

**Maternal and foetal outcomes in pregnant women with and without previous history of spontaneous abortion at a tertiary care centre in South Kerala**

<sup>1</sup>Dr. Jacqueline Jose, Junior Resident, Department of Obstetrics and Gynaecology, Pushpagiri Institute of Medical Sciences, Thiruvalla, Kerala.

<sup>2</sup>Dr. Laila Mathews, Professor, Department of Obstetrics and Gynaecology, Pushpagiri Institute of Medical Sciences, Thiruvalla, Kerala.

**Corresponding Author:** Dr. Laila Mathews, Professor, Department of Obstetrics and Gynaecology, Pushpagiri Institute of Medical Sciences, Thiruvalla, Kerala.

**How to citation this article:** Dr. Jacqueline Jose, Dr. Laila Mathews, “Maternal and foetal outcomes in pregnant women with and without previous history of spontaneous abortion at a tertiary care centre in South Kerala”, IJMACR- July - 2023, Volume – 6, Issue - 4, P. No. 73 - 77.

**Open Access Article:** © 2023, Dr. Laila Mathews, et al. This is an open access journal and article distributed under the terms of the creative common’s attribution license (<http://creativecommons.org/licenses/by/4.0>). Which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

**Type of Publication:** Original Research Article

**Conflicts of Interest:** Nil

**Abstract**

**Introduction:** Pregnancy should be considered a unique normal physiological episode in a woman’s life. However, there are certain adverse outcomes that can affect the normal physiology. Miscarriage is the most common complication of early pregnancy. Most studies demonstrate a spontaneous miscarriage rate of 10-15%. However, the true rate of pregnancy loss is close to 50% because of the high number of biochemical abortions. Prior history of spontaneous abortions are always a risk for the next pregnancy. In this study an attempt has been made to evaluate the maternal and foetal outcome in pregnant women with history of one or more spontaneous abortion.

**Materials and Methodology:** Data collected through questionnaire administered to the patients. The risk

factors for abortion, the association between previous history of abortion and maternal and foetal outcome has been analysed.

**Results:** Out of the 216 study participants 105(47.7%) were pregnant women with previous history of abortion and the rest 111(51.3%) were primigravida’s. Among the study participants with previous history of abortion, 33(60%) underwent CS compared to 22(40%) in pregnant women with no previous history of abortion (P=0.05) Prematurity was the most common adverse foetal outcome in those with previous history of abortion followed by FGR.

**Conclusion:** Maternal outcome was adverse in those with previous history of abortion as a majority had to undergo a C-Section and Prematurity was found to be the adverse foetal outcome. extensive research in this

field should be done to unveil the factors associated with such adverse maternal and fetal outcomes of pregnancy with an abortion history.

**Keywords:** Spontaneous Abortion, Maternal outcome, Fetal Outcome, Cesarean Section.

**Introduction**

pregnancy is a unique and normal physiological episode in a woman’s life. However, there are certain adverse outcomes that can affect the normal physiology. Miscarriage is one of the most common complications of early pregnancy. Most studies demonstrate a spontaneous miscarriage rate of 10-15%. Prior history of spontaneous abortions are always a risk for the next pregnancy. In this study an attempt has been made to evaluate the maternal and fetal outcome in pregnant women with history of one or more spontaneous abortion.

**Materials And Methods**

Antenatal women with previous history of one or more spontaneous abortions and no previous viable pregnancy and antenatal women with no previous history of spontaneous abortions either booked at or referred to the tertiary care centre have been collected. Study participants were grouped into two groups Group A included Pregnant women with previous history of one or more spontaneous abortions, including both embryonic and anembryonic pregnancies and no previous viable pregnancies and Group B included Primigravida with no previous history of abortions. Women with history of induced abortion and Multiple gestation in the current pregnancy were excluded from this study. Both the groups were followed up throughout the pregnancy to estimate any incidence of maternal or foetal complications.

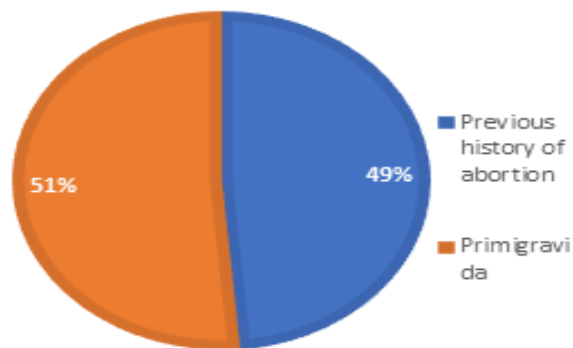
**Results**

A total of 216 women were included in the study based on the inclusion and exclusion criteria. Out of the 216 study participants, 105 (48.6%) were pregnant women with previous history of abortion and the rest 111(51.4%) were primigravida’s.

**Maternal Outcomes**

Among the 105 study participants with previous history of abortion 33(31.4%) underwent CS compared to 22(19.8%) in those without a previous history of abortion. These differences were found to be statistically significant with a p value=0.05. NVD (Normal vaginal Delivery) was conducted among 127 (58.8%) of the 216 study participants. Among the study participants with previous history of abortion, only 47(44.8%) underwent NVD compared to 80(72.1%) in those without any previous history of abortion, these differences were found to be statistically significant with a p value<0.001.

**STUDY PARTICIPANTS**



**Graph 1**

		Abortion history		Total
		No previous history of abortion	Abortion history present	
Modes of delivery other than CS	Count	89	72	161
	% within Previous Abortion	80.2%	68.6%	74.5%
Modes of delivery CS	Count	22	33	55
	% within Previous Abortion	19.8%	31.4%	25.5%
Total	Count	111	105	216
	% within Previous Abortion	100.0%	100.0%	100.0%

**Table 1**

		Abortion history		Total
		No previous history of abortion	Abortion history present	
Mode of termination other than NVD	Count	31	58	89
	% within Previous Abortion	27.9%	55.2%	41.2%
Mode of termination as NVD	Count	80	47	127
	% within Previous Abortion	72.1%	44.8%	58.8%
Total	Count	111	105	216
	% within Previous Abortion	100.0%	100.0%	100.0%

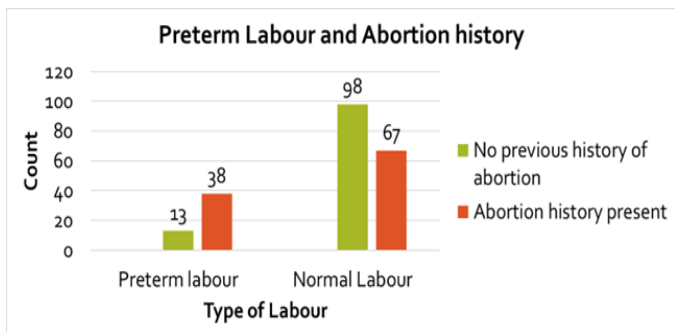
Table 2

According to the data analysed 32(30.5%) of those with previous abortion history had a miscarriage compared to 3(2.7%) among those without a history of abortion which implies miscarriage during the current pregnancy was found more among those with a previous history of abortion and this difference was found to be statistically significant with a p value <0.001.

		Abortion History		Total
		No previous history of abortion	Abortion history present	
No Miscarriage	Count	108	73	181
	% within Previous Abortion	97.3%	69.5%	83.8%
Miscarriage	Count	3	32	35
	% within Previous Abortion	2.7%	30.5%	16.2%
Total	Count	111	105	216
	% within Previous Abortion	100.0%	100.0%	100.0%

Table 3

In the study 51 study participants had preterm labour while 165 had a normal labour. Among the 105 participants with a previous history of abortion 38(36.2%) had preterm labour as compared to 13(11.7%) among those without a previous history of abortion. This difference observed was found to be statistically significant. (p=<0.001).



Graph 2



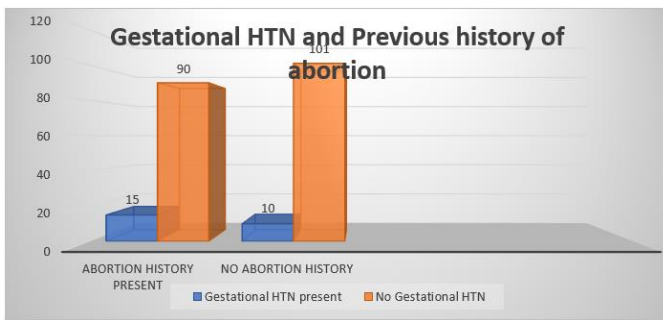
Graph 3

Gestational diabetes was reported from 76 study participants. Out of the 105 study participants with previous history of abortion 37 (37.2%) had GDM, while those 111 study participants with no history of abortion 39(35.1%) had GDM, which implies GDM had an equal distribution between both the groups with or without previous history of abortion, however this difference was not found to be statistically significant (p value=0.987)



Graph 4

Gestational Hypertension was detected in 25 study participants, out of the 105 participants with previous history of abortion 15(14.3%) had gestational hypertension which was higher when compared to those without a history of abortion (14.3 vs 9.0%). However, this difference was not found to be statistically significant (p value=0.226).



Graph 5

### Fetal Outcomes

In the study, a total of 12 cases of PPH were documented, out of which 11(91.7%) cases had a history of abortion whereas only a single case was reported in participants with no previous history of abortion, this difference was found to be statistically significant with a p value = 0.002. Fetal growth restriction was reported among 17(7.9%) of the deliveries out of the total 216.

Among those with a previous history of abortion 8(7.6%) had FGR as compared to 9(8.1%) on the group without any history of abortion, however this difference was not found to be statistically significant=0.849

### Conclusion

Miscarriage is one of the most common complications of early pregnancy. In this study 48.6%, had history of abortion and the prevalence of miscarriage during the study period was 16%. Caesarean section rate was more in women with previous history of abortions and Normal Vaginal delivery rate was more in women without previous history of abortion. The incidence of preterm labour was also high among those with a history of abortion. Out of the 216 study participants 171(79.16%) had complications during pregnancy with GDM being the most common complication which was reported from around 35.2% of the study participants postpartum

haemorrhage was also being reported more from the group with abortion history.

Upon considering the fetal outcome, FGR and preterm births were similar for both the groups. Although this study was able to unravel the complications and adverse outcomes of abortion for the maternal side, not much promising results could be obtained regarding the complications and outcomes on the foetal side. Much more research should be done to overcome this hurdle.

### Strength of the Study

The study was conducted at a tertiary care level institution, so there was ample number of study participants and had a good opportunity to trace out all the complications and outcomes associated with subject of interest.

Not much studies were conducted which tried to include both the maternal and fetal outcomes associated with abortion history. The study has been carried out on a much relevant topic, which needs prior attention and intervention to be done in order to achieve a peaceful and productive maternal and fetal outcome of pregnancy. The study was able to capture data from almost all reproductive age groups ranging from 18 to 42. A scientifically estimated sampling technique and sample size was used.

### Limitations

The study has been conducted on a small geographic area so the results can't be generalized to the rest of similar population. The underlying pathology attributed to miscarriage like thrombophilia's and maternal immunological abnormalities couldn't be addressed in this study due to lack of data. No standardized questionnaire was used to collect data, which could have made the study omit any important factor associated with abortion history. Majority of the

women in the study group were women with previous history of 1 abortion. Not much data could be gathered regarding the fetal outcome as there is difficulty and lost to follow up after delivery, as the new born gets discharged or referred to concerned department. As the study setting is a tertiary care centre there are possibilities of selection bias.

### References

1. Ectopic Pregnancy and Miscarriage - NCBI Bookshelf [Internet]. [cited 2023 Jan 5]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK132775/>
2. The Johns Hopkins Manual of Gynecology and Obstetrics - The Johns Hopkins University School of Medicine Department of Gynecology and Obstetrics, K. Joseph Hurt, Matthew W. Guile, Jessica L. Bienstock, Harold E. Fox, Edward E. Wallach - Google Books [Internet]. [cited 2023 Jan 4].
3. Pregnancy and Infant Loss | CDC [Internet]. [cited 2023 Jan 4]. Available from: <https://www.cdc.gov/ncbddd/stillbirth/features/pregnancy-infant-loss.html>
4. Recurrent miscarriage: causes, evaluation and management | Postgraduate Medical Journal [Internet]. [cited 2023 Jan 5]. Available from: <https://pmj.bmj.com/content/91/1073/151>
5. New insights into mechanisms behind miscarriage | BMC Medicine | Full Text [Internet]. [cited 2023 Jan 4]. Available from: <https://bmcmmedicine.biomedcentral.com/articles/10.1186/1741-7015-11-154>
6. Recurrent Pregnancy Loss: Etiology, Diagnosis, and Therapy - PMC [Internet]. [cited 2023 Jan 4]. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2709325/>
7. Miscarriage Rates by Week: Causes and Risks [Internet]. [cited 2023 Jan 4]. Available from: <https://www.healthline.com/health/pregnancy/miscarriage-rates-by-week>
8. 4 to 6 Months Pregnant - 2nd Trimester Baby Growth & Development [Internet]. [cited 2023 Jan 5]. Available from: <https://www.webmd.com/baby/4to6-months>
9. Blighted Ovum | the American Pregnancy Association [Internet]. [cited 2023 Jan 5]. Available from: <https://americanpregnancy.org/healthy-pregnancy/pregnancy-complications/blighted-ovum/>
10. Blighted ovum: What causes it? - Mayo Clinic [Internet]. [cited 2023 Jan 5]. Available from: <https://www.mayoclinic.org/diseases-conditions/pregnancy-loss-miscarriage/expert-answers/blighted-ovum/faq-20057783>
11. Time of Implantation of the Conceptus and Loss of Pregnancy | NEJM [Internet]. [cited 2023 Jan 5]. Available from: <https://www.nejm.org/doi/full/10.1056/NEJM199906103402304>