

Value of Uterine Fundal Pressure During the Second Stage of Labor: A Randomized Controlled Trial

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

" قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا
إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ "

صَدَقَ اللَّهُ الْعَظِيمُ

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LIST OF ABBREVIATION

A.C.O.G	American college of obstetricians &
A.W.F.I.O.N. N	Association of women's health, obstetric & Neonatal nurses
B.M.I	Body mass index
Br. Asthma	Bronchial Asthma
C.N.M	Certified nurse midwife
D.M	Diabetes mellitus
F.D.A	Food and drug administration
F.H.R	Fetal heart rate
F.S.E	fetal scalp electrode
F.Wt.	Fetal weight
L.O.A	Left occipitoanterior
L.O.P	Left occipitoposterior
M.D.B.P	Maternal diastolic blood pressure
M.P	Medical problems
M.S.B.O.N	Maryland state board of nursing
M.S.B.P	Maternal systolic blood pressure
N.I.C.U	Neonatal intensive care units
P.G	Primigravida
P ¹	Para ¹
P ²	Para ²
R.O.A	right occipitoanterior
R.O.P	right occipitoposterior
RH. Hrt. Dis.	Rheumatic heart disease

S.L.E	Systemic lupus erythromatosis
T.O.S.S	Time of second stage
BMA/RPSGB	British National Formulary, British Medical Association and The Royal Pharmaceutical



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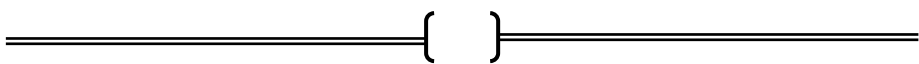
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Introduction

Fundal pressure during the second stage of vaginal delivery is a controversial maneuver . The obstetric technique involves application of manual pressure to the uppermost part of the uterus directed toward birth canal in an attempt to shorten the second stage of Labor (*Verheijen et al .,2006*) .

Fundal pressure has also been applied using an inflatable girdle . The clinical indications for this attempt can be fetal distress, failure to progress in the second stage of labor and/or maternal exhaustion or medical conditions whereby (prolonged) pushing is contraindicated, for example, maternal heart disease. It may be used routinely (*Simpson et al .,2001*).

The practice varies greatly between countries. Fundal pressure is frequently used in settings where other interventions, like instrumental deliveries , are not readily available, or cannot be performed because of professional staff shortage. While in many low- and middle-income countries the maneuver appears to be routine practice during delivery (*Miller et al ., 2003*) .

In some mainly English speaking, Western countries, it is seen as an obsolete procedure (*Buhimschi et al ., 2002*) . In the US and the UK for example, this may be because of the intense medico- legal climate in those countries ,and the complications supposedly arising from the manoeuvre ,as described below . A survey in the United States found that 14%

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of the respondents used fundal pressure in their obstetric centers , although this would frequently not be recorded in the delivery notes (*Kaye et al .,1990*) . In 4% of all vaginal deliveries between 1994 and 1996 in the Netherlands fundal pressure was recorded (*De Leeuw.,2001*). A study in Austria found the maneuver being practiced in up to 22% of vaginal deliveries in the university hospital (*Schulz-Lobmeyr .,1999*).

A United Nations Population Fund study of childbirth practices and experiences in rural central Bangladesh found the use of fundal pressure and tight abdominal bands to be prevalent (*Goodburn .,1995*).

There is little evidence to demonstrate that the use of fundal pressure is effective in shortening the second stage. A study in the US examining intrauterine pressure found that fundal pressure during the contraction increased the expulsive force on average by 28% . (*Buhimsachi., 2002*).

Fundal pressure together with the valsalva maneuver applied during the uterine contraction increased the intrauterine pressure by 86 % over baseline (*Kopelman et al ., 2002*) .

Several anecdotal reports suggest the fundal pressure is associated with maternal and fetal complications, for example, uterine rupture, amniotic fluid embolism (*Pan et al .,2002*). Fetal fractures and brain damage , spinal cord injuries (*Amiel et al., 1988*). An increased risk of anal sphincter damage has been

reported (*Cosner et al .,1996*).Such information may not be published for medico legal reasons (*Miller et al., 2003*). Confounding factors , such as birth- weight, length of second stage, malpresntation, etc, which could have influenced the birth attendant's decision to perform fundal pressure, are not corrected for in these observational studies on the other hand, if fundal pressure could prevent instrumental delivery, the risk of a third – degree tear as a result of the instrument used would also be decreased.

There is a need for objective evaluation of the effectiveness and safety of fundal pressure in the second stage of labor .

Aim of the work

To evaluate if the use of Fundal pressure is effective in shortening the second stage of Labor and its effect on the related neonatal and maternal outcomes .