IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

To Investigate Adverse Effect Of Fundal Pressure Vs No Fundal Pressure On Maternal And Fetal Birth Outcomes Among Parturient Mothers.

*Ms. Divya Saxena **Prof. Dr. T. Bidyani Devi

ABSTRACT

The present study aimed to investigate the adverse effect of fundal pressure in second stage of labour on Parturients mother. A descriptive comparative research design adopted and a total of 60 Parturients mother and their babies. Mother of gestational age above 37 years were selected through purposive sampling in the labour unit of government hospital. The samples were divided into two groups, 30 Parturients mother in group one is given fundal pressure and 30 Parturients mother in group second is not given fundal pressure during second stage of labour. The mothers were assessed through following tool i.e. socio demographic variables, clinical variables and maternal fetal birth outcome checklist. G1 is Fundal Pressure group and Group 2 is non- Fundal Pressure group in both group is 15-15 primigravida and 15-15 multigravida mothers in both groups. In fundal pressure group Parturients mothers 46.7% moderate and 53.3% severe adverse effect in maternal outcomes and non-fundal pressure group is 100% mild adverse effect in both group.

In fetal birth outcome G1a 5 (33.3) mild 10(66.7%) moderate G2a 4(26.7%) mild and 11 (73.3%) moderate score. The study showed that the higher adverse effect in fundal pressure group.

BACKGROUND OF THE STUDY

The fundal pressure is a technique that involves applying manual pressure to the uterus' uppermost part in order to accelerate the labor.

Since 2018 WHO has declared that its not recommended to give fundal pressure during second stage of labour in intranatal guidelines because it causes many severe adverse effects**. WHO guidelines (2018)**

In addition, the risks of shoulder dystocia and other injuries following Fundal Pressure are even greater for birthing women. Due to the lack of definitive data about the safety and role of fundal pressure, its use has been controversial. uterine fundal pressure during the second stage of labor (Kristeller maneuver) on pelvic floor dysfunction (urinary and anal incontinence, genital prolapse, pelvic floor strength). The Kristeller group had higher rates of perineal pain, dyspareunia, and episiotomies than the control group. The difference in the rates of these conditions was not significant. **Andrea Sartore, Francesco De Seta, (2012)**

NEED OF THE STUDY AND LITERATURE REVIEW

This manual fundal pressure is an uncontrolled force over the uterine fundus which has been associated with feto-maternal complications including uterine rupture, fractured ribs, anal sphincter damage, fetal hypoxemia, haemorrhage and many more.

The prevalence of fundal pressure ranged from 0.6% to 69.2% between studies, with a pooled prevalence of 23.2% (95% CI 19.4–27.0, I2 = 99.97%). **Elise Farrington, Mairead Connolly, Laura Phung, (2021)** During specialty clinical posting, the researcher found that fundal pressure is used very frequently during second stage of labor. After discussion with the obstetrician and midwives, the researcher concluded that the health professional are involved in medical malpractice of applying fundal pressure without knowing its adverse effect on the birthing women and the fetus.

Taha Takmaz, Serdar Aydın, İrana Gorchiyeva (2021) A cross-sectional study of fundal pressure at second stage of delivery and the association with pelvic floor damage, women were divided into two groups: the fundal pressure group included women where the fundal pressure maneuver was applied ($n = 39$); the control group included women who delivered spontaneously without fundal pressure ($n = 47$). 3D-TPU was performed within 48 h of delivery, and LAM biometry, LAM defect and loss of tenting were determined. Anteroposterior hiatal dimensions on resting, maximal Valsalva and maximal PFMC were found to be higher in the fundal pressure group ($p < 0.0001$, $p = 0.008$, $p = 0.007$, respectively). The mean hiatal area at rest was larger in the fundal pressure group than in the control group ($p = 0.04$). The rate of LAM defect was significantly higher in the fundal pressure group ($p = 0.001$). The rate of loss of tenting was significantly higher in the fundal pressure group ($p < 0.0001$). According to multivariate regression models, the fundal pressure was the only independent factor associated with LAM defect (OR = 5.63; 95% CI = 12.01–15.74) and loss of tenting (OR = 8.74; 95% CI = 2.89–26.43). Fundal pressure during the second stage of delivery is associated with a higher risk of LAM defect and loss of anterior vaginal wall support.

Gokhan Acmaz, Evrim Albayrak, Gokalp Oner Etal. (2015) A prospective, randomized, controlled trial was conducted Kayseri Education and Training Hospital of Medicine. Patients were randomly allocated to Kristeller maneuver (KM) intervention group (n = 145) and control group (n = 140). Umbilical artery blood gas analysis, creatinine kinase (CK), CK with myocardial specific isoform, aspartate amino transferase, alanine amino transferase, lactate dehydrogenase and lactic acid were assessed. Vaginal laceration, cervical laceration, length of episiotomy and vagina before and after delivery and duration of the second stage of labor in minutes were recorded. Neonatal information included: Infant birth weight, Apgar scores, babies requiring paediatric help, and admission to neonatal intensive care units (NICU) were examined. Results: KM leads to elongation of episiotomy incision. Vaginal lacerations were similar between control and intervention groups; however the cervical laceration rate was higher in intervention group. Gestational week, Apgar scores, birth weight, NICU admission, babies requiring paediatrician help or healthy babies were not different between the two groups. The possibility of lacerations to the perineum and cervix is increased by using KM. On the other hand, fundal pressure seems safe for the fetus.

STATEMENT OF THE PROBLEM

"A comparative study to investigate adverse effect of fundal pressure vs no fundal pressure on maternal and fetal birth outcomes among parturient mothers in selected hospitals of Indore in year 2023-24".

OBJECTIVE OF THE STUDY

1. To determine the adverse effects on maternal and fetal birth outcomes with application of fundal pressure in (G1).
2. To determine the maternal and fetal birth outcomes (G2).
3. To compare G1(a) with G2(a) & G1(a) with G2(b) aiming at the maternal and fetal birth outcomes among mothers.
4. To compare G1(b) with G2(a) & G1(b) with G2(b) aiming at the maternal and fetal birth outcome among mothers.
5. To determine frequency and percentage of maternal and fetal birth outcomes

HYPOTHESIS

The hypothesis will be tested at the level P≤0.05

H1: There is significant difference in the among parturient mothers in both the groups effects on maternal and fetal birth outcomes.

RESEARCH METHODOLOGY

Research Design: The Comparative Descriptive research design is adopted in the present study.

Setting: The present was conducted in labour ward of Government hospital, Indore

Population: In the present study, accessible population includes Parturients mothers second stage of labour in Government Hospital, Indore.

Sample and sample size: The samples were 120 [60 Parturients mothers and their babies (30 primigravida and 30 multigravida)]

Sampling technique: the sampling technique used to purposive sampling technique

Tool: the tool used for data collection were in the following sections:

Section A: Socio Demographic Variables

Section B: Clinical Variables

Section C: Maternal fetal birth outcomes checklist

Validation And Reliability of The Tool: A tool along with objective, hypothesis, blue print and criteria checklist was given to 7 experts including 6 nursing personnel from the field of Obstetrics and Gynaecology, one statistician. It consisted of two criteria 'agree' and 'disagree'. The experts were requested to check for the relevance, Sequence and language of section A, B and C.

The reliability of self- structured Maternal fetal birth outcome checklist for assessing adverse effect in Parturients mother during second stage of labour with application of fundal pressure and G2 group without fundal pressure was tested on 12 respondents. The reliability. The internal consistency of tool was calculated by using fisher P value formula. The reliability was found r= 0.96 which showed the tools were reliable.

PILOT STUDY

The predominant objectives of the pilot study were to help investigator to become familiar with the use of the tool and to find out any difficulties to conduct the main study. It also aimed to assess the feasibility of the study, clarity of language and make plans for analysis thus helping in finalizing the tool. The investigator obtained the written permission from the concerned authority. The pilot study was conducted from 11 November to 25 November 2021 in labour room of Choithram Hospital & Research Centre, Indore. The purpose of the study was explained and confidentiality was assured to the subjects. A total of 16 samples were selected as participants through purposive sampling into two groups, in Group I, Group II . In Group 1 i.e., Group (fundal pressure was applied to mothers) and Group II (no fundal pressure was applied to mothers).

During pilot study the researcher found that adverse effect was more in multi gravida mothers as compared mothers to that of Primi gravida because episiotomy was given for primi gravida mothers to prevent tears as a preventive measure. Keeping this statistical data in mind the researcher segregates the group into G1(a) primi and G1 (b) multi mothers and the same for the G2 group respectively. This would help the researcher to get more specific and comparative data after analysis.

PROCEDURE FOR DATA COLLECTION

Written permission was obtained from the administrative authority and research ethical committee of Malwanchal University, Indore prior to the data collection. The study was carried out in the same way as that of the pilot study. A total of 60 samples were selected from the accessible population as study subjects through simple Purposive sampling and then the samples through assigned into Group I, Experimental group II in the study. The actual data collection period was from 5th December to 30th December 2021. The procedure for data collection was divided into pre-procedure, procedure and post procedure.

Pre-procedure:

• Permission was taken from the hospital authorities.

• Selected samples as per the inclusion criteria of the study.

• Through simple purposive sampling 60 samples were selected from the accessible population

Then 60 samples through purposive sampling assigned into Group I (30), Group II (30).

• Procedure was explained and consent was taken from all samples.

Procedure:

• Before the intervention, observation was done to assess the condition of the mother after the samples were selected for study.

Post-procedure:

Intra natal observations was done during the labour to assess the adverse effect of fundal pressure i.e., fundal pressure increasing adverse effect of birth outcomes. The observations were recorded and documented

SUMMARY

The research methodology revealed the overall plan of the research in a systemic and scientific manner. This chapter dealt with description of the research design, sample, sample technique, research setting, study instruments, reliability of instruments, pilot study and data analysis plan. The analysis and interpretation of the same method is presented in the following chapter.

MAJOR FINDINGS

Socio-Demographic Findings

The socio-demographic findings showed that out of 60 Parturients mothers,

majority of them 46 (76.6%) were under the age group of 21-25 years, 11(18.3%)

belonged to less than 21 years and remaining 3(5%) belonged to age group 26-

30 years. No Parturients mothers above 30 years of age was found in the study.

Regarding the educational status, majority Parturients mothers of 29(48.3%)

primary education,26(43.3%) secondary education % and 5(8.3%) graduated.

30(50%) of Parturients mothers lived in a joint family and 30(50%) lived a

nuclear family.

All the Parturients mothers were not working due to their pregnancy

state. But 55(91.5%) is housewife and 5(8.3%) self-employed.

Regarding the majority antenatal check-up status, majority Parturients mothers of 37(61.6%) 1-5 ANC follow-up,23(38.3%).

DISSCUSSION

- **Discussion on comparison of adverse maternal and fetal birth outcomes of fundal pressure during second stage of labor in both primigravida groups G1a and G2a.**

A. Maternal outcome in Primigravida groups

The findings revealed that both in group G1a (Primigravida with fundal pressure) and G2a (Primigravida without fundal pressure), 15 (100%) of samples G2a (primigravida without fundal pressure group) had mild adverse effect and 7(46.7%) and 8(53.3%) of samples G1a (primigravida with fundal pressure group) had moderate and severe adverse effect. Hence it showed drastic difference in between these two Primigravida groups. This indicates that there is the mild maternal score was significantly higher in Group G2a (P=0.001), while moderate maternal score (P=0.006) and severe maternal score (P=0.002) were significantly higher in Group G1a.

B. Fetal outcome

The findings revealed that both in group G1a and G2a, (15 (100%) of samples G2b had mild adverse effect and 5(33.3%) and 10(66.7%) of samples G1a had mild and moderate adverse effect. Hence it showed drastic difference in between these two Primigravida groups. This indicates that there is the mild fetal score was significantly higher in Group G2a (P=0.001), while moderate maternal score (P=0.001) was significantly higher in Group G1a.

The application of fundal pressure increased the severity of adverse maternal and fetal birth outcomes in the Group G1a participants.

- **Discussion on comparison of adverse maternal and fetal birth outcomes of fundal pressure during second stage of labor in both multigravida groups G1b and G2b**.

A. Maternal outcome in multigravida groups

The findings revealed that both in group G1b (Multigravida with fundal pressure) and G2b (Multigravida without fundal pressure), 15 (100%) of samples G2b (Multigravida without fundal pressure group) had mild adverse effect and 8(53.3%) and 7(46.7%) of samples G1b (Multigravida with fundal pressure group) had moderate and severe adverse effect. Hence it showed drastic difference in between these two Multigravida groups. This indicates that there is the mild maternal score was significantly higher in Group G2b (P=0.001), while moderate maternal score (P=0.002) and severe maternal score (P=0.006) were significantly higher in Group G1b.

B. Fetal outcome

The findings revealed that both in group G1b and G2b, (15 (100%) of samples G2b had mild adverse effect and 4(26.7%) and 11(73.3 %) of samples G1b had mild and moderate adverse effect. Hence it showed drastic difference in between these two Multigravida groups. This indicates that there is the mild fetal score was significantly higher in Group G2b (P=0.001), while moderate maternal score (P=0.001) was significantly higher in Group G1b.

The application of fundal pressure increased the severity of adverse maternal and fetal

birth outcomes in the Group G1a participants.

- **Discussion on comparison of adverse maternal and fetal birth outcomes of fundal pressure during second stage of labor in both groups G1a(primigravida with fundal) and G2b (multigravida without fundal)**

- **A. Maternal outcome in primigravida and multigravida group**

The findings revealed that both in group G1a(Primigravida with fundal pressure) and G2b (Multigravida without fundal pressure), 15 (100%) of samples G2b (Multigravida without fundal pressure group) had mild adverse effect and 7(46.7%) and 8(53.3%) of samples G1a (Primigravida with fundal pressure group) had moderate and severe adverse effect. Hence it showed drastic difference in between these two groups. This indicates that there is the mild maternal score was significantly higher in Group G2b (P=0.001), while moderate maternal score (P=0.006) and severe maternal score (P=0.002) were significantly higher in Group G1a.

B. Fetal outcome in primigravida and multigravida group

The findings revealed that both in group G1a and G2b, 15 (100%) of samples G2b had mild adverse effect and 5(33.3%) and 10(66.7 %) of samples G1a had mild and moderate adverse effect. Hence it showed drastic difference in between these two groups. This indicates that there is the mild fetal score was significantly higher in Group G2b (P=0.001), while moderate maternal score (P=0.001) was significantly higher in Group G1a.

The application of fundal pressure increased the severity of adverse maternal and fetal birth outcomes in the Group G1a participants.

- **Discussion on comparison of adverse maternal and fetal birth outcomes of fundal pressure during second stage of labor in both groups Group G1b (Multi with Fundal Pressure) and Group G2a (Primi without Fundal Pressure)**

A. Maternal outcome in primigravida and multigravida group

The findings revealed that both in group G1b (a with fundal pressure) and G2a (primigravida without fundal pressure), 15 (100%) of samples G2a(Primigravida without fundal pressure group) had mild adverse effect and 8(53.3%) and 7(46.7%) 11(73.3%) of samples G1b(Multigravida with fundal pressure group) had moderate and severe adverse effect. Hence it showed drastic difference in between these two groups. This indicates that there is the mild maternal score was significantly higher in Group G2b (P=0.001), while moderate maternal score (P=0.006) and severe maternal score (P=0.002) were significantly higher in Group G1a.

B. Fetal outcome in primigravida and multigravida group

The findings revealed that both in group G1b and G2a, 15 (100%) of samples G2a had mild adverse effect and 4(26.7%) and 11(73.3%) of samples G1a had mild and moderate adverse effect. Hence it showed drastic difference in between these two groups. This indicates that there is the mild fetal score was significantly higher in Group G2a (P=0.001), while moderate maternal score (P=0.001) was significantly higher in Group G1b.

The application of fundal pressure increased the severity of adverse maternal and fetal birth outcomes in the Group G1b participants

Thus, the research hypothesis H1 accepted

CONCLUSION

After the detailed research and analysis of the study leads to the conclusion that application of fundal pressure during second stage is highly adverse birth out comes. Thus, the health care personnel should not adopt these techniques as a routine practice for the normal vaginal delivery. It was an overall enriching, challenging and interesting experience for the researcher while conducting the study. It had been a bit difficult in confidentiality maintain during study. The study was giving a new learning experience for the investigator as well as the other health personal. The overall experience of conducting this study was satisfying and enriching.

REFERENCES

- Gokhan Acmaz,Evrim Albayrak,Gokalp Oner. The effect of kristeller maneuver on maternal and neonatal outcome. Archives Clinical Experimental Surgery2015;4,29-35. Retrieved from : https://cyberleninka.org/article/n/915318/viewer
- Elise Farrington, Mairead Connolly, Laura Phung, el.at.The prevalence of uterine fundal pressure during the second stage of labour for women giving birth in health facilities: a systematic review and meta-analysis. Reproductive Health volume 18, Article number: 98,(2021).Retrievedfrom: https://reproductive-health-journal.biomedcentral.com/articles/10.1186/s12978-021-01148-1
- Sartore A, De Seta F, Maso G, Ricci G, Alberico S, Borelli M, et al. The effects of uterine fundal pressure (Kristeller maneuver) on pelvic floor function after vaginal delivery. Arch Gynecol Obstet. 2012;286(5):1135–9. Retrieved from: https://link.springer.com/article/10.1007/s00404-012-2444-x
- Takmaz T, Aydin S, Gorchiyeva I, Karasu AFG. The usual suspect: cross-sectional study of fundal pressure at second stage of delivery and the association with pelvic floor damage. International Urogynecology Journal Cite [2020]. volume32,pages1917–1924(2021).Retrievedfrom:Https://doi.org/10.1007/s00192-020-04523-x
- WHO Reproductive Health Library. WHO recommendation on fundal pressure to facilitate childbirth. Geneva (Switzerland): The WHO Reproductive Health Library. World Health Organization; 2018. Retrieved from https://apps.who.int/iris/bitstream/handle/10665/272447/WHO-RHR-18.12-eng.pdf