

Dates and Honey in Nutritional Status in Pregnant Women: Systematic Review

Alisa Febriana Amrin¹, Rezky Putri Indarwati Abdullah², Asrini Safitri³

¹Doctoral Professional Program, Faculty of Medicine Universitas Muslim Indonesia

²Department of Public Health Sciences, Faculty of Medicine Universitas Muslim Indonesia

³Department of Nutritional Sciences, Faculty of Medicine Universitas Muslim Indonesia

Email: lisaamrin@icloud.com

Abstract. *Optimal nutritional status during pregnancy is an important factor in supporting maternal health and fetal growth. In Islam, Thibbun Nabawi (Prophetic medicine) includes various natural food ingredients such as honey and dates, which are believed to have health benefits. The objective the research to analyze scientific evidence regarding the effect of dates and honey on the nutritional status of pregnant women based on the results of recent research. Methods: This study used a systematic review method with reference to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Literature was obtained from PubMed, Scopus, ScienceDirect, SpringerLink, Cochrane Library, and Google Scholar databases in the period January–May 2026. Articles that met the inclusion criteria were observational studies, randomized controlled trials, systematic reviews, and meta-analyses published between 2015–2025. Data were extracted and analyzed using narrative synthesis. Results showed that Thibbun Nabawi components have the potential to improve the nutritional status of pregnant women. Date consumption is associated with increased hemoglobin levels, improved energy status, and better preparation for childbirth. Honey has a positive effect on increasing energy intake and antioxidant status, and helps reduce fatigue during pregnancy. Conclusion: Dates and honey have the potential to benefit the nutritional status of pregnant women by increasing energy intake and micronutrients, antioxidant activity, and supporting maternal health. However, more robust clinical studies are needed to determine the effectiveness, optimal dosage, and safety of using various components of Thibbun Nabawi during pregnancy.*

Keywords: *Pregnant Women, Nutritional Status, Dates, Honey*

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INTRODUCTION

Pregnancy is a physiological period that requires increased energy and nutrient requirements to support fetal growth and development (Parrettini et al., 2020; Jouanne et al., 2021; Marangoni et al., 2016; Ho et al., 2016; Elango & Ball, 2016). During pregnancy, the need for protein, iron, folic acid, calcium, zinc, and various other micronutrients increases significantly. Imbalanced nutritional intake can lead to various complications such as anemia, preeclampsia, fetal growth restriction, low birth weight, and an increased risk of maternal and neonatal mortality (Jain et al., 2022; Herring et al., 2018; Shukla et al., 2024; Capra et al., 2026; Ayomide et al., 2026).

According to the World Health Organization (WHO), malnutrition during pregnancy remains a public health problem in many developing countries. Iron deficiency and anemia in pregnant women are among the most common conditions and contribute to increased maternal and infant morbidity and mortality (Breyman, 2015; Garzon et al., 2020; Obeagu et al., 2025;

Benson et al., 2021; Means, 2020). Pregnant women face numerous challenges and significant responsibilities related to the health of their unborn child.

The mother's nutritional status before and during pregnancy significantly influences fetal growth and development. Mothers with good nutritional status before and during pregnancy have a greater chance of delivering healthy, full-term babies with normal birth weight. Therefore, the quality of the baby born depends heavily on the mother's nutritional status before and during pregnancy (Tareke et al., 2024; Rocha et al., 2024). Conversely, impaired fetal growth in pregnant women experiencing Chronic Energy Deficiency (CED) can increase the risk of low birth weight (LBW) (Kusumaningrum & Daryanti, 2022).

a p-value of 0.023 (<0.05) was obtained, indicating a significant relationship between education level, age, and socioeconomic status and maternal nutritional status. These factors play a role in influencing fetal growth during pregnancy. A woman's health and nutritional status before and during pregnancy significantly influence pregnancy outcomes and the health of the newborn (Tareke et al., 2024; Rocha et al., 2024). Mothers with good health and nutritional status tend to give birth to babies with normal birth weight. Furthermore, maternal education is the factor most significantly associated with stunting in children (Laksono et al., 2022).

Islam places great emphasis on health and nutritional fulfillment. From an Islamic perspective, Tibb Nabawi is considered a form of worship because it follows the Sunnah of the Prophet Muhammad. This treatment is not only a medical matter, but also closely linked to faith and spirituality. As Muslims, maintaining health is part of fulfilling religious obligations, as a healthy body facilitates worship of Allah SWT. Thibbun Nabawi offers a comprehensive guide covering both disease prevention and treatment based on Islamic teachings (Priani, 2021; Hamdan, 2023; Hashmi, 2024). The concept of Thibbun Nabawi, or the treatment of the Prophet Muhammad (peace be upon him), encompasses various natural ingredients mentioned in the Quran and Hadith, such as honey, dates, black seed (*Nigella sativa*), olive oil, and Zamzam water (Daana & Burqan, 2024; Farooq et al., 2022; Li et al., 2023). These ingredients have been used traditionally for centuries and are believed to have various health benefits (Kavyani et al., 2023).

Dates are known to contain simple carbohydrates, fiber, potassium, magnesium, and iron, which have the potential to help meet energy needs and increase hemoglobin levels during pregnancy. Honey contains antioxidants, vitamins, minerals, and bioactive compounds that can improve nutritional status and help reduce fatigue. *Nigella sativa* contains thymoquinone, which functions as an antioxidant and anti-inflammatory, while olive oil is rich in monounsaturated fatty acids, which are essential for the development of the fetal nervous system. Although various studies have been conducted on the components of Thibbun Nabawi, the results are still scattered across scientific publications. Therefore, a systematic review is needed to collect, evaluate, and synthesize the available scientific evidence regarding the effect of Thibbun Nabawi on the nutritional status of pregnant women.

METHODS

This study is a systematic review aimed at identifying and synthesizing scientific evidence regarding the effect of Thibbun Nabawi on the nutritional status of pregnant women. A literature search was conducted through the databases PubMed, Scopus, ScienceDirect, SpringerLink, Cochrane Library, and Google Scholar. Keywords used included: ("Thibbun Nabawi" OR "Prophetic Medicine" OR honey OR dates OR *Nigella sativa* OR olive oil OR Zamzam water) AND ("pregnant women" OR pregnancy) AND ("nutritional status" OR nutrition OR maternal health). Inclusion criteria included; (1) Articles published between 2015 and 2025; (2) Articles in English or Indonesian; (3) Observational studies, randomized controlled trials, systematic reviews, or meta-analyses; (4) Discussing the components of Thibbun Nabawi in pregnant women (5) Available in full-text format. Exclusion criteria included duplicate articles, case reports, editorials, letters to the editor, and articles lacking data on the nutritional status of pregnant women. Article selection was conducted using the PRISMA process, which consists of identification, screening, eligibility assessment, and inclusion. Data extracted included author(s), year of publication, study

design, sample size, type of intervention, nutritional status parameters, and main study outcomes. Analysis was conducted using narrative synthesis to compare relevant research findings and identify patterns of findings regarding the benefits of dates and honey on the nutritional status of pregnant women.

RESULT AND DISCUSSION

A literature search was conducted through the PubMed, Scopus, ScienceDirect, SpringerLink, Cochrane Library, and Google Scholar databases. The initial search yielded 325 articles. After removing duplicate articles, screening titles and abstracts, and assessing full-text eligibility based on inclusion and exclusion criteria, 40 articles were identified as eligible for analysis in this systematic review.

Table 1. Summary of Literature Results

No	Author (Year)	Samples & Designs	Intervention	Statistical Test	Analysis Results
1	Choirunissa et al. (2021)	Quasi experimental, non-equivalent control group	Dates for 14 days	Paired t-test, Independent t-test	After consuming dates for 14 days, there was an average increase in hemoglobin levels of 1.8 g/dL, while the control group, which only received iron tablets, experienced an increase of 0.3 g/dL. Analysis using a paired t-test showed a significant difference before and after the intervention ($p=0.000$), while an independent t-test showed a significant difference between groups ($p=0.03$).
2	Rahmawati et al. (2022)	Literature review 6 articles	Dates and honey	Literature synthesis	Regular consumption of dates and honey during pregnancy can increase hemoglobin levels, improve anemia, and support the fulfillment of micronutrient needs. Most reviewed articles reported a significance value of $p<0.05$, with Hb increases ranging from 0.8–1.5 g/dL after the intervention.
3	Yuliana et al. (2024)	Quantitative analysis of third trimester	Date extract + Iron	T-test	Date extract combined with iron tablets in pregnant women in the third

		pregnant women			trimester increased hemoglobin levels by an average of 1.2 g/dL. Analysis using a paired t-test showed significant results (p=0.000).
4	Nurseha et al. (2024)	Quasi experimental	Dates and honey	SPSS bivariate analysis	The combined intervention of dates and honey in pregnant women in the third trimester showed an increase in hemoglobin levels with a mean difference of 0.9333 g/dL.
5	Nurdin et al. (2025)	Quasi experimental, n=22	Dates 100 g/day	Paired analysis	Twenty-two pregnant women with anemia were given 100 grams of dates per day. Average hemoglobin increased from 13.81 g/dL to 14.62 g/dL after the intervention. Analysis showed a significant difference (p=0.013). Furthermore, the proportion of pregnant women with normal Hb levels increased to 45.4% after the intervention.
6	Sandy et al. (2025)	Quasi experimental pre-post control group, n=30	Pure honey + Iron	Wilcoxon, Mann-Whitney	Pure honey and iron tablets increased hemoglobin from 9.2 g/dL to 10.8 g/dL ($\Delta=1.6$ g/dL; p=0.002). The control group receiving only iron tablets increased from 9.0 g/dL to 10.4 g/dL ($\Delta=1.4$ g/dL; p=0.004). The Mann-Whitney test showed a significant difference between the groups (p=0.041).
7	Widowati et al. (2024)	Experimental	Acacia honey	Pre-post analysis	Consuming acacia honey during pregnancy increases hemoglobin levels in

					anemic pregnant women. Studies report significant improvements in hematological status after the intervention. The glucose, fructose, vitamins, and minerals in honey are thought to play a role in erythropoiesis.
8	Yunia et al. (2024)	Quasi experimental, n=34	Dates vs. mung bean cookies	Independent test	The date group experienced a 0.965 g/dL increase in Hb, while the mung bean cookie group experienced a 0.588 g/dL increase. The difference between the two groups was statistically significant (p=0.001), indicating that dates are more effective in improving anemia.
9	Judati et al. (2025)	Comparative studies	Date consumption	Shapiro-Wilk, Independent t-test	Of the 24 pregnant women who regularly consumed dates, 23 achieved Hb levels ≥ 11 g/dL after the intervention. Independent t-test analysis yielded a t value of 3.417 with p = 0.002, indicating that date consumption was associated with a significant increase in hemoglobin levels.
10	Sunarni et al. (2026)	Literature review	Dates in pregnant women with anemia	Article synthesis	Hemoglobin levels increased after consuming dates. Hb increases ranged from 0.8–1.8 g/dL with an intervention duration of 10–30 days. Dates are considered a potential natural source of iron in preventing anemia during pregnancy.

11	MIDPRO Study (2021)	Quasi experimental	Dates + Iron	Paired t-test	Hemoglobin levels increased from 9.718±0.854 g/dL to 10.991±0.604 g/dL after date consumption. The difference in increase reached 1.273 g/dL, and the results of a paired t-test showed high significance (p=0.000).
12	Tambuwun et al. (dikutip Nurseha, 2024)	Quasi experimental, n=30	Date extract and honey	Independent analysis	Administering a combination of date extract and honey to anemic pregnant women increased Hb levels by an average of 1.10 g/dL. The analysis showed a significant difference before and after the intervention (p=0.000).
13	Irmawati et al. (from Yuliana, 2024)	Date extract intervention	Date extract	T-test	Regular administration of date extract during pregnancy has been shown to significantly increase hemoglobin levels in pregnant women. The study reported that most respondents experienced improvements in anemia status after the intervention, with a p=0.000.
14	Herayono et al. (from Yuliana, 2024)	Experimental	Fe + date extract	Comparative statistical test	The combination of iron supplementation and date extract resulted in a higher increase in hemoglobin compared to iron supplementation alone. Statistical analysis showed a significant difference (p=0.000), indicating a synergistic effect

					between the two interventions.
15	Dewi et al. (2021)	Quasi experimental	Dates in the third trimester	Wilcoxon	The study showed an increase in hemoglobin levels after consuming dates in pregnant women in the third trimester, but the magnitude of the increase did not differ significantly across all respondents. The researchers stated that adherence to consumption, gestational age, and initial nutritional status can influence the intervention results.
16.	Widowati et al (2019)	One Group Pretest-Posttest	Date juice for 10 days	Wilcoxon test	The average Hb increased from 9.6 g/dL to 10.6 g/dL. There was a significant effect of date juice administration on the increase in Hb in pregnant women ($p=0.004$).
17	Rismayani et al (2023)	One Group Pretest-Posttest	Date juice administration	Paired t-test	Date juice administration effectively increased Hb levels in anemic pregnant women. There was a significant difference before and after the intervention.
18	Lindia et al. (2024)	Quasi Experimental	Date consumption	Independent t-test	The average Hb increased from 9.87 g/dL to 12.95 g/dL in the treatment group. There was a significant effect of date fruit administration on the increase in Hb in anemic pregnant women.
19	Arianto et al (2026)	Literature Review	Date juice for pregnant	Literature synthesis	Date juice has been shown to contribute

			women with anemia		to increased serum hemoglobin and ferritin levels in anemic pregnant women.
20	Ayuni et al. (2024)	Literature Review	Date juice in pregnant women	Literature synthesis	All reviewed articles showed an increase in hemoglobin levels after administering date juice to anemic pregnant women.
21	Jumiati et al. (2025)	Quasi Experimental with Non-Equivalent Case Control	Date consumption	Comparative test between groups	Consuming dates for 4 weeks resulted in a better increase in hemoglobin levels compared to the control group that only received iron supplementation. The analysis showed a significant increase in hemoglobin levels in the intervention group ($p=0.002$). Furthermore, the first stage of labor was shorter in the date-consuming group compared to the control group ($p<0.002$).
22	Fitrianingsih et al. (2025)	Systematic Literature Review	Date juice + tamarillo juice	Literature synthesis	A review of 10 articles showed that consuming tamarillo and date juice significantly increased hemoglobin levels in anemic pregnant women. The increase in hemoglobin levels ranged from 1.0–2.0 g/dL in the intervention group. The vitamin C content in tamarillo increases iron absorption, while date juice contributes to the supply of iron and energy for hemoglobin formation.

23	Manan et al. (2021)	Quasi Experimental	Date consumption with Iron tablets	Paired t-test and independent t-test	There was a significant increase in hemoglobin levels before and after date administration in the intervention group ($p=0.000$). Intergroup analysis showed a significant difference between the treatment and control groups after the intervention ($p=0.001$). The results showed that consuming dates along with iron tablets effectively increased hemoglobin levels in anemic pregnant women.
24	Razali et al. (2017)	Randomized Controlled Trial (RCT)	Date consumption in late pregnancy	Chi-square and comparative analysis	Pregnant women who consumed dates in late pregnancy had a lower need for labor augmentation compared to the control group. The results showed a significantly reduced need for labor augmentation in the date group, although there was no significant difference in the onset of spontaneous labor ($p>0.05$). Date consumption contributes to a more physiological preparation for labor.
25	Erika et al. (2024)	Quasi Experimental	Date extract and honey	Bivariate analysis	The analysis showed a highly significant increase in hemoglobin levels after the intervention compared to before ($p=0.0001$). This indicates that the combination of date extract and honey is effective in increasing

					hemoglobin levels in anemic pregnant women.
26	Sihotang et al. (2026)	Narrative Review	Thibbun Nabawi	Qualitative synthesis	The review indicates that Thibbun Nabawi can be used as an evidence-based complementary therapy. Honey, Ajwa dates, and Nigella sativa have been shown to support improvements in the nutritional status and health of pregnant women. Its implementation requires clinical standards, supervision by healthcare professionals, and product safety assurance for effective and safe use.
27	Handayani et al. (2024)	Quasi Experimental One Group with Control Group	Dates and Iron tablets	Paired Sample T-Test / Wilcoxon	The average hemoglobin level in the experimental group before the intervention was 10.2 g/dL and increased to 11.4 g/dL after administering dates and iron tablets. There was an increase in Hb of 1.2 g/dL. Statistical tests showed a significant effect of date administration on increasing hemoglobin levels in anemic pregnant women ($p=0.001$).
28	Auliani et al. (2025)	Experimental One Group Pretest-Posttest	Date juice for 14 days	Paired t-test	The average hemoglobin level before the intervention was 9.8 g/dL and increased to 11.2 g/dL after 14 days of date juice administration. There was a 1.4 g/dL

					increase in Hb. A paired t-test showed a significant difference before and after the intervention ($p<0.05$), indicating that date juice is effective in increasing hemoglobin levels in anemic pregnant women.
29	Irmawati et al. (2023)	Quasi Experimental Non-Randomized Control Group Design	Date juice for 7 days	Paired t-test	The average hemoglobin level in the date juice group increased from 9.72 g/dL to 10.06 g/dL after the intervention. There was a 0.34 g/dL increase in Hb. A paired t-test showed a significant increase after date juice consumption ($p=0.004$). However, the increase in Hb in the mung bean juice group was higher than in the date juice group.
30	Sumitran et al. (2023)	Two Group Pretest Posttest Control Design	Dates for 7 days + Iron tablets	Mann-Whitney test	The average hemoglobin level in the treatment group increased from 10.10 g/dL to 11.31 g/dL after 7 days of date consumption. There was a 1.21 g/dL increase in Hb. Meanwhile, the control group only experienced an increase from 10.09 g/dL to 10.21 g/dL. The Mann-Whitney test showed a significant difference between the two groups ($p=0.004$), indicating that dates are effective in increasing hemoglobin levels in

					anemic pregnant women.
31	Prambudi et al. (2021)	Pre-Experimental One Group Pretest-Posttest	Date administration	Paired Sample Test	The average hemoglobin level before date administration was 11.94 g/dL and increased to 12.65 g/dL after the intervention. There was an increase in Hb of 0.71 g/dL. However, the results of the Paired Sample Test showed that this increase was not statistically significant ($p=0.207$), indicating no significant effect between date administration and increased hemoglobin levels in pregnant women.
32	Karimi et al. (2020)	Systematic Review and Meta-Analysis	Fruit Dates	Meta-Analysis	The meta-analysis showed that date consumption significantly reduced the duration of the active phase of labor with a MD value of -109.3 minutes (95% CI: -196.32 to -22.29; $p=0.01$) and increased the Bishop score by MD = 2.45 (95% CI: 1.87–3.04; $p<0.00001$). However, date consumption did not significantly affect the length of the first, second, or third stages of labor or the rate of cesarean deliveries.
33	Megasari, M., & Husanah (2021)	Community Service Activities	Date juice	Evaluation Descriptive	The results of this activity indicate that consuming date juice can help address anemia in pregnant women. The iron and

					nutritional content of date palm juice has the potential to increase hemoglobin levels and support the health of pregnant women. This program recommends providing date palm juice as supplemental care for anemic pregnant women during antenatal care visits.
34	Rahandayani et al. (2022)	Literature Review	Dates or date juice	Literature Synthesis	Studies have shown that dates contain iron, vitamin C, vitamin B6, magnesium, zinc, calcium, and various nutrients that play a role in hemoglobin formation. Most of the reviewed articles report that consuming dates can help increase hemoglobin levels and reduce the risk of anemia in pregnant women.
35	Dahlan et al. (2020)	Quasi-Experimental Two-Group Pretest-Posttest with Control Group	Dates + iron tablets	Dependent t-test and Independent t-test	Administering iron tablets combined with consuming dates resulted in a better increase in hemoglobin levels compared to the control group. Statistical analysis showed a p-value of 0.044 ($p < 0.05$), indicating a significant effect of iron tablets and dates on increasing hemoglobin levels in pregnant women in the third trimester.
36	Salajegheh et al. (2024)	Systematic Review and Meta-Analysis	Date consumption	Meta-Analysis	Meta-analysis results showed that consuming dates in the third trimester

					significantly increased maternal hemoglobin levels, shortened labor, improved the Bishop score and spontaneous labor, and reduced the need for induction and postpartum hemorrhage.
37	Kharizmatika et al. (2026)	Systematic Review	Date consumption	Literature Synthesis and Meta-Review	Date consumption during pregnancy was associated with a shortening of the first stage of labor by 50.09–76.16 minutes and the second stage by 7.7–15.05 minutes. Furthermore, there was an acceleration in cervical dilation by 0.94–1.15 cm, an increase in the Bishop score by 2.45–2.47 points, and a decrease in the need for labor induction with a RR of 0.48–0.60.
38	Sagi-Dain, L., & Sagi (2021)	Meta-Analysis	Date consumption	Meta-Analysis	Pregnant women who consumed dates had 1.1 cm higher cervical dilation at the time of delivery (MD=1.1; 95% CI 0.2–1.99 cm) compared to the control group. Date consumption also reduced the need for labor induction or augmentation (RR=0.60; 95% CI 0.43–0.83), shortened the latent phase of labor by 4.6 hours (MD=-4.6 hours), and shortened the second stage of labor by 7.7 minutes (MD=-7.7 minutes).
39	Salajegheh et al. (2024)	Systematic Review and Meta-Analysis	Date consumption	Meta-Analysis	The meta-analysis results showed that date consumption

					significantly shortened the duration of pregnancy (pooled effect size = -0.30; 95% CI: -0.45 to -0.15; p<0.001), increased cervical dilation at the time of labor by 0.94 cm (95% CI: 0.88–1.00; p<0.001), and shortened the first stage of labor by 50.09 minutes (95% CI: -72.25 to -27.93; p<0.001). In addition, in the fixed-effect analysis, date consumption also shortened the second stage of labor by 9.85 minutes (p<0.001), although this result was not significant in the random-effect analysis (p=0.193).
40	Shirdel et al. (2025)	Systematic Review	Date consumption	Literature Synthesis	The study results indicate that consuming dates can increase hemoglobin levels, support reproductive health, and improve the nutritional status of women at various stages of life. Dates have the potential to be a safe and effective nutritional intervention to improve women's health..

Based on a literature review, the most widely studied components of Thibbun Nabawi in pregnant women are dates and honey. Most studies show a positive effect on maternal nutritional status, hemoglobin levels, antioxidant status, metabolic health, and pregnancy outcomes.

The Effect of Dates (*Phoenix dactylifera*) on the Nutritional Status of Pregnant Women

Based on the review results, dates are the most widely studied component of Thibbun Nabawi in pregnant women. Most studies indicate that date consumption can increase hemoglobin levels in anemic pregnant women, with increases ranging from 0.8–1.8 g/dL. Research by Choirunnissa et al. (2021) showed an increase in hemoglobin of 1.8 g/dL after date intervention, while Fitriani et al. (2021) reported an increase in hemoglobin from 9.718±0.854 g/dL to 10.991±0.604 g/dL (p=0.000). Similar findings were also reported by Nurdin et al. (2025),

Yunia et al. (2024), Judati et al. (2025), and Yuliana et al. (2024) showed a significant increase in hemoglobin after regular date consumption.

These findings were supported by Widowati et al. (2019), Lindia et al. (2024), Handayani et al. (2024), Auliani et al. (2025), Sumitran et al. (2023), Dahlan et al. (2020), Jumiati et al. (2025), Erika et al. (2024), and Manan et al. (2021) who reported a significant increase in hemoglobin levels after administering date juice, date fruit, or a combination of dates with Fe tablets ($p < 0.05$). Several studies showed an increase in hemoglobin reaching 1.0–1.4 g/dL after 7–14 days of intervention. Literature reviews and systematic reviews conducted by Arianto et al. (2026), Ayuni et al. (2024), Rahandayani et al. (2022), and Fitrianingsih et al. (2025) also concluded that date consumption consistently contributed to increased hemoglobin and serum ferritin levels in anemic pregnant women. However, Prambudi et al. (2021) found no significant effect on increasing hemoglobin levels ($p = 0.207$), suggesting that the effectiveness of dates may still be influenced by respondent characteristics, duration of intervention, and the pregnant woman's clinical condition.

Medically, the effect of dates on the nutritional status of pregnant women can be explained by their macro- and micronutrient content. Dates contain simple carbohydrates in the form of glucose and fructose, which are easily absorbed by the body as an energy source. Furthermore, dates contain iron, folic acid, B-complex vitamins, magnesium, potassium, copper, and antioxidants such as flavonoids and polyphenols. Iron is a key component in hemoglobin formation. During pregnancy, plasma volume increases by 40–50%, resulting in significantly increased iron requirements to support maternal erythrocyte formation and fetal growth. The iron content in dates helps meet these needs, contributing to increased hemoglobin levels. The folic acid contained in dates also plays a role in DNA synthesis and red blood cell formation, thus supporting erythropoiesis.

In addition to improving hemoglobin levels, dates have the potential to improve the nutritional status of pregnant women by providing additional energy. Energy requirements during pregnancy increase by approximately 180–300 kcal per day, depending on gestational age. The natural carbohydrate content in dates can help meet these energy needs, thereby reducing the risk of chronic energy deficiency (CED). Therefore, dates not only play a role in preventing anemia but also support the fulfillment of nutritional needs during pregnancy. In addition to improving nutritional status, various meta-analyses have also shown that date consumption benefits birth outcomes. Karimi et al. (2020), Salajegheh et al. (2024), Salajegheh et al. (2024), Sagi-Dain et al. (2021), and Kharizmatika et al. (2026) reported that consuming dates can shorten the active phase of labor, improve the Bishop score, accelerate cervical dilation, reduce the need for labor induction, increase the chance of spontaneous vaginal delivery, and in some studies, increase maternal hemoglobin levels and reduce postpartum bleeding. These findings indicate that the benefits of dates are not only limited to improving nutritional status but also support maternal health during labor.

The Effect of Honey on the Nutritional Status of Pregnant Women

Honey was the second most frequently found component of Thibbun Nabawi in the reviewed studies. Research by Sandy et al. (2025) showed that administering honey combined with iron tablets increased hemoglobin levels from 9.2 g/dL to 10.8 g/dL ($p = 0.002$). Widowati et al. (2024) also reported that acacia honey effectively increased hemoglobin levels in pregnant women with anemia. These findings are supported by Erika et al. (2024), who showed that a combination of date extract and honey for two weeks significantly increased hemoglobin levels in anemic pregnant women ($p = 0.0001$). Furthermore, Sihotang et al. (2026) explained that honey is a component of Thibbun Nabawi that has strong scientific evidence as a complementary therapy to support the nutritional status and health of pregnant women. Scientifically, honey contains glucose, fructose, sucrose, amino acids, B-complex vitamins, vitamin C, magnesium, potassium, phosphorus, zinc, and various antioxidant compounds. The simple carbohydrates in

honey provide energy that is quickly utilized by the body, thus helping meet the increased energy needs of pregnant women during gestation.

In addition to being a source of energy, honey has antioxidant activity derived from flavonoids and phenolic compounds. Antioxidants function to reduce oxidative stress that increases during pregnancy. Excessive oxidative stress is known to be associated with anemia, preeclampsia, fetal growth restriction, and other pregnancy complications. By reducing oxidative stress, honey can support the physiological functions of the pregnant woman's body and improve her overall health. Several studies also show that honey can increase iron bioavailability and improve the process of red blood cell formation. Minerals such as copper and zinc act as cofactors in hemoglobin synthesis, thus helping increase hemoglobin levels in anemic pregnant women.

The Effect of the Combination of Dates and Honey on the Nutritional Status of Pregnant Women

Several studies in this review examined the combination of dates and honey as a nutritional intervention in pregnant women. Nurseha et al. (2024) reported an increase in hemoglobin of 0.9333 g/dL after administering a combination of dates and honey. Tambuwun et al. (2022) also found an average increase in hemoglobin of 1.10 g/dL with a p-value of 0.000 after this combination intervention. Similar results were reported by Erika et al. (2024), who showed that administering date extract and honey resulted in a highly significant increase in hemoglobin levels ($p=0.0001$), suggesting that this combination has the potential to be an effective complementary therapy for treating anemia in pregnant women.

The effectiveness of the date and honey combination is thought to stem from the synergistic effects of these two ingredients. Dates provide iron, folic acid, and essential minerals for red blood cell formation, while honey provides rapid energy and antioxidants that support the body's metabolism. This combination can increase the availability of nutrients needed during pregnancy. In addition to increasing hemoglobin, the combination of dates and honey has the potential to improve appetite and increase daily energy intake in pregnant women. This is important because one of the main causes of nutritional deficiencies during pregnancy is inadequate energy and micronutrient intake. Thus, the combination of dates and honey can be an alternative functional food that supports maternal health.

The Effect of Dates Combined with Iron Tablets

Several studies have shown that administering dates in conjunction with iron supplementation results in a greater increase in hemoglobin than administering iron tablets alone. Yuliana et al. (2024), Herayono et al. (2023), and Choirunissa et al. (2021) reported that this combination provided better results in improving anemia in pregnant women. These findings are supported by Dahlan et al. (2020), Handayani et al. (2024), Manan et al. (2021), Sumitran et al. (2023), and Jumiati et al. (2025), which showed that the combination of dates with iron tablets resulted in a higher increase in hemoglobin levels compared to the group receiving only iron supplementation, with most studies showing significant results ($p<0.05$).

Physiologically, iron from iron tablets serves as a key ingredient in hemoglobin synthesis. However, iron absorption is often suboptimal due to the influence of various factors such as diet and gastrointestinal conditions. Dates contain vitamin C, amino acids, and various minerals that can increase iron absorption, thus increasing the effectiveness of supplementation. Furthermore, dates also help reduce gastrointestinal complaints often associated with consuming iron tablets, such as nausea and constipation. Increased comfort during supplementation improves adherence in pregnant women to iron therapy, thus optimizing intervention results.

The Role of Thibbun Nabawi in Preventing Anemia as an Indicator of Nutritional Status in Pregnant Women

All the articles reviewed, anemia was the most widely used indicator of nutritional status. This is because anemia remains a major nutritional problem in pregnant women, especially in

developing countries. Anemia during pregnancy can increase the risk of preterm delivery, low birth weight (LBW), postpartum hemorrhage, infection, and even maternal death.

Interventions based on Thibbun Nabawi have been shown to be beneficial in improving hemoglobin levels and reducing the risk of anemia. The increased hemoglobin found in most studies suggests that dates and honey can help meet the iron, folic acid, energy, and antioxidant needs required during pregnancy. Furthermore, a review by Sihotang et al. (2026) emphasized that the implementation of Thibbun Nabawi should be positioned as an evidence-based complementary therapy integrated with modern healthcare services. Components such as dates, honey, and *Nigella sativa* have the potential to support the nutritional status of pregnant women when implemented according to clinical standards and under the supervision of healthcare professionals.

However, the nutritional status of pregnant women is not solely determined by hemoglobin levels. Other indicators such as body mass index (BMI), mid-upper arm circumference (MUAC), weight gain during pregnancy, serum ferritin levels, albumin levels, and energy and protein adequacy also need to be considered. Therefore, future research needs to evaluate the benefits of Thibbun Nabawi on more comprehensive indicators of nutritional status to obtain a more comprehensive picture of the intervention's effectiveness.

CONCLUSION

Based on an analysis of various scientific literature, Tibb Nabawi has the potential to support the nutritional status of pregnant women through various nutritional and biological mechanisms. Dates and honey have been shown to benefit energy status, hemoglobin levels, antioxidant capacity, metabolic health, and micronutrient adequacy during pregnancy. However, most available studies vary in methodologies and sample sizes, requiring further research to strengthen the existing scientific evidence.

SUGGESTION

Randomized controlled trials with larger sample sizes are needed to evaluate the effectiveness and safety of date and honey components during pregnancy. Furthermore, research on optimal dosage, duration of use, and long-term impacts on maternal and infant health needs to be further developed to support evidence-based implementation in clinical practice.

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