis were done using SPSS 16.0 statistical software package. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations for quantitative variables. For multiple group comparisons of quantitative data, one-way analysis of variance test (ANOVA) was used. Qualitative categorical variables were compared using chi-square test. Whenever the expected values in one or more of the cells in a 2x2 were less than 5, Fisher exact test was used instead. In larger than 2x2 cross-tables, no valid test could be applied whenever the expected value in 10% or more cells was less than 5. Statistical significance was considered at p-value <0.05.

Results:

Table (1): Shows that the mean age of women in the dorsal recumbent (DR) group is slightly lower (26.1 years), compared to those in the semi-sitting (SS) and Lithotomy (LI) groups, 27.1 and 26.9 years. Although the difference is statistically significant (p=0.03), it is only one year or less. Meanwhile, the percentage of women with secondary or university education is higher in the SS group, compared to the other two groups (p=0.006). Concerning women's obstetric history, the percentages of para two –three are highest in the LI and SS group (53.8% and 41.3%), and lowest in the DR group (36.3%), and the differences are not statistically significant. Meanwhile, the DR group has the highest percentage of previous delivery with episiotomy (92.5%, p=0.004).

Table (2): Indicates statistically significant differences among the three groups regarding maternal outcomes. It is evident that women in the SS group have the lowest rate of episiotomy (13.8%, p<0.001), labial injury (0.0%, p<0.001), vaginal edema (2.5%, p<0.001), and perineal lacerations (10.0%, p=0.008). Additionally, all the cases of perineal lacerations in SS group (100.0%) are Grade I, compared 66.7% in the DR group and 34.8% in the LI group (p=0.003).

Figure (1): Displays statistically significantly lower percentages of postpartum hemorrhage in the SS group (6.3%), compared to 15.0% in the DR group and 27.5% in the LI group (p=0.001). Most of the postpartum hemorrhage types are injuries in the SS group, while in the LI group atony is the most common type.

As for fetal outcomes, **table (3)** demonstrates significantly better Apgar scores at the first and fifth minutes in the SS group (p<0.001). It is noticed

that at the first minute, only about one-third of the women in the SS group has an Apgar score <8 (31.3%), compared to almost all of those in the DR (96.3%), and LI (98.8%) groups. Similarly, at the fifth minute, only one woman (1.3%) in the SS group has an Apgar score <8 (31.3%), compared to about one-fourth in the DR (26.3%) group, and about half (55.0%) of those in the LI group.

Concerning baby weight, the same table indicates that the women in the SS group have higher weight babies (3157.5 gm), compared to the other two groups, and the difference is statistically significant ($p<0.001$). As regards fetal complications, none of the babies in the SS group had birth injuries, compared to 8.8% of those in the DR group, and 35.0% in the LI group, and the difference is statistically significant ($p<0.001$). Meanwhile, none of the newborns in any of the three groups has a need for resuscitation or NICU admission.

Table (4): Demonstrates that 88.8% of the women in the SS group are satisfied with the position assumed during labor, compared to 52.5% of those in the DR group, while only one woman (1.3%) is satisfied with the position in the LI group, and the difference is statistically significant ($p<0.001$). On the other hand, only 11.3% of the women in the SS group experienced problems with the position, compared to 32.5% in the DR group, and 80.0% in LI group, and this difference is statistically significant ($p<0.001$). The most common problems expressed by women are related to discomfort and leg and back pain.

Discussion:

The present study was carried out to compare the effect of maternal semi-sitting or dorsal recumbent versus lithotomy positions on labor outcome. It was hypothesized that the semi-sitting (SS) position would be associated with better maternal and fetal outcomes, with lower rates of complications compared to dorsal recumbent (DR) and Lithotomy (LI) positions. The study findings lead to acceptance of this hypothesis. As regards the obstetric history women in the DR group had the lowest percentages of multiparity (2-3), which is probably more influential on the mode of delivery, compared to gravidity as indicated by **Terry et al. (2006)**. Meanwhile, women in the DR group had the highest percentage of previous episiotomy. Nonetheless, none of the women had a history of cesarean section.

Concerning maternal outcomes, the present study results demonstrated that the SS position was the most advantageous regarding obstetric injuries. Thus, women in this group had the lowest rate of episiotomy, followed by the DR group. The finding is in agreement with **Terry et al. (2006)** who demonstrated that supine maternal positions were associated with more episiotomies. However, the rates of episiotomy were high in the three groups compared to studies from other settings. Thus, **Thies-Lagergren et al. (2011)** reported rates ranging from 1.9% to 11%, compared to 13.8% to 45.0% in the present study. Hence, it has been argued that episiotomies should be individualized and restricted **(Alperin , Krohn & Parviainen, 2008)** as some hospitals still perform routine episiotomies in nulliparous women **(Webb & Culhane, 2002)**.

As for trauma like labial injury, vulvar edema, and perineal lacerations, they were all significantly lower in the SS group compared to the other two

groups. This might be attributed to shortening the second stage of labor. The lower rates of traumatic injuries could be affected by confounding factors such as parity and newborn weight. However, in the present study no statistically significant difference could be revealed among the three groups regarding parity. As for baby weight, the results demonstrated that newborns of women in the SS group had significantly larger weight, compared to the other two groups. Therefore, if this were a confounder, it would have increased the risk of injuries among women in this group. Therefore, the lower rates of labor trauma in the SS group could not have been affected by parity or birth weight.

Conversely, other studies had results that are incongruent with the current study. Thus, **Soong** and **Barnes (2005)** examined the association between maternal position at birth and perineal outcome in women who had a midwife attended spontaneous vaginal birth. They found that the semi-sitting position, defined as forty five degrees, was associated with the need for perineal sutures, compared to all-fours and lateral positions. The discrepancy with the present study findings could be due to the fact that all these deliveries were attended by midwives. Additionally, women delivering in the supine and lithotomy positions represented only 2% of the sample.

According to the present study findings, women in the SS group had significantly lower rates of postpartum hemorrhage, followed by those in the DR group, and last the LI group. The finding is incongruent with **Terry et al. (2006)** whose study showed no statistically significant difference in estimated blood loss between the supine and non-supine groups.

The discrepancy among various studies addressing this complication of labor – postpartum hemorrhage - has been attributed to variations in the definition of postpartum hemorrhage, which is inconsistent in the scientific literature **(Bais et al., 2004; Knight et al., 2009; Oyelese & Anant, 2010)**. The traditional definition of PPH is blood loss of 500 ml or more, which may be an inappropriate level for healthy women **(Coker & Oliver, 2006; Sloan et al., 2010)**. Five hundred milliliters may be considered as an alert line since most healthy women can withstand a blood loss of up to 1000 ml without vital functions becoming endangered **(Su , Chong & Samual, 2007)**. Another reason for variation among studies is related to the difficulties in estimation of blood loss following birth, which is a common problem **(Larsson et al., 2006)**.

Concerning fetal outcomes, the present study showed significantly better Apgar scores at the first and fifth minutes among babies delivered to women in the SS group. The difference was more evident in the first minute. The findings might be explained by the problems generated by the supine positions (DR and LI). In these positions, most of the woman's body weight is on her coccyx, forcing it forward and thereby narrowing the pelvic outlet, which both increases the length of labor and makes delivery more difficult. Moreover, the major blood vessels are compressed, interfering with circulation and decreasing blood pressure, which in turn decreases the utero-placental blood flow and lowers oxygen supply to the fetus **(Simpson & James, 2005)**. Thus, **Nikolov, Dimitrov** and **Kovachev (2001)** found that supine positions were associated with lower fetal oxygen saturation. This would

have a negative impact on Apgar scores. Hence, to avoid compression of the inferior vena cava, upright or side-lying positions are recommended **(Simpson & James, 2005; Simpson, 2008)**.

Meanwhile, other studies failed to demonstrate differences between supine and non-supine labor positions as regards fetal condition. For instance, **Terry et al. (2006)** reported a lack of any significant differences in 1-minute and 5-minute Apgar scores between the groups. Similarly, APGAR score at 5 minutes did not differ between the two lithotomy and dorsal recumbent delivery positions in **Hafez, Ali A.** and **Ali S. (2011)** study. However, this latter study had a small sample size not allowing for statistical comparison between the two groups.

The current study has also demonstrated no fetal complications in the SS group, whereas about one-tenth of those in the DR group, and one-third in the LI group had birth injuries. These injuries could not be attributed to larger baby weight as these two groups had significantly lower mean birth weights compared to the SS group. The finding implies that the SS position is safer for the newborn compared to the non-supine positions.

The study showed significantly higher satisfaction with this position, compared to the other two positions, especially the LI position which was considered satisfactory by only one woman. Additionally, the problems of discomfort and pain were lowest in this group. This is quite plausible as the feeling of satisfaction or dissatisfaction is certainly related to the feelings of pain or discomfort. In congruence with this, **Green** and **Baston (2003)** stated that the perception of internal control on the part of women in labor is related to the intensity of pain and, consequently, to satisfaction. The more intense the pain during labor, the lesser the feeling of control reported by women.

A number of studies have similarly demonstrated more satisfaction with the non-supine positions, compared to the supine ones. Thus, **Adachi et al. (2003)** and **Miquelutti et al. (2009)** found a reduction in reported pain during labor with the adoption of non-supine position. Moreover, a study evaluating women's motives for using techniques to aid them during labor reported that among the women who adopted the non-supine positions the majority did so in response to pain and found relief in these positions. Additionally, anatomically, the greater comfort provided by the non-supine positions may be explained by the greater diameter of the pelvis compared to horizontal positions **(Spiby et al., 2003)**.

Thus, although the lithotomy position is the best for the birth attendant, it is the least preferred by parturient women. For the birth attendant, this position is ideal to deal with any complications which may arise, and is the easiest for performing obstetric interventions **(Dwight & Weiner, 2009)**. Therefore, this position has been widely used by obstetricians as it allows easiest access to the mother although not based on evidence and not satisfactory to many women.

Women' satisfaction with the adopted position and their feeling of comfort with it would certainly have a positive impact on their keeping the position all the time. The present study showed that significantly more women in the SS group retained the position,

followed by the DR group, and lastly the LI group. These indicate that women in the SS group felt less pain and more comfort in this position. However, other factors might influence women's choice such as providers' opinions, their views about barriers and facilitating factors **(Lugina, Mlay & Smith, 2004)**.

In support of the previous study findings, it was found that the majority of women in the SS group expressed their preference to assume this position in the next labor. This was significantly higher compared to the other two groups. Moreover, most women in the SS group reported that they would recommend the position to others, compared to about two-thirds in the DR group, and only about one-tenth in the LI group. This further supports their satisfaction with the position adopted and their preference to it. Similar findings were reported by **Méndez-Bauer et al. (2005)**, and this preference was attributed to the freedom to find positions that will relieve pain and increase comfort. However, for cultural reasons, women often remain in the horizontal position during labor and many do not have access to information on alternative positions that could be adopted during labor during prenatal care or even during labor **(Dundes, 2007)**. When specifically instructed or encouraged to adopt the non-supine positions, women usually want to identify variations and spend most of the time in these positions when compared to those who did not receive guidance **(Miquelutti et al., 2009)**.

Conclusion:

The results of this study revealed that Semi-sitting position was associated with better maternal and fetal outcome and women satisfaction compared to dorsal recumbent and lithotomy positions. The rates of episiotomy, labial injury, vaginal edema, perineal lacerations, and postpartum hemorrhage were significantly lower in semi-sitting position compared to dorsal recumbent and lithotomy positions ($p=0.001$). The newborns delivered to women in semi-sitting position had the highest apgar scores at the first and fifth minutes, and none of them had fetal complications compared to dorsal recumbent and lithotomy positions ($p<0.001$). Compared with dorsal recumbent and lithotomy positions, Most women (88.8%) in the semi-sitting position group were satisfied with the position, had less problems, preferred to assume this position in the next labor, and will recommend the position to others ($p<0.001$).

Recommendations:

Based on the result of this study we recommend the following:

- Encouraging utilization of the semi-sitting labor position instate of routine supine positions.
- Randomized clinical trial is needed to provide further confirmation of the study findings.

Table (1): Characteristics of women in the three study groups

Item	Group						X^2 Test	p-value
	Semi-Sitting (n=80)		Dorsal recumbent(n=80)		Lithotomy (n=80)			
	No.	%	No.	%	No.	%		
Age (years):								
▪ **<25**	11	13.8	19	23.8	14	17.5		
▪ **25-**	67	83.8	59	73.8	62	77.5		
▪ **30+**	2	2.5	2	2.5	4	5.0	H=6.97	0.03*
Range	22.0-35.0		20.0-36.0		22.0-35.0			
Mean±SD	27.1±2.6		26.1±2.8		26.9±3.0			
Education:								
▪ **Illiterate/read**	0	0.0	0	0.0	6	7.5		
▪ **Basic**	25	31.3	34	42.5	28	35.0	14.55	0.006*
▪ **Secondary/univ.**	55	68.8	46	57.5	46	57.5		
Parity:								
▪ **1**	47	58.8	51	63.8	37	46.3	5.28	0.07
▪ **2-3**	33	41.3	29	36.3	43	53.8		
Last delivery: Mode:								
▪ **NVD**	17	21.3	6	7.5	22	27.5	10.99	0.004*
▪ **NVD+Episiotomy**	63	78.8	74	92.5	58	72.5		

(*) Statistically significant at p<0.05 (--) Test result not valid

Table (2): Maternal outcomes among women in the three study groups

Item	Group						X^2 Test	p-value
	Semi-Sitting (n=80)		Dorsal recumbent (n=80)		Litho-tomy (n=80)			
	No.	%	No.	%	No.	%		
Episiotomy	11	13.8	31	38.8	36	45.0	19.94	<0.001*
Labial injury	0	0.0	5	6.3	25	31.3	40.00	<0.001*
Vaginal edema	2	2.5	17	21.3	36	45.0	41.09	<0.001*
Perineal laceration	8	10.0	21	26.3	23	28.8	9.77	0.008*
Grade:								
I	8	100.0	14	66.7	8	34.8		
II	0	0.0	7	33.3	15	65.2	11.51	0.003*

(*) Statistically significant at p<0.05

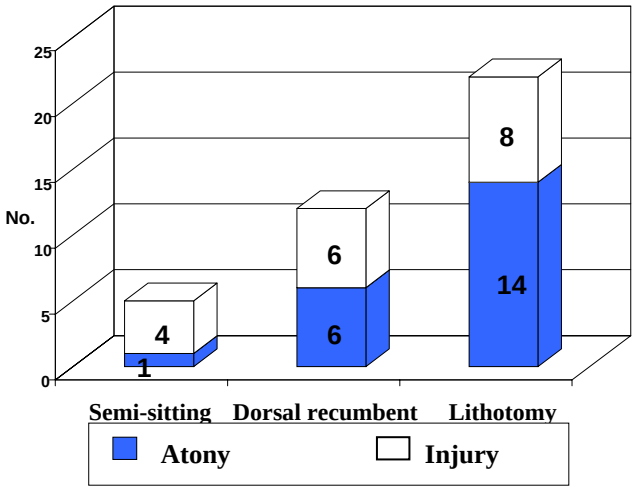

Figure (1): Causes of postpartum hemorrhage among women in the three study groups

Table (3): Fetal outcomes among women in the three study groups

Item	Group						ANOVA Test	p-value
	Semi-Sitting (n=80)		Dorsal recumbent (n=80)		Litho-tomy (n=80)			
	No.	%	No.	%	No.	%		
Apgar score (1 min):								
▪ **<8**	25	31.3	77	96.3	79	98.8	149.59	<0.001*
▪ **8+**	55	68.8	3	3.8	1	1.3		
Range	6-9		4-8		3-8			
Mean±SD	7.9±0.8		5.7±1.0		5.0±1.0			
Apgar score (5 min):								
▪ **<8**	1	1.3	21	26.3	44	55.0	87.59	<0.001*
▪ **8+**	79	98.8	59	73.8	36	45.0		
Range	6-10		6-9		6-9			
Mean±SD	8.8±0.8		7.8±0.9		7.5±0.7			
Baby weight (gm):								
▪ **2500-**	8	10.0	60	75.0	58	72.5	120.29	<0.001*
▪ **3000+**	72	90.0	20	25.0	22	27.5		
Range	2800-3450		2600-3100		2700-3100			
Mean±SD	3157.5±141.4		2860.0±129.8		2890.0±106.9			
Fetal complications:								
▪ **Birth injuries**	0	0.0	7	8.8	28	35.0	X^2=42.61	<0.001*
▪ **Need for resuscitation**	0	0.0	0	0.0	0	0.0	--	--
▪ **NICU admission**	0	0.0	0	0.0	0	0.0	--	--

(*) Statistically significant at p<0.05 (--) Test result not valid (H): ANOVA test

Table (4): Satisfaction and problems associated with position of delivery as reported by women in the three study groups

Item	Group						X^2 Test	p-value
	Semi-Sitting (n=80)		Dorsal recumbent (n=80)		Litho -tomy (n=80)			
	No.	%	No.	%	No.	%		
Satisfied with position:								
▪ **Dissatisfied**	9	11.3	38	47.5	79	98.8	H=184.96	<0.001*
▪ **Satisfied**	71	88.8	42	52.5	1	1.3		
Range	5-10		4-8		1-7			
Mean±SD	8.3±1.2		6.4±1.0		2.5±1.4			
Problems with position:								
▪ **No**	71	88.8	54	67.5	16	20.0	81.81	<0.001*
▪ **Yes**	9	11.3	26	32.5	64	80.0		
Problems:								
▪ **Not defined**	3	33.3	16	61.5	19	29.7		
▪ **Back pain**	2	22.2	3	11.5	2	3.1	28.49	<0.001*
▪ **Discomfort**	0	0.0	7	26.9	35	54.7		
▪ **Leg/back pain**	0	0.0	7	26.9	35	54.7		
▪ **Discomfort +pain**	4	44.4	0	0.0	8	12.5		

(*) Statistically significant at p<0.05 (H): ANOVA test

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تأثير الوضع نصف الجالس و الرقود الظهرى و الإستلقائى على نتاج الولادة: دراسة مقارنة

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مقدمـة:

لا يزال الجدل يحيط بالاهتمام بتقييم الأوضاع المختلفة للمخاض والولادة بالنسبة لتخفيف ألم الولادة و راحة الأم بالإضافة لتحسين نتائج الولادة بالنسبة للأم و المولود. ويعد تقديم رعاية الأمومة القائمة على أحدث الأبحاث المؤكدة بالبرهان هي الوسيلة المثلى لسلامة الأم و المولود.

هـدف البحـث: يهدف البحث الى:
مقارنة تأثير الوضع نصف الجالس أو الرقود الظهري مقابل الإستلقائى على نتائج الولادة و رضاء السيدات.

التصميم البحثي:
استخدام التصميم شـبه التجريبـي لتنفيـذ هـذه الدراسة.

فرضية البحث:
الوضع نصف الجالس للولادة سيرتبط بنتائج أفضل للأم و المولود و يزيد معه رضاء الأمهات مقارنة بالرقود الظهري و الإستلقائى

مكان وعينة البحث:
أجريت هذه الدراسـة في قسم الولادة بالمستشفى العام و بمستشفى التأمين الصحي بمحافظة بني سويف.و قد شملت الدراسة ٢٤٠ امرأة ماخض (٨٠ سيدة لكل وضع من أوضاع الدراسة الثلاث) ممن سبق لهن ولادات طبيعية و يتوقع أن يلدن ولادة طبيعية. كما استبعد السيدات اللاتي يخضعن لعقارات تسريع الولادة أو استعمل معها التخدير النصفي. تم حساب عدد عينة البحث باستخدام المعادلات الإحصائية. و تم إدراج السيدات في المجموعات المختلفة بالتناوب حتى تم استكمال حجم العينات.

أدوات جمع البيانات:
تم استخـدام أربع أدوات لجمع البيانات شملت:

- **استمارة مقابلة شخصية** : احتوت علي بيانات السيدات الشخصية و الاجتماعية و تاريخ الولادات السابقة.
- **استمارة تقييم حالة الأم والمولود بعد الولادة**:
و اشتملت علي طريقة الولادة، تفاصيل المرحلة الثالثة من الولادة، حالة الرحم بعد الولادة، شق تلقائي للعجان أو شق بواسطة المولد، بالإضافة إلي المشكلات الحادثة بعد الولادة مثل النزيف، و كذلك وقت الخروج من المستشفي. كما تضمنت مقياس أبجار للمولود، دخول العناية المركزة لحديثي الولادة، و المضاعفات الحادثة للمواليد مثل ضيق التنفس، والحاجة إلى الإنعاش.
- **قياس رضاء الأم عن وضع الولادة** :
مقياس الرضاء تراوح من ١ (غير راض تماما) إلى ١٠ (راض تماما). واعتبر النقاط من ٧ أو أكثر "راضى" و أقل من ذلك "غير راضي". و قد أشمل علي بيانات حول المشاكل التي تعاني منها السيدات مع وضع الولادة مثل ألم في الظهر أو الساق، وعدم الراحة. أيضا، ما إذا كانت السيدات قادرات على الحفاظ على وضع الولادة طوال وقت الولادة، و أيضا إذا كانت تفضل استعمال نفس الوضع في الولادة القادمة أم لا .

طـريقة البحـث:
تم أخذ موافقـة إدارة المستشفيات على إجراء البحث و إتبعت الأسس الأخلاقية للبحـث العلمي ثم أجريت دراسـة استطلاعية على عشرون ماخض بهـدف اختبـار تطبيـق الاستبيان و وضـوح محتـواه، و تقـدير الوقـت لإكمـال ذلـك. وقد تم جمـع البيـانات ابتـداء من ينـاير ٢٠١٠ و حتى

نوفمبر٢٠١١ حيث حضر الباحث ثلاث أيام في الأسبوع لمكان البحث. تم شرح الهدف من البحث و طريقة إجراءه لفريق العمل بالقسم من أطباء و تمريض لكسب تعاونهم مع الباحث. عن طريق المقابلة الشخصية أخذت البيانات الشخصية للسيدات و تاريخ الولادات السابقة. كما تم تقييم السيدات طبقا لمواصفات الإدراج أو الاستبعاد من الدراسة. السيدات اللاتي طابقت مواصفاتهن مواصفات الإدراج في الدراسة تم شرح هدف الدراسة لهن و أخذ الموافقة علي المشاركة في البحث. تم وضع السيدات في وضع من الثلاث أوضاع المختلفة للولادة بالتناوب. ثم تم تسجيل بيانات الولادة و حالة المولود بواسطة الباحث و باستخدام الأداة البحثية الثانية و الثالثة، كما تم قياس رضاء السيدات عن وضع الولادة باستخدام أداة البحث الرابعة. تم استخدام الاختبارات الإحصائية المناسبة لهذه الدراسة باستخدام حزمة البرامج الإحصائية SPSS إصدار رقم ١٦ . حيث تم استخدام اختبار تحليل التباين في اتجاه واحد (ANOVA) للمقارنات بين الثلاث مجموعات متعددة بالنسبة للبيانات الكمية. وتمت مقارنة المتغيرات النوعية باستخدام اختبار Chi square. ,و في حالة ما إذا كانت القيم المتوقعة أقل من ٥ فقد تم استخدام اختبار Fisher. واعتبرت القيم ذات دلالة إحصائية عند P< ٠,٠٥

النتـائج:

أشارت النتائج إلى انخفاض ذي دلالة إحصائية في معدلات شق العجان، أديما أو جروح الشفرتين، والنزف بعد الولادة لدي السيدات فى مجموعة نصف الجالس لكل النتائج كما حدث انخفاض ذو دلالة إحصائية في بالنسبة للشق التلقائي للعجان (P=0.0) بالإضافة إلي درجة عمق شق العجان، فقد كان من الدرجة الأولي في كل اللاتي تعرضن له في وضع النصف جالس مقارنة بـ ٦٦,٧% في وضع الرقود الظهري ، و ٤٣,٨% في الوضع الإستلقائي. و كان سبب النزف بعد الولادة هو الجروح في السيدات المتخذات وضع النصف جالس ، أما سبب النزف فقد كان ضعف في انقباض الرحم في السيدات المتخذات الوضع الإستلقائي. كما تبين أن المواليد في مجموعة نصف الجالس كان لديهم أعلى درجات أبجار في الدقائق الأولى والخامسة،. كما لوحظ عدم وجود إصابات الولادة في مواليد السيدات المتخذات الوضع نصف الجالس مقارنة بـ٨,٨% لوضع الرقود الظهري و ٣٥% للوضع الإستلقائي (P) (٠،٠٠١). وقد وجد أن معظم السيدات (٨٨,٨%) السيدات في مجموعة الوضع نصف الجالس أبدين رضاهن عن وضع الولادة مقارنة ب ٥٢,٥%في مجموعة الرقود الظهري و ١,٣% في الوضع الاستلقائى بفروق ذات دلالة إحصائية (P < ٠،٠٠١). كما وجد أن المشكلات المرتبطة بوضع الولادة كآلام الساق و الظهر قد ذكرت في ١١,٣% للسيدات في الوضع نصف الجالس و ٢٣.%% في وضع الرقود الظهري و ٨٠% في الوضع الإستلقائي ٠،٠٠١).

الخلاصة :

تخلص الدراسة إلى أن الوضع نصف الجالس هو الأفضل إحصائيا فيما يتعلق بنتاج الولادة بالنسبة للأم و المولود ويليه وضع الرقود الظهري ثم الإستلقائى، حيث أنه يحسن من معدل قياس أبجار للمولود، ويقلل من معدلات شق العجان والنزيف بعد الولادة كما أن معظم السيدات كن راضيات بهذا الوضع

التوصيات:

في ضوء نتائج الدراسة، يوصى بتشجيع استخدام الوضع نصف الجالس أثناء الولادة بدلا من الأوضاع الروتينية. كما يوصي بإجراء أبحاث أخري في هذا المجال لتأكيد نتائج الدراسة.