

Precipitate Labour Frequency, Risk Factors and Complication in Patients Delivering at Dr Sulaiman Alhabib Hospital Sweidi

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ABSTRACT

Background: Precipitate labour is a vaginal delivery which occurs within 3 hours after onset of labour, there is limited data available on risk factors associated with precipitate labour, while some data suggests it is associated with certain complications.

Objective: This study was aimed to know the frequency of precipitate labour, risk factors associated with precipitate labour and its related complications in local population.

Material and methods: We conducted a prospective study, in which we enrolled eligible pregnant female and they were asked about risk factors on admission to labour and delivery ward, these females were observed for duration of labour and its related complications at Dr Sulaiman Alhabib Hospital Sweidi, Riyadh, Saudi Arabia, for 6 months of period (First May 2019 till 31st October 2019).

Results: The total number of patients delivered in the study duration was 1018 and out of which 132 patients developed precipitate labour. Hence, the frequency of precipitate labour in the current study was calculated as 12.9%. The family history of the precipitate labor is identified as a significant risk factor in group A, its prevalence was 32.5% (n=43) and 18% (n=24) in group A and group B respectively. Among the herbs the Cinnamon is the only herb found to have statistically significant association with the precipitate labor, with prevalence of 19.6 % (n=26) in group A and 10.6 % (n=14). Post-partum hemorrhage was the most common complication observed in the study group; however, the difference was not found statistically significant.

Conclusion: The frequency of the precipitate labor in the study group was calculated as 12.9%. Cinnamon and Family history of the precipitate labor was the most significant risk factor identified in the study group. No significant complication was observed in patients having precipitate labor in the current study.

Keywords: Risk factors, Precipitate labour, Complications, Abruptio- Placentae, Postpartum hemorrhage, Herbs

INTRODUCTION

The labor is defined as uterine contractions that bring about demonstrable effacement and cervical dilatation. ⁽¹⁾

Precipitate labor is an extremely rapid process of labor and delivery; it is defined as birth of the fetus within three hours of commencement of regular uterine

contractions. Precipitate labor is generally caused by low resistance of birth canal, strong frequent uterine contractions, unawareness of uterine contractions and possibly combination of all these. ⁽²⁾ Though it is mentioned in literature that precipitate labour is associated with higher rates of maternal complications such as cervical tears, perineal tears, postpartum hemorrhage and retained placenta, ⁽³⁾ there is insufficient data to understand the effect of herbs on labour or herbal to herbal and herbal to drug interactions. Herbal remedies are considered as materials obtained from the plants which can lead to significant therapeutic effects. ⁽⁴⁾

There is limited clinical data on safety and efficacy of herbal products that makes the benefit and risk assessment a difficult job. ⁽⁵⁾ Most of the pregnant women take herbal remedies to speed-up the process of labor and delivery, it has been observed that even herbs are being commonly used during pregnancy globally for other reasons also like nausea, vomiting, abdominal discomfort, voiding discomfort on verbal advises only, because they consider these herbal remedies to be natural and safe despite of a little scientific evidence. ^(6, 7, 8, 9)

The reasons of the study population using herbal medication were the same as found by the Nyeko Richards and colleagues that is, the pregnant females perceive and consider that the herbal medicines are very effective and secondly if the patient has used herbs in the previous pregnancy, this, leads to the increased chance of taking herbs in the current pregnancy. ⁽¹⁰⁾

It has been observed that the pregnant women are very cautious about the use of the medicines in pregnancy but at the same time they do not hesitate to take any herbal medication and the herbal products in pregnancy assuming them to be natural and safe. ⁽¹¹⁾ The second reason of considering it to be use in pregnancy is the general ease of access and availability of the herbs to everyone. ⁽¹²⁾

Thirdly many patients believe that these products are very effective and consider them helpful as they are cost effective and easily available as compared to the other medicines.

Health care providers should therefore have adequate knowledge of the benefits and harmful effects of these herbs as they are mainly prescribed by the patients on her own depending upon the knowledge and the belief of the patient. ⁽¹³⁾

The influencing opinion is that, quick labor and usage of herbs along with traditional drugs can result in maternal morbidity, while still enough research not performed to find out its adverse effects. ^(3,14)

Outcome for use of herbs, home remedies and traditional medications which are used during labour are rarely studied concomitantly. That's why a study was designed to see the effect of herbs and home remedies on the duration of labor.

The aim of the study was to find out frequency of precipitate labor in women delivering at our hospital, and to know the association of the specific herbal remedies with labor duration and to identify any associated complication with precipitate labour.

MATERIAL AND METHODS

A prospective observational study was done at Dr Sulaiman al Habib Hospital, which is a 350 bedded tertiary care hospital, to find out frequency of precipitate labour, its associated complications and risk factors. The pregnant ladies belonging to the middle east ethnicity who were fulfilling the inclusion and exclusion criteria were enrolled during the period of 6 months from first May 2019 till 31st October 2019. The study was conducted after getting the ethical approval from our institutional Research Board via approval no. H-01-R-082 dated third April 2019.

We collected data with the help of predesigned proforma, which carried information about, gestational age, duration of labour, family history of precipitate

labour, home remedies/ herbs if used, in patient medications used and list of complications.

Inclusion criteria were singleton pregnancy with term gestation. According to the duration of labour the study population was divided in to two groups. Group A and B which included the patients who had the duration of labor less than three hours and the patients who had duration of labour more than three hours, respectively.

The patients who had cesarean section were excluded from the study.

The data was recorded on proforma prospectively. Total study population was 1018 and out of which 237 were excluded as they ended up having caesarean section for some reason or the other. The study population was reduced to 781, 132 women were included in group one as they delivered within three hours. Out of the remaining 649 patients the control group was formed by randomly selecting every 5th patient in the list of the patients who took more than three hours to deliver.

Once the groups are created the primary and secondary outcome in both groups was compared, our primary outcome was to know frequency of precipitate labour, to identify the risk factors while secondary outcome was to find out any associated complications.

STATISTICAL ANALYSIS

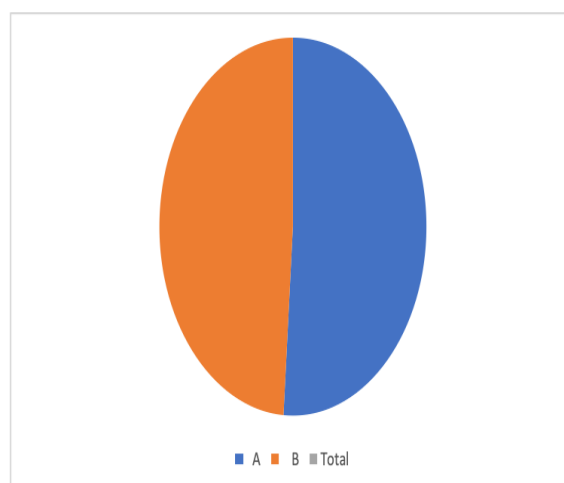
Once the data collection was completed, data was entered and evaluated by using SPSS program version 26 for data analysis. Then primary and secondary outcomes were compared for both groups, chi square test was applied for the qualitative data and the independent T test was applied for the quantitative data, and the P-value is calculated. P value of less than 0.05 was considered statistically

significant. The desired confidence interval was 95% with 10% margin of error.

RESULTS

Both the groups with 132 members were evaluated for the primary and secondary outcomes. The mean gestational age in both the groups was 38.7 weeks.

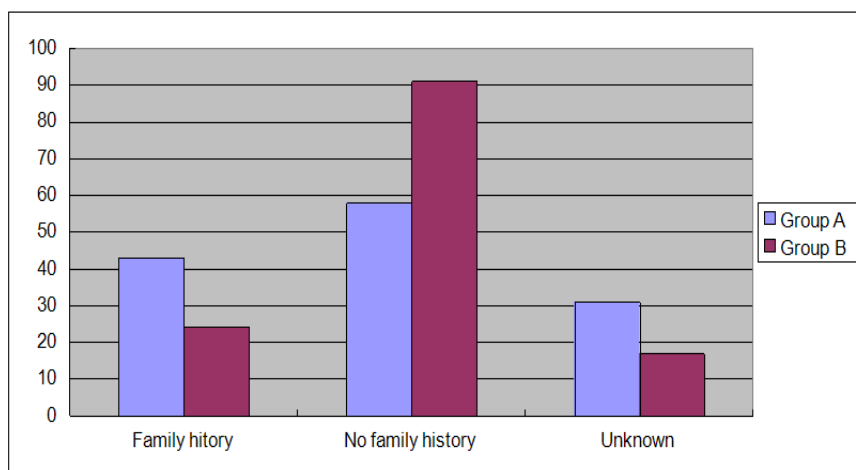
When the parity was compared among the groups, insignificant differences were found. The number of the primigravidas in group A and B were found to be 68.9% (n=91) and 65.9% (n=87) respectively, the difference was found statistically insignificant as shown in graph-1.



Graph 1: Comparison of the primigravidas in both the groups

The total number of patients delivered in the study duration was 1018 and out of which 132 patients developed precipitate labour. Hence, the frequency of precipitate labour in the current study was calculated as 12.9%.

The family history of the precipitate labor was higher in group A, 32.5% (n=43) as compared to 18% (n=24) in group B, as shown in the graph 2. The P- value which was calculated after applying the chi square test was found statistically significant. (P- Value =0.000)

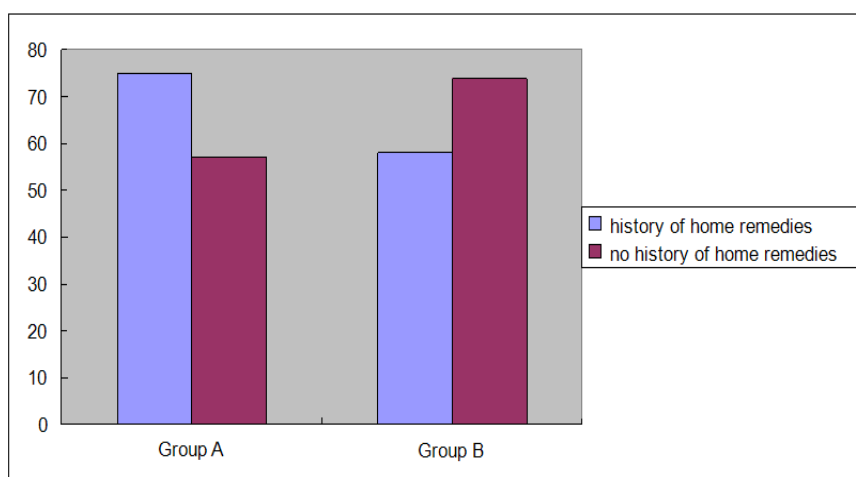


Graph-2: The comparison of the family history of precipitate labor in both the groups.

In the study population, it was observed that these women are very fond of taking herbs to reduce the duration of the labor.

When the women were interviewed 56.8% (n=75) of the women gave the

history of intake of herbs in group A as compared to 43.9% (n=58) in group B, as illustrated in graph 3. The difference was found statistically insignificant as P-Value was 0.205, the P-Value was calculated after applying the Chi Square test.



Graph 3: The comparison of the history of intake of home remedies in both the groups

Table-1: The comparison of different herbs in both the groups

	Group A	Group B	P value
Dates	30.3% (n =40)	30.3% (n =40)	0.935
Cinnamon	19.6% (n =26)	10.6 % (n= 14)	0.000
Asafoetida	3.03% (n =04)	1.5 % (n =2)	0.099
Fenugreek	0.75% (n =01)	1.5 % (n =2)	0.247
Others	3.03% (n =04)	3.03% (n= 04)	
no	43.1% (n=57)	53.0% (n=70)	
total	100% (n=132)	100% (n=132)	

The patients gave history of using different herbs, it was found that the dates were most commonly. Cinnamon is the only herb which showed its significant association with the precipitate labor, as shown in Table 1. The P-Value when calculated after applying the chi square test was found significant. (P-value 0.000)

Table -2: Complications in both groups

Complications	Group A	Group B	Total
None	89.3%(n=118)	91.6%(n=121)	90.5%(n=239)
PPH	6.8%(n=09)	6.00%(n=08)	6.4%(n=17)
Pelvic trauma	1.5% (n=02)	1.5%(n=02)	1.5%(n=4)
Delivery on the way to hospital	0.75% (n=01)	0.00%(n=00)	0.37%(n=1)
Shoulder dystocia	0.00% (n=00)	0.75%(n=01)	0.37%(n=1)
Abruptio placenta	1.5%(n=02)	1.5%(n=02)	1.5%(n=04)
Total	100% (n=132)	100% (n=132)	100%(n=264)

No significant increase in complication rate was observed in group A, as shown in Table 2. The P-value was 0.536 when calculated after applying the Chi Square test.

Al though overall complication rate is statically insignificant but on stratification of data it was found that cinnamon is associated with statistically significant risk of abruptio placentae. (P value is 0.004)

DISCUSSION

In the current study the incidence of the precipitate labor was found as 12.9%, which is comparable to the one recorded in Japan (14%) by Shunji Suzuki. (15) It is higher than the incidence recorded in United States and other countries. (11,12). The suggested reason for low incidence in the other countries is that the initiation of the labor is considered on the basis of the patient's complaint of contractions in contrary to the objective assessment of the uterine contractions done in the current study and the study done in Japan. (10) No significant effect of the parity was observed in the current study in contrary to the study done by Shunji and Mahon who found that the incidence of the precipitate labor was higher in parous women. (15,16)

Family history is the most common associated risk factor detected in the current study which is yet to be detected.

While pregnant women often hope for a quick delivery, but quicker or precipitate labor is not the desired effect. The study population was found to have a special love for the herbal products. It was found that the prevalence of intake of the herbs was higher in group A. but the overall prevalence in both the groups was found to be 51.8%. The prevalence is much higher than what is reported by Nyeko R and colleagues (21%) (10) While it is less than what reported in Nigeria (67.5%). (13)

Many herbs are taken by the patient and out of which Cinnamon is the one found to be significantly associated with the precipitate labour. The other herbs were found relatively safer.

We found that precipitate labour was more common in the primigravidas however when compared to the control group no significant difference was found in contrary to the other studies in which short labor was found more commonly in multiparas. (3,16)

We found no significant difference in postnatal complications in both the groups in contrary to the studies which have found the strong association of the short labor with postpartum hemorrhage and the placental abruption. (3,16)

Contrary to the results of the current study, Rubio and colleagues found increased risk of postpartum hemorrhage in patients with short labor. (17)

One recent cohort study also suggest that pregnant women commonly use herbs for labour such as Peppermint, frankincense, flixweed, olive oil, and cinnamon, but they did not find any statistical difference for the complications. (18)

It was found by the Zamawe and associates that the Castrol oil is also commonly used by the patients as a home remedy to initiate contractions (19) however the study population in the current study did not use castor oil. The most commonly used herbs were found to be dates, cinnamon, asafoetida and fenugreek.

CONCLUSION

The frequency of the precipitate labor in the study group was calculated as 12.9%. Cinnamon and Family history of the precipitate labor was the most significant risk factor identified in the study group. No significant complication was observed in patients having precipitate labor in the current study.

Limitations

The study was conducted on specific population with limited number of cases, so the results cannot be applicable to the general population. Hence, we recommend larger studies for evaluation and better understanding of precipitate labour, its association and complications.

Author's Contribution:

NS: Acquisition and analysis of data, drafting the manuscript, final approval of the manuscript.

SH: Concept and design of the study and data collection

NSUB: Analysis and interpretation of data.

HIS: Analysis and interpretation of data.

FS: Data collection and drafting the manuscript.

MS: Data collection and drafting the manuscript.

SS: Revising the manuscript for intellectual content

SS: Revising the manuscript for intellectual content

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