

**Effect of Pushing Techniques During Second Stage
of Labor for Normal Multiparous Women and
Maternal - Fetal Outcome**

Thesis

*Submitted in Partial Fulfillment of the Doctorate
Degree in Maternity and Neonatal nursing*

BY

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Introduction

The second stage of labor is defined as the time from the completion of dilatation of the cervix to the delivery of the fetus. The second stage is often accompanied by forceful bearing-down efforts lead to gradually reduced the oxygenation of the fetus because the fetus is being expelled from the uterine cavity, with resulting retraction of the uterus and decrease in placental circulation. Moreover, strong contractions and strenuous pushing may further reduce the utero-placental circulation lead to decrease oxygenation is accompanied by acidosis (*Nordstrom, 2001*).

According (*Parnell ,93*) who mentioned in his study the Pushing in the expulsive phase of labour can be forced or follow the spontaneous urge to bear down. Moreover recent studies have shown that Spontaneous pushing results in a longer second stage, higher umbilical artery pH which is proved presence of complication for mother and her newborn. (*Barltiere, 86*)

On the other hand, " *valsalva's maneuver*" is commonest traditional method of pushing in the second stage of labour, it was proved the

" *valsalva's maneuver*" associated with an increase in intra-thoracic pressure, decrease in blood pressure, decrease blood return to the heart, impaired blood flow to uterus and placenta . (*Burroughs, 97*). In addition the valsalva's maneuver not only reduces blood flow to placenta but also decreases the oxygen content in the blood that reaches the placenta producing fetal hypoxia, this is reflected on fetal heart rate and new born Apgar score. (*Barltiere, 86*).

In The technique of " *valsalva's maneuver*" the caregiver teaches mother about pushing technique with a closed glottis the women takes a deep breath at the beginning of the contraction and holds her breath then pushing as she can . (*Burroughs, 97*).

While, Exhalation pushing technique involve exhalation of small amount of air through an open glottis and exert it with pushing for very short intervals (5 to 6 seconds), This method allows better oxygenation of both mother and fetus (*Thomson, 95*).

Exhalation pushing technique is a key element of most child birth preparation programs. It helps keeping the mother and her unborn baby adequately oxygenated (*ladewing, 98*). Moreover

avoid inefficient use of muscles, prevent useless straining, prolonged breath holding and minimizing cardio-pulmonary pressure to the mother with possible decrease in placental perfusion, and enhances the natural process as this shortens the duration of labor (*El-sheikh, 93*).

Justification of the research:

The second stage of labor is generally considered to be a time of increased risk for fetal hypoxia, acidosis and injury to maternal perineal body ,it's management remains a basic challenge for medical team trying to decrease maternal and fetal mortality and morbidity ,The role of nurse is very important to improve quality of health care through the use of new knowledge and practice .

Aim of the study

To study effect of different pushing techniques on maternal -fetal outcome. This aim attended through:

- Teach multiparous women about pushing technique after admission to labor unit.

- Assess effect of pushing technique on maternal outcome during labor process.
- Assess effect of pushing techniques on fetal outcome.

Research Hypothesis:

The exhalation pushing technique has positive impacts on the maternal and fetal outcome more than spontaneous or Valsalva's techniques.

Subjects and methods:

Setting:

This study will be carried out at labor room of Ain Shams University Maternity Hospital.

Type of study:

*Experimental prospective randomized study

Sample :

Sample criteria:

Multiparous healthy women who admitted to the labor ward were selected randomly after fulfilling the criteria of normal labor,

Free from any medical or obstetric complication during pregnancy and normal progress of labor any deviation from this criteria will be excluded.

Type of sample:

*Systematic randomized sample

Sample size:

- Three-hundreds multiparous women and their babies will be included in this study ,this number of cases represent 10 % of the annually total number of multiparous women admitted in labor room of Ain Shames University Maternity Hospital.

Sample Method:

All pregnant women according to criteria of sample will be chosen randomly by tossing technique from registration book until the sample size will be completed. These women are divided into 3 groups , first group (n=100) or (control group) will be delivered with spontaneous pushing method ,Second group (n=100) or (experimental group)will be delivered with exhalation pushing method and third group (n=100) will be delivered with valsalva's pushing method .

Technical Design:

Tools of study:

- 1- Partogram (labor document) to assess progress of labor (uterine contraction, cervical dilatation, fetal heart rate, and vital signs for women...).
- 2- Interviewing questionnaire which included Demographically data , obstetrical data and assess response of mother towards different pushing techniques .
- 3- Apgar scoring sheet for assessment of the newborn condition at one and five minutes. It has been objectivity graded by Reeder and martin (1983) as follows : 0-3 poor condition
4-6 fair condition
7-10 good condition

Operational design:

Data collection:

- Firstly the aim of the study will be explained to each women before teaching the technique of different pushing methods to gain their confidence and trust then their consent will be obtained to participate into the study. Teach women about pushing techniques

after admission to labor unit using semi- setting position and partogram.

- At onset of the second stage all participants will be transferred to delivery room and the observation will be started.also the newborn babies will be assessed at one and five minutes.

- The researcher will be attended the labor unit for 3 days every week .

Pilot study for the tools;

It will be done on 30 women of sample size to evaluate the content validity of the tool used according to the analysis to pilot study results. The modification will be done in the interviewing questionnaire sheet.

Administrative design:

A written letter for official approval will be obtained from administrative authorities of Maturity Hospital of Ain Shames University.

Analysis of the Results:

The appropriate statistical methods and tests will be used for analysis of results, presented in tables, figures and graphics as required.

Discussion of the results:

Using related local and international literature would do it.

Conclusion and recommendation:

Will be based on the obtained results in relation to aim of the study.

Summary:

References:

References

- **Barltiere, T., (1986):** Obstetrics and Newborn, 2nd ed, C.V. Company, Philadelphia, Toronto, p,p. 110-115.
- **Burroughs, A., (1997):** “Maternity Nursing an Introductory text book”7th ed, W.B. Saunders Company London, P. 119-120.
- **EL-Sheikh, M. (1993):** “Effect of Exhalation pushing Method During second stage of labour on fetal and Maternal outcome”, International conference of pathophysiology of pregnancy., Egypt, p. 1-2.
- **Nordstrom L & et al , (2001,):**Fetal and maternal lactate increase during active second stage of labor , *British Journal of obst & gyn .VOL 108, P. 263*
- **Ladewing ,P., (1998):** Maternal Newborn Nursing care 4th ed W.B. Saunders company, London, p. 148.
- **Parnell ,J., (1993) :** Pushing technique in the expulsive phase of-labor,<http://www.ncbi.nlm.nih.gov/entrez/query> .,PubMed -indexed for MEDLINE .

- **Thomson,M., (1995):** “Maternal behavior during spontaneous and directed pushing in the second stage of labour”, Journal of advanced Nursing. Vol 22, No. 2, p. 1027.

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Dedication

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