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Case Report

Effect of Date Fruit Consumption in Labour Progress: A Case Report

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Abstract

Objective: To investigate date fruit's potential benefits on maternal and fetal outcomes in pregnancy, focusing on labor progression, maternal nutritional needs, and reduced medical interventions.

Case Report: A 35-year-old primigravida patient consumed six date fruits daily for four weeks prior to her estimated delivery date. She presented with spontaneous labor at 39 weeks, experiencing normal latent phase duration of 12 hours, and delivered a healthy male baby weighing 2.9 kg. Her pregnancy course was uncomplicated, with no significant abnormalities in antenatal scans or laboratory results.

Conclusion: This case report suggests date fruit consumption supports maternal and fetal well-being, facilitating a smooth labor process and potentially reducing labor induction and medical interventions. Aligning with existing research, dates' nutritional and therapeutic benefits may enhance cervical ripening and shorten labor duration. Larger-scale trials are necessary to confirm these effects and establish standardized guidelines.

Keywords: primigravida, date fruit's, smooth labor process, 3rd trimester

Introduction:

Date fruits (*Phoenix dactylifera* L.) are very beneficial in terms of nutrition, environment, economics and cosmetics[1]. Dates have various therapeutic properties including gastro-protective, hepato-protective, immune-stimulatory and anti-mutagenic, antioxidant, and anti-microbial properties[2,3]. They are high in B vitamins, carbohydrates, potassium, calcium, magnesium and phytochemicals (tanning, sterols, carotenoids, and polyphenols) all of which have been demonstrated to support the health of women, especially those who are pregnant[3,4]. Given what is known about the benefit of a healthy diet available regarding the general nutritional value and potential health benefits for pregnant women, date fruit seems like a proper food choice for them as part of a well-balanced diet. Anecdotal evidence also suggests that date fruit can play a major role in promoting a healthy pregnancy by lowering blood pressure, regulating blood sugar, preventing anemia, assisting in the restoration of depleted calcium, eliminating toxins, boosting immunity, and strengthening the body[5]. Many clinical trials are currently being carried out to evaluate the impact of date fruits on multiple pregnancy outcomes including duration of gestation[6,7], cervical dilatation[6–9], duration of different stages of labor[6,7,9], need for labor induction[6–8], augmentation[6,9], onset of spontaneous labor[6–8], cervical effacement, consistency, position on admission and fetal station on admission[8], vomiting rate during delivery[10], Apgar score, and fetal birth weight[6]. As more pregnant women seek natural and dietary interventions to support their health and minimize medical interventions during pregnancy and childbirth, understanding the role of date fruits in maternal health is crucial. It is important to explore whether dates can serve as a safe, effective, and easily accessible supplement.

Case report:

A 35-year-old pregnant patient (primigravida at 35 weeks and 3 days) came to the National Institute of Unani Medicine with a complaint of 9 months of amenorrhea. Her LMP was 02/01/2024 and EDD was 08/10/2024 (Calculated with C-EDD) were noted. She had no other complaints and no history of antepartum events. Her antenatal laboratory results were unremarkable. She had been taking iron and calcium

tablets since 12 weeks of gestation. A growth scan was performed before 1 month of EDD, showing a single intrauterine gestation at 35 weeks and 3 days calculated by scan and 36 weeks calculated by C-EDD, with an estimated fetal weight (EFW) of 2715 grams. The amniotic fluid index (AFI) was adequate with 10cm, and the estimated due date (EDD) was 08/10/2024 (Calculated with C-EDD). On doppler scan, normal parameters seen in umbilical arteries and MCA. Presentation was cephalic and placenta was over fundus with grade 2nd maturity. Three vessels were seen in umbilical cord. Fetal activity was present. Heart rate of fetus was 169 beats per minute. No any anatomical anomaly was seen during the scan.

She was advised to take 6 date fruits per day from visit date that is 10/09/2024 and that is 4 weeks prior to EDD. Following this, she was advised to visit the hospital weekly for routine antenatal check-ups. She later returned to the hospital on 05/09/2024 with complaints of abdominal pain that was progressively worsening. On examination, the uterus was contracting twice every 10 minutes with mild intensity, and the fetal heart sounds (FHS) were good. On per vaginal (P/V) examination, the cervix was posterior to midline, dilated to 3 cm, soft, 40% effaced, and the fetal head was at 2 stations. She was advised to be admitted, and continuous monitoring was done. The duration of the latent phase was 12 hours. Medio lateral episiotomy was performed. The patient was delivered by a live male baby weighing 2.9kg. Complete placenta and fetal membrane was delivered within 15 minutes.

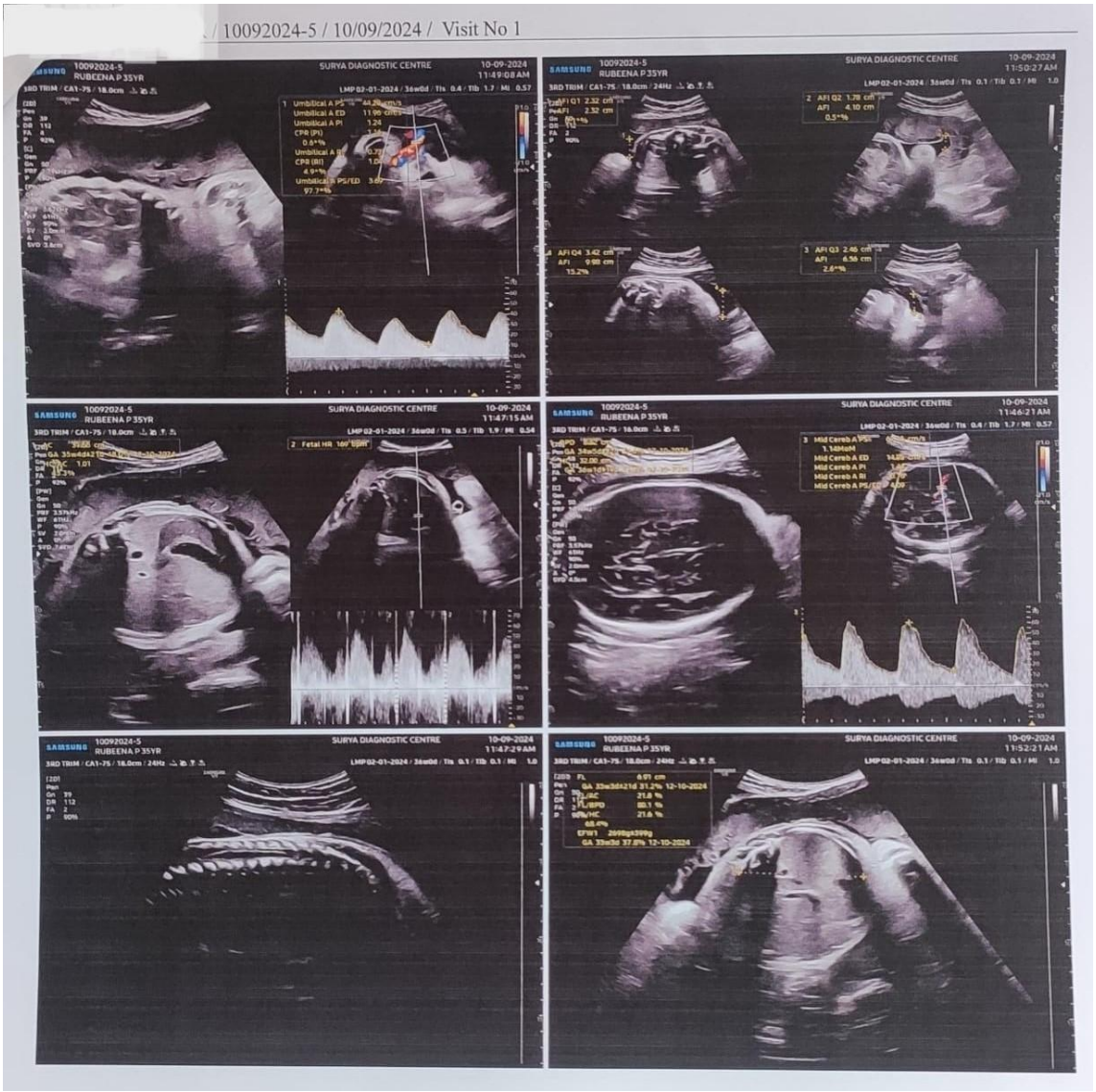

Figure 1: Growth scan of the patient before one month of EDD shows

1) Single live intrauterine gestation of 36 weeks 0 days
2) Normal interval growth seen
3) Cephalic presentation
4) Placenta is over fundus and anteriorly with grade 2nd maturity.
5) Liquor is adequate with amniotic fluid index of 10cm.
6) Fetal activity was present.
7) No obvious fetal anomalies seen.

Conclusion:

Date fruits (*Phoenix dactylifera* L.) have shown promise as a natural dietary supplement for pregnant women, with potential benefits for maternal and fetal outcomes. In this case of a 26-year-old primigravida patient, the consumption of six date fruits per day for four weeks prior to the estimated date of delivery was associated with a smooth labor process, a normal latent phase of 9 hours, and a healthy delivery of a live male infant weighing 2.9 kg. The patient's pregnancy course was uneventful, with no significant abnormalities observed in her antenatal history or scans, indicating that date fruits may have played a supportive role in promoting maternal and fetal well-being.

This case highlights the potential of date fruits as a safe, accessible, and beneficial addition to the diets of pregnant women. Although anecdotal evidence and clinical studies have suggested that dates may reduce the need for labor induction, assist with cervical ripening, and potentially shorten the duration of labor, further large-scale clinical trials are necessary to confirm these findings and establish standardized guidelines for date fruit consumption in pregnancy.

As more women seek natural interventions for pregnancy and labor management, date fruits could serve as a valuable nutritional supplement that promotes a healthy pregnancy, supports maternal nutritional needs, and possibly contributes to favorable labor outcomes. However, continued research is essential to fully understand the mechanisms of action and the broader implications of date fruit consumption during pregnancy.

Discussion:

Date fruits (*Phoenix dactylifera* L.) have been traditionally used in many cultures for their potential health benefits, particularly for pregnant women. Nutritionally, dates are rich in essential nutrients such as B vitamins, carbohydrates, potassium, calcium, and magnesium, all of which are critical for maternal health during pregnancy. Additionally, dates contain phytochemicals such as polyphenols, tannins, sterols, and carotenoids, which have been demonstrated to exhibit antioxidant, anti-inflammatory, and antimicrobial properties[2]. These nutritional and therapeutic qualities make dates an appealing natural dietary supplement, especially for pregnant women seeking to improve their nutritional intake and reduce the need for medical interventions during labor[8].

Several studies have explored the effects of date consumption during pregnancy, particularly on labor outcomes. A study conducted by Al-Kuran et al. found that women who consumed dates in the late stages of pregnancy had a significantly higher chance of spontaneous labor, with reduced rates of labor induction and augmentation. Additionally, the study reported a greater cervical dilatation upon admission and a shorter duration of the first stage of labor[6]. Similarly, Razali et al. demonstrated that date consumption enhanced cervical ripening, potentially facilitating smoother labor progress[9]. In a nonrandomized clinical trial, date fruit consumption after placental delivery demonstrated superior bleeding reduction in the first hour compared to oxytocin, attributed to date fruit's oxytocin-mimicking compounds[11].

In this case report, the 35-year-old primigravida patient consumed six date fruits daily for four weeks prior to her estimated delivery date. The results aligned with previous research, as the patient experienced a normal labor course with a latent phase duration of 12 hours and delivered a healthy male baby weighing 2.9 kg. The absence of antepartum complications and the patient's unremarkable antenatal history further suggest that date consumption did not pose any adverse effects. Moreover, the nutritional benefits of dates may have contributed to the patient's overall well-being and the healthy outcome of her pregnancy. The consistent uterine contractions and satisfactory cervical dilation (3 cm, 40% effaced) on admission also suggest a possible association between date consumption and favorable labor progression.

While anecdotal evidence and small-scale studies, including this case, indicate that dates may play a role in promoting a healthy pregnancy, reducing the need for labor interventions, and possibly shortening labor duration, large-scale, randomized controlled trials are necessary to confirm these effects. The exact mechanisms by which date fruits influence labor outcomes remain unclear but are likely related to their nutritional and phytochemical composition, which may impact uterine smooth muscle function, cervical ripening, and overall maternal health.

Future research should focus on determining the optimal dosage, timing, and duration of date fruit consumption during pregnancy. Investigating potential long-term effects on maternal and neonatal outcomes, as well as any contraindications or risks associated with date consumption in specific populations (e.g., those with gestational diabetes), would also be beneficial. Furthermore, larger cohort studies could help establish more conclusive evidence regarding the impact of dates on different stages of labor, need for induction or augmentation, and maternal postpartum recovery.

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