

## ORIGINAL ARTICLE

**Comparison of Fetomaternal Outcome With/Without Use of Dates in Primigravidae at Term**

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*Department of Obstetrics and Gynaecology, District Headquarter Hospital, Gujranwala**Correspondence to Wing Commander Dr Saema Tehseen. Classified Gynaecologist PAF Hospital Karachi, Email: saematehseen@yahoo.com Cell no 03234583739.***ABSTRACT****Background:** Effect of dates on pregnancy outcomes is in debate among researchers for optimum results.**Aim:** To compare the fetomaternal outcome with and without use of dates in primigravidae presenting at 37-38 weeks**Main outcome:** The outcome was measured as fetal (Apgar score at 5 min) and maternal (onset and induction of labor) parameters.**Study design:** Randomized controlled trial**Setting:** Department of Obstetrics and Gynaecology, District Headquarter Hospital, Gujranwala**Duration of study:** 6 months 1st January 2020 to 30th June 2020**Methods:** A total of 110 patients reporting to OPD in their first pregnancy between 18 to 35 years of age at 37 to 38 weeks were included whereas multigravidae and those with previous miscarriage were excluded. Consecutive Non Purposive Sampling technique was used and patients were randomly divided in two groups of 55 each. Group A consumed dates in late pregnancy while Group B was asked not to. Duration of first and second stage of labour and Apgar score at 5 minutes were recorded. SPSS version 21 was used to enter and analyze the data. Quantitative variables Apgar score were presented in the form of mean  $\pm$  SD. Qualitative variables like spontaneous labour, need for induction and good Apgar score were presented in the form of frequency and percentage. Chi-square test was applied to compare spontaneous labour, need for induction, and good Apgar score in both groups. P-value  $\leq 0.05$  was taken as significant.**Results:** The mean apgar score at five minutes was  $8.76 \pm 1.157$ . The analysis of qualitative variables showed that spontaneous labor was started in 75(68.2%) of patients and induction was required in 35 (31.8%) patients. There was successful induction in 1 (9.1%) of patients. At five minutes 101(91.8%) of neonates showed good apgar i.e.  $>7$ . Both groups were compared among each other in terms of both quantitative and qualitative variables. The onset of spontaneous labor, success of IOL and good apgar score at 5 minutes were compared among groups. The was significant difference among groups A and B in terms of these parameters except good apgar score i.e. p values of 0.008, 0.021 and 0.297 for spontaneous labor, IOL and good apgar scores Good apgar score at 5 min was not statistically significant among any stratification group.**Conclusion:** The consumption of dates significantly improves the fetomaternal outcomes in primigravida term pregnancies. The results should be validated in large randomized controlled trials.**Keywords:** Date fruit, Labour outcomes, Labour progression.**INTRODUCTION**

Considering the fact of four children born per second every day<sup>1</sup>. Induction of labour by pharmacological methods remains common practice. Despite global widespread practice<sup>2</sup> these methods they are not free of maternal and neonatal morbidity. Other natural alternatives like use of pineapple, green papaya, castor oil, red raspberry leaf tea and consuming dates in late pregnancy have been studied with various outcomes<sup>3,4</sup>.

Dates (*Phoenix dactylifera*) are commonly referred as a beneficial fruit to pregnant women within the Islamic tradition. Owing to its carbohydrate, fat, protein, mineral and salt content it yields high energy whereas saturated and unsaturated fatty acids produce prostaglandins thus initiating labour and strengthening uterine muscles<sup>4,5</sup>.

As dates help release prostaglandins their use is recommended especially in the final weeks of gestation<sup>6</sup>. One trial reported spontaneous labour in 96% of those who consumed 76 grams dates, compared with 79% in the non-date consumers ( $p=0.024$ ). The mean duration of first stage of labour was shorter in women in the former compared to the later (510 min vs 906 min,  $p=0.044$ )<sup>7</sup>. Another study reported that spontaneous labour occurred in 88%, with mean duration of first stage of labour was  $255 \pm 172$  min of date consumers, compared to 84% spontaneous labour ( $p=0.400$ ), with mean duration of the first stage of labour  $280 \pm 174$  min in non-dates consumers ( $p=0.569$ ) in non consumers, while good Apgar score was equal i.e. 98.7% vs. 98.7% in both groups ( $p=0.605$ )<sup>3</sup>. A study reported that need for the induction of labour with oxytocin was comparatively less in dates consuming

group i.e. 21(20%) than in control group i.e. 47(44.8%) ( $P<0.001$ )<sup>7</sup>. Moreover, induction of labour was more successful in the group consuming dates (47%) than in non-consuming group (28%) ( $P=0.036$ )<sup>6</sup>. Use of dates at term also led to decreased incidence of postpartum hemorrhage<sup>9</sup>.

Rationale of this study is to compare the fetomaternal outcome with and without use of dates in primigravidae presenting at 37-38 weeks. The idea of this study in Pakistan being still nascent will help not only in local data collection but also implementation of date consumption as a pragmatic and economic approach to enhance rates of spontaneous labour.

**MATERIAL & METHODS**

**Procedure of data collection:** The Demographics and gestational age of the participant patients at 37-38 weeks were noted after taking informed consent. Random division of the patients in two groups by lottery method was carried out at recruitment. In group A, females were advised to take six dates daily (in 2 divided doses of 3 each) till initiation of labour whereas in group B females were advised the contrary. Females were followed-up in OPD on weekly basis and were asked to present in labour room in case labour starts. Spontaneous onset of labour, need for induction of labour and its success were recorded, and females were followed-up during labour. After delivery, Apgar score was noted at 5 minutes. Any patient who developed any complication during labor was managed as per protocols. All the parameters were recorded as per operational definitions. Information was recorded on proforma.

**Data analysis:** For data analysis we used SPSS version 21. Quantitative variables Apgar score were presented in the as mean  $\pm$  SD. Whereas the qualitative variables like spontaneous labour, need for induction and good Apgar score were presented as of frequency and percentage. Chi-square test was applied to

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compare spontaneous labour, need for induction, and good Apgar score in either of the two groups.

## RESULTS

At the end of specified study period, the data of 110 patients was analyzed. The mean apgar score at five minutes was  $8.76 \pm 1.157$ . The analysis of qualitative variables showed that spontaneous labor was started in 75 (68.2%) of patients and induction was required in 35 (31.8%) patients. There was successful induction in 10 (9.1%) of patients. At five minutes the 101 (91.8%) of neonates showed good apgar i.e.  $>7$ .

Both groups were compared among each other in terms of both quantitative and qualitative variables. The onset of spontaneous labor, success of IOL and good apgar score at 5 minutes were compared among groups. There was significant difference among groups A and B in terms of these parameters except good apgar score i.e. p values of 0.008, 0.021 and 0.297 for spontaneous labor, IOL and good apgar scores.

The onset of spontaneous labor showed significant difference among groups for following subgroups; age  $>27$  years (0.001), gestational age 37 weeks (0.013), BMI  $>28\text{kg/m}^2$  (0.025). The success of IOL was significantly different among The good apgar score at 5 min was not statistically significant among any stratification group.

Table 1: Spontaneous labor among groups

Variables - Spontaneous labor	Group A	Group B	Total
<b>Yes</b>			
Count	44	31	75
% within Spontaneous labor group	58.7%	41.3%	100.0%
% within Group	80.0%	56.4%	68.2%
<b>No</b>			
%within Spontaneous labor group	31.4%	68.6%	100.0%
% within Group	20.0%	43.6%	31.8%
<b>Total</b>			
Count	55	55	110
% within Spontaneous labor group	50.0%	50.0%	100.0%
% within Group	100.0%	100.0%	100.0%

Chi square test P value 0.008

Table II. Induction of labor among groups

Variables - Induction of labor	Group A	Group B	Total
<b>Yes</b>			
Count	6	4	10
% within IOL	60.0%	40.0%	100.0%
% within Group	54.5%	16.7%	28.6%
<b>No</b>			
Count	5	20	25
% within IOL	20.0%	80.0%	100.0%
% within Group	45.5%	83.3%	71.4%
<b>Total</b>			
Count	11	24	35
% within IOL	31.4%	68.6%	100.0%
% within Group	100.0%	100.0%	100.0%

Chi square test P value 0.021

Table III. Good apgar score among groups

Variables - Goo apgar	Group A	Group B	Total
<b>Yes</b>			
Count	52	49	101
% within Good Apgar	51.5%	48.5%	100.0%
% within Group	94.5%	89.1%	91.8%
<b>No</b>			
Count	3	6	9
% within Good Apgar	33.3%	66.7%	100.0%
% within Group	5.5%	10.9%	8.2%
<b>Total</b>			
Count	55	55	110
% within Good Apgar	50.0%	50.0%	100.0%
% within Group	100.0%	100.0%	100.0%

Chi square test P value 0.297

## DISCUSSION

The use of dates has been mentioned in the history to treat various illnesses. There are so many varieties and form of date fruits with each having its own benefits and nutritional values. The use of dates in medicine has been popularized during the evolution of Arabs. Currently the major production of dates is from Arabian countries. The use of Ajwah dates for the various cardiovascular diseases is common in these countries.<sup>9</sup> The use of dates for pregnancy has been mentioned in various Islamic books<sup>3</sup>.

Ahmed, I. E., et al. (2018) conducted a randomized control trial in which the effect of consuming date fruit on labor was observed. The results showed that there was significant impact of consumption of date fruit on the first as well as on third stage of labor ( $p < 0.05$  and  $p < 0.001$ , respectively). We also observed in this study that cervical dilation, rupture of membranes, frequency, strength and regularity of uterine contractions did not differ significantly in patient and control group<sup>4</sup>. Where as we found a significant difference between the groups and the terms of cervical dilatation and the frequency of intact membranes. The spontaneous labor occurred in 96% of the patients who consumed dates as compared to 79% woman without any date consumption the ( $p = 0.024$ ). Moreover, significantly lower use of oxytocin was found in date group than non-date group i.e. 28% versus 47% ( $p$  value 0.036). There was shortening of latent phase of first stage of labor in date group i.e. 510 min vs 906 min,  $p = 0.044$ . There was difference between groups for duration of second stage of labor, but it was not significant as  $p$  value was 0.083.

A Meta-analysis by Bagherzadeh Karimi, A et al. (2020) showed that the consuming dates have significant impact on labor outcomes. But it was also showed that date fruit consumption had no effect on any of the three stages of labor. We observed no impact on the frequency of caesarean section in both the groups. This study has a conclusion that date consumption can shorten the active phase by improving the Bishop score in woman during labor however there are a number of studies which has low quality so the results should not be implemented without confirmation from a large randomized control trials<sup>5</sup>.

In my study the postpartum hemorrhage was not studied but many studied showed favorable results as compared to oxytocin in terms of bleeding after delivery<sup>8</sup>.

The use of dates along with other traditional medicines like saffron has been studied in Iran. The results showed that consuming date fruit along with saffron showed significant benefits like allaying anxiety and curtailment of duration and intensity of pain during the various phases of labor<sup>6</sup>.

This was the review of eight studies and the results showed that there was a significantly reduction of duration of labor and also the increased cervical dilation was observed<sup>10</sup>.

In my study significant differences were observed between groups in terms of onset of labor ( $p$  value 0.008) but a study in 2017 observed that there was no difference of significance between the groups in terms of onset of labor. The only positive impact of date consumption was the reduction in the augmentation of labor<sup>3</sup>.

The Ajwah date consumption has significantly reduced in the mean arterial blood pressure in pregnant women. Moreover, the roll over test which can predict preeclampsia also showed improvement. These results were very interesting in the sense that various medications to treat pregnancy induced hypertension have various side effects which may lead to poor compliance. The use of dates can cure the hypertension as well as can provide the good nutrition also<sup>9</sup>.

A recent meta-analysis summarized all available evidence for exploration of the effect of date fruit consumption on various delivery outcomes. According to the inclusion criteria, four articles were eligible for this study. The results showed that at the time of admission, higher cervical dilation rate was observed in woman consuming dates there was a lower need for labor induction and/or augmentation of labour. Moreover the consumption of date fruits

was also associated with shortening of latent phase as well as duration of second stage of labors<sup>11</sup>.

The success of IOL was significantly different among following groups; age <27 years (0.038), gestational age 37 weeks (0.015). The good appgar score at 5 min was not statistically significant among any stratification group.

## CONCLUSION

The consumption of dates significantly improves the fetomaternal outcomes in primigravida term pregnancies. The results should be validated in large randomized controlled trials.

**Conflict of interest:** Nil

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