Nutrition Research Reviews

cambridge.org/nrr

Adherence to dietary patterns and their association with perinatal depression: a scoping review

Laura Rodríguez-Ávila[1], Ángela Hernández-Ruiz[2], Laura García-Molina[3], Rafael A. Caparros-Gonzalez[4,5], Carmen Amezcua-Prieto[3,5,6], Miriam Gutiérrez-Jimeno[7] and Blanca Riquelme-Gallego[8,9]

[1]Department of Nursing, Faculty of Health Sciences, University of Granada, Ceuta, Spain; [2]Ángela Hernández- Ruiz Faculty of Health Sciences, Universidad Europea de Valencia, Valencia, Spain; [3]Department of Preventive Medicine and Public Health Faculty of Medicine, University of Granada, Granada, Spain; [4]Department of Nursing, Faculty of Health Sciences, University of Granada, Granada, Spain; [5]Instituto de Investigación Biosanitaria Ibs.GRANADA, Granada, Spain; [6]CIBER Epidemiología y Salud Pública (CIBERESP), Instituto de Salud Carlos III (ISCIII); [7]Unidad de Cuidados Intensivos Pediátricos y Neonatales, Servicio de Pediatría, Hospital Clínico Universitario de Valladolid, Spain; [8]Department of Nursing and Physiotherapy, Balearic Islands University, Palma, Spain and [9]Research Group in Nursing, Community & Global Health Health Research Institute of the Balearic Islands (IdISBa), Palma, Spain

Review Article

Cite this article: Rodríguez-Ávila L, Hernández-Ruiz Á, García-Molina L, Caparros-Gonzalez RA, Amezcua-Prieto C, Gutiérrez-Jimeno M, and Riquelme-Gallego B (2026). Adherence to dietary patterns and their association with perinatal depression: a scoping review. *Nutrition Research Reviews* **39**: e25, 1–13. doi: 10.1017/S0954422426100468

Received: 2 July 2025 UTC
Revised: 6 February 2026 UTC
Accepted: 29 April 2026 UTC

Keywords:
diet; dietary patterns; nutrition; perinatal depression; postpartum; pregnancy

Corresponding author:
Ángela Hernández-Ruiz;
Email: angelahr.investigacion@gmail.com

Abstract

Perinatal depression is a common disorder that can manifest during pregnancy and the postpartum period, severely affecting both the mother and the baby. Dietary factors have been associated with an increased risk of perinatal depression. We analysed the association between adherence to certain dietary patterns before and during pregnancy and postpartum and perinatal depression. A scoping review of the available literature was conducted reporting the main findings following the PRISMA 2020 statement. The search strategy was last reproduced in December 2024 in the MEDLINE, Web of Science, and Scopus databases. The methodological quality of the studies was evaluated using the Newcastle–Ottawa Scale and the revised Cochrane risk-of-bias tool for randomized trials. The protocol has been published on OSF (https://doi.org/10.17605/OSF.IO/AV8TP). A total of nine studies (five cohort studies, three cross-sectional studies, and one randomized clinical trial) conducted in various countries were included in the mapping review. These studies evaluated the dietary intake of the participants at different times during the perinatal period and identified several dietary patterns. Of the nine studies, two research described the Mediterranean diet as a protective dietary pattern in prevention of depression, characterised by high intake of vegetables, fruits, fish, and seafood, and perinatal depression. In contrast, four of the studies showed that high adherence to Western dietary patterns ($n = 2$) or dietary patterns characterised by a high intake of ultraprocessed foods ($n = 2$) was associated with an increased risk of perinatal depression. These findings suggest that adherence to healthy dietary patterns may play a protective role against perinatal depression. However, further high-quality prospective studies and randomized controlled trials are needed to confirm these associations.

Introduction

The perinatal period, the time frame that encompasses the entire pregnancy and the first postpartum year, is considered a time in a woman's life that requires careful evaluation, as it represents a very sensitive moment for the development of mental health disorders[11]. Compared to men, women are more predisposed to developing mood disorders, with depression being one of the most prevalent, affecting them at twice the rate[33].

Perinatal depression is a specific form of this disorder and, according to the American Psychiatric Association (APA), is one of the most common complications for women during pregnancy and up to one year after childbirth[10]. Its global average prevalence is estimated to be approximately 24.3%, with 28.5% during the antenatal period and 27.6% during the postpartum period[1]. However, prevalence rates vary depending on the studies and the screening methods used[33].

The most common perinatal depression-associated risk factors include sociodemographic, biological, psychological, and obstetric variables[11]. Recently, nutrition has been identified as a factor that could potentially contribute to the development of perinatal depression due to the growing evidence supporting its association with mental health in the general population[2,15].

Previous studies have shown that deficiency in certain nutrients, such as polyunsaturated fatty acids, magnesium, zinc, vitamin D, and B group vitamins, as well as lower consumption of vegetables and oily fish, have been associated with a higher risk of postpartum depression.

© The Author(s), 2026. Published by Cambridge University Press on behalf of The Nutrition Society.

However, previous studies that analyse specific nutrients individually and in isolation do not take into account the interactions between different dietary components[32,34].

In contrast, dietary patterns that represent the regular consumption of a variety of foods and beverages can have a more significant impact on health and exert antidepressant effects[12]. According to Hernández-Ruiz et al.[13], dietary patterns offer a more comprehensive view of food and nutrient intake and, as a result, they may be more effective predictors of disease risk than individual foods or nutrients. The evaluation of dietary patterns explores eating habits by considering the consumption of a specific group of foods and the interactions between nutrients[37].

Research on dietary patterns and maternal mental health has found that following a 'healthy' diet may offer protection against depression during pregnancy and the postpartum period[19]. However, the specific mechanisms explaining such associations are not yet fully understood.

Studies investigating the relationship between diet and mental health in pregnant populations are limited, and although much of the available literature suggests a promising relationship between diet and perinatal depression, this hypothesis has not been confirmed in all studies. Therefore, the importance of dietary patterns on perinatal depression requires further investigation[32,39].

Given the high prevalence of perinatal depression and the previously demonstrated association between nutrition and depression in the general population, our objective was to systematically review the relationship between pregnancy and postpartum dietary patterns and perinatal depression.

Methodology

We have approached a scoping review[17,35] of the available literature, reporting the main findings following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statement, 2020[25]. The protocol has been published on OSF (https://doi.org/10.17605/OSF.IO/AV8TP).

The selection of studies and eligibility criteria were based on the PECO research question. The PECO tool focuses on the Population, Exposure, Comparison, and Outcomes of a (usually quantitative) article. It is commonly used to identify components of clinical evidence for systematic reviews in evidence-based medicine and is endorsed by the Cochrane Collaboration (Higgins & Green)[26]. In this case, P (Population) included pregnant and/or postpartum women; E (Exposure) focused on dietary patterns; C (Comparison) included studies that did not adhere to the same dietary guidelines before and during pregnancy or during postpartum periods; and O (Outcome) was perinatal depression.

Thus, the research question was: 'Is there an association between certain dietary patterns before and during pregnancy and the postpartum period and depressive symptoms during pregnancy and/or postpartum?'

Information sources

Between 15 December 2023 and 20 December 2024, a literature search was conducted in the electronic databases MEDLINE (PubMed), Web of Science, and Scopus. The search was focused on original articles that analysed the association between specific dietary patterns and perinatal depression in pregnant or postpartum women. The Zotero tool was used as a reference manager.

Literature search strategy

To determine the search strategy, free terms and descriptors obtained from the DeCS/MeSH thesaurus were used. The key terms and descriptors were combined across the different databases using the Boolean operators 'AND' and 'OR', resulting in the following search equation:

> ("Perinatal depression" OR "postpartum depression" OR "antenatal depression") AND ("diet[MeSH]" OR "dietary" OR "nutrients[MeSH]" OR "nutrition" OR "maternal nutrition").

Eligibility criteria

The literature search was limited to the last ten years. Studies published between 2013 and 2024 were included. Additionally, articles and research available in full text, in both English and Spanish, were included. Original studies of any design were considered eligible, and articles examining the association between dietary intake during or after pregnancy (specifically up to the first postpartum year) and depression were included. Articles that analysed different types of diets, their level of adherence, and mental well-being in pregnant women were also included.

In contrast, narrative articles without original data and those focused on the study of individual nutrients were excluded. Studies conducted in animals, those that did not address the objectives and research question, and those conducted in women previously diagnosed with depression or pre-existing health conditions such as diabetes or human immunodeficiency virus (HIV), among others, were also excluded.

The inclusion and exclusion criteria used in the selection of articles were applied equally across all databases consulted, as was the search strategy used.

Titles and abstracts were reviewed independently by L.R.-A. and B.R.-G. for inclusion and potentially relevant full-text articles were screened independently by the same authors. When a disagreement occurred, the decision for inclusion was made by consensus.

Data collection

The selection process was conducted initially by reviewing titles and abstracts to identify eligible articles. Duplicates were removed, and subsequently full-text articles were reviewed to confirm their eligibility. The reviewers performed a reverse search by manually checking the references of previously published reviews. Finally, the selection of studies was based on a detailed full-text review.

Articles that met the inclusion criteria were subjected to independent data extraction by two members of the research team (L.R-A. and B.R.-G.) using a data extraction sheet that was collaboratively developed.

Risk of bias in studies

To assess the risk of bias or methodological quality of the selected studies, the Newcastle–Ottawa Scale (NOS) (Wells et al.)[27] and the revised Cochrane risk-of-bias tool for randomised trials (RoB 2) (Higgins et al.)[28] were used. The NOS, developed to evaluate the methodological quality of observational studies in a systematic review, consists of eight items divided into three main categories: sample selection, group comparability, and, depending on the type of study, outcome (cohort studies) or exposure (case-control studies). To provide a semi-quantitative assessment of the quality of each study, it uses a star or point system. Higher-quality studies that meet the established criteria receive a maximum of one point for

https://doi.org/10.1017/S0954422426100468 Published online by Cambridge University Press

each item, except for the comparability item, which allows for two points. Thus, the final score ranges from zero to nine points. Studies with total scores of 0 to 3 are considered low-quality studies, those with total scores of 4 to 6 are considered medium-quality studies, and studies with total scores of 7 to 9 are considered high-quality studies (Wells et al.)[27]. RoB 2 is the recommended tool for assessing the risk of bias in clinical trials. This tool evaluates five domains of bias risk: sequence generation, allocation concealment, blinding, incomplete outcome data, selective reporting of results, and other aspects. Each of these domains is assessed and classified as 'low risk of bias', 'some concerns' and 'high risk of bias' (Higgins et al.)[28].

Data extraction and management

To present the synthesis of the results and the main characteristics of the studies included in the scoping review, a summary data extraction table was designed. This table included: authors, year of publication, place of study, design, objectives, sample size and characteristics, exclusion criteria, dietary exposure tools, perinatal depression measurement tools, as well as the main results, strengths, limitations, and the score obtained on methodological quality.

Data extraction was performed by systematically collecting and organising the required information to ensure consistency throughout the process. References were managed using Zotero and verified during data extraction to avoid citation errors.

Results

Study selection

The process of searching and selecting studies was carried out according to the PRISMA 2020 statement through a flow diagram (Figure 1). Initially, after entering the same search equation into the different databases used, a total of 774 articles were found. Specifically, 281 articles were identified in PubMed, 234 in Scopus, and 259 in Web of Science. Subsequently, after removing duplicate articles ($n = 341$) using the Zotero reference management tool and excluding by title screening ($n = 281$), 152 articles were selected for eligibility assessment. Finally, 143 were excluded for not meeting the inclusion criteria. A total of nine articles were selected for the scoping review.

Study characteristics

Given the substantial amount of information and the variety of variables across the studies analysed, the main characteristics and results of the studies included in this scoping review are presented in Table 1 to ensure clarity and avoid an overly dense presentation. The main strengths, limitations, and methodological quality of the reviewed studies are presented in Table 2. Of the nine articles included, five were cohort studies[5,8,20,36,37], three were cross-sectional studies[23,29,38], and one was a randomised clinical trial[16]. The studies were conducted in Australia[5], Taiwan[8], France[20], Singapore[36], Brazil[37], Japan[23], Greece[29], California, USA[38], and Spain[16].

Evaluation of dietary patterns

The selected studies evaluated the participants' habitual dietary intake at three stages: before pregnancy (periconceptional period), during pregnancy, and after childbirth. One study assessed maternal dietary intake between weeks 5 and 13 of gestation, referring to the six months prior to the gestational period[37]. Another study analysed maternal diet at two time points during pregnancy, week 16 and week 32, and participants were asked to indicate how often they had consumed specific foods during the previous three months, so intake was measured both pre-pregnancy and during pregnancy[5]. One article evaluated diet during the second trimester of pregnancy, approximately between weeks 11 and 23[38]. One study examined adherence to the Mediterranean diet at 16 weeks of gestation[16], while another evaluated adherence to this diet during the postpartum period[29]. One investigation estimated dietary intake during the third trimester of pregnancy retrospectively[20]. Another study that selected pregnant women between weeks 5 and 39 also evaluated maternal dietary habits retrospectively during the month prior to the questionnaire[23]. Finally, two studies assessed diet during the postpartum period, specifically three weeks after childbirth[36] and between weeks 4 and 6 postpartum[8] (Table 1).

Therefore, two studies examined diet before pregnancy[5,37], five during pregnancy[5,16,20,23,38] and three during the postpartum period[8,29,36] (Table 1).

The selected studies also analysed the composition and quality of the diet at different points during the perinatal period using various validated tools adapted to the characteristics of the studied populations (Table 1). Food frequency questionnaires (FFQs) were commonly used to gather information on habitual food intake in most studies[5,8,16,20,29,37]. Only one study used three-day food records for a more precise estimate of daily food consumption[36], while another used a dietary history questionnaire (DHQ) to assess dietary habits[23]. Wang et al.[38] used an online tool called Automated Self-Administered-24h (ASA24) on non-consecutive days to observe daily variability in food intake and studied diet quality through two dietary indices: the Adapted Dietary Inflammatory Index (ADII) and the Healthy Eating Index-2015 (HEI-2015). These indices allowed for an assessment of the inflammatory potential of the diet and adherence to dietary guidelines recommended for Americans, respectively.

For data analysis and the identification of dietary patterns, some of the selected studies used statistical methods such as factor analysis and principal component analysis (PCA), which allowed exploration of the relationship between diet and perinatal depression[5,8,20,23,36,37]. The remaining articles did not mention the use of statistical techniques to identify dietary patterns from the collected data[16,29,40].

The main results, strengths, limitations, and methodological quality of the reviewed studies are shown in Table 2. Several dietary patterns were identified in the included studies. The characteristics of these patterns are shown in Table 3. The main effects of the identified dietary patterns are summarised in Figure 2, which shows those dietary patterns that, according to the results, could either protect against perinatal depression or, conversely, pose a potential risk for developing depressive symptoms before, during, or after the gestational period.

Depression assessment tools

Perinatal depression in participants was measured by researchers using different instruments across all studies. The Edinburgh Postnatal Depression Scale (EPDS) was used in most studies[5,8,16,20,29,36–38]. This self-assessment scale was originally designed for the detection of postpartum depression but has been validated for use during pregnancy and the postpartum period. It is widely used as a tool to assess perinatal depression across multiple cultures and populations[5,36–38]. The Center for Epidemiological Studies Depression Scale (CES-D) was used to measure the severity of depressive symptoms in two studies[20,23] (Table 1).

https://doi.org/10.1017/S0954422426100468 Published online by Cambridge University Press

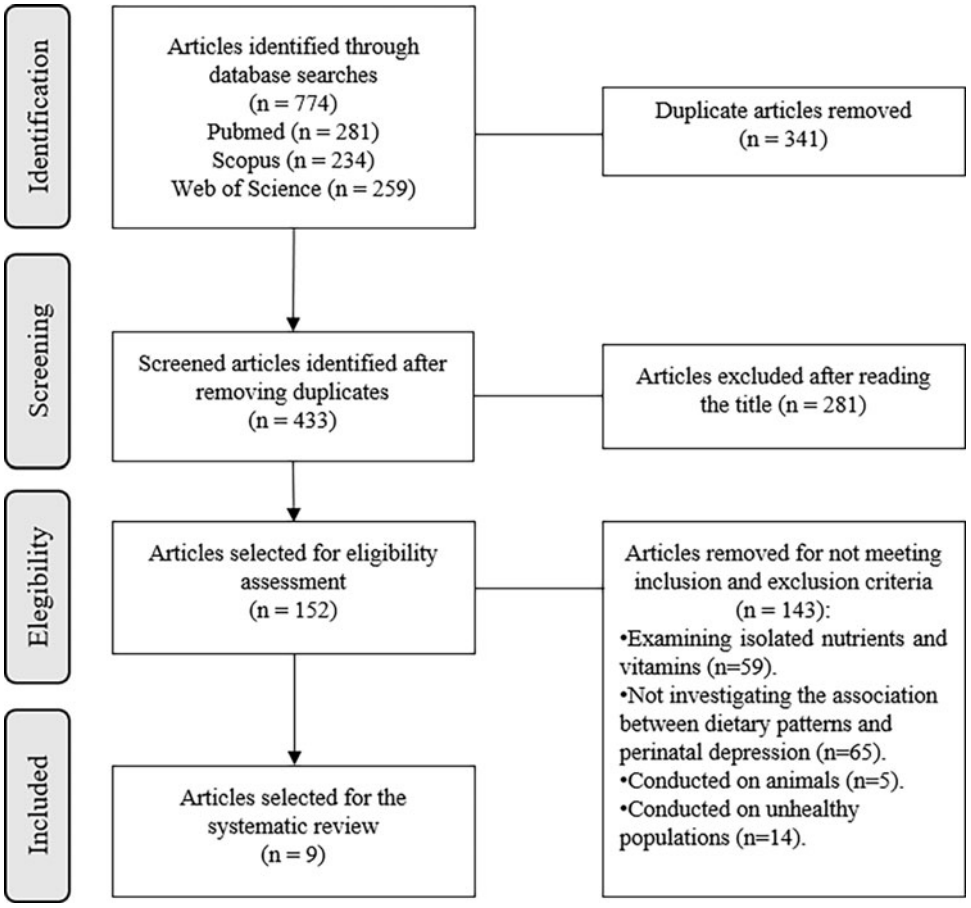


Fig. 1. Flow diagram of the studies selected for the systematic review of adherence to dietary patterns and perinatal depression.
Source: PRISMA (Preferred Reporting Items for Systematic Reviews) Guidelines, 2020 update[33].

Six studies reported information on the prevalence of perinatal depression among participants[8,16,20,23,29,36]. Depending on the assessment tool used, the defined cutoff score, the evaluation period, and the population, the prevalence of depression ranged from 9.2% to 35.7% (Table 2).

Association between dietary patterns and prenatal depression

Some of the included studies evaluated the association between different dietary patterns and prenatal depression[5,8,23,37,38]. The study by Baskin et al.[5] explored the predictive role of prenatal diet quality on the onset of both prenatal and postnatal depressive symptoms. The results revealed that an unhealthy diet (including sweets, refined grains, high-energy drinks, and fast foods) was associated with an increase in depressive symptoms at 32 weeks of gestation, and higher scores on the unhealthy pattern were linked to increased depressive symptoms in both directions of prediction, in contrast to a healthy diet (including fruit, vegetables, fish, and wholegrains). However, no significant associations were found between diet quality and depressive symptoms in either direction (Table 2).

Similarly, Vilela et al.[37] highlighted that adherence to a healthy pattern (dairy products, fruits, fruit juices, green vegetables, legumes, fish, pasta, tubers, and tea) before pregnancy was inversely and significantly associated with the occurrence of depressive symptoms during pregnancy. Specifically, greater adherence to this pattern before pregnancy was related to lower EPDS scores during pregnancy. Additionally, women with higher consumption of processed foods had higher scores for depressive symptoms. However, the processed food-based and traditional Brazilian patterns were not related to depressive symptoms during pregnancy.

Similar observations were drawn from the research by Miyake et al.[23], where it was found that healthy and Japanese dietary patterns, unlike the Western pattern, were independently associated with a lower prevalence of depressive symptoms during pregnancy.

Likewise, the study by Chan et al.[8] determined that the omnivorous dietary pattern, characterised by its richness in essential nutrients and animal and plant-based proteins, played a protective role against symptomatic depression during the third trimester of pregnancy, an effect that extended into the postpartum period. During this trimester, it was observed that the higher the scores for the omnivorous or healthy oils pattern, the lower the risk of depression. However, the omnivorous pattern was the most beneficial in terms of nutritional quality and was the only one that showed a significant association with reduced depressive symptoms.

The study by Wang et al.[38] highlighted that greater adherence to dietary guidelines, as measured by the HEI-2015 and a negative ADII, was significantly associated with fewer prenatal depressive symptoms. Following a higher-quality diet, characterised by anti-inflammatory potential and greater adherence to dietary recommendations, was associated with a reduction in the prevalence of depressive symptoms. The study also found that economic well-being moderated the relationship between diet quality and depressive symptoms. Pregnant women with less favourable economic status and pro-inflammatory diets experienced more prenatal depression symptoms. This association was not significant in women with better economic conditions.

https://doi.org/10.1017/S0954422426100468 Published online by Cambridge University Press

https://doi.org/10.1017/S0954422426100468 Published online by Cambridge University Press

Table 1. Characteristics and main results of the studies included in the scoping review of adherence to dietary patterns and perinatal depression

Study and country	Design	Objective	Sample size and characteristics	Exclusion criteria	Diet exposure tools	Perinatal depression measurement tools	Main results
Baskin et al.[5], Australia.	Cohort study.	To explore how diet quality maintained during the prenatal period can predict the onset of depressive symptoms both during the prenatal stage and postpartum period.	$n = 167$. Participants had a higher socioeconomic status compared to the general population. 60% had completed a bachelor's degree or higher. 28% of participants reported a history of depression.	Pregnant women under 18 years of age and those not between 10 and 16 weeks of gestation were excluded from the study.	FFQ.	EPDS.	Two dietary patterns were identified among pregnant participants: healthy (fruits, vegetables, fish, wholegrains, etc.) and unhealthy (sweets, energy drinks, fast food, etc.). The data showed a positive association between following an unhealthy diet and the likelihood of experiencing an increase in depressive symptoms at 32 weeks of gestation. No significant associations were found between a diet considered healthy and depressive symptoms. Additionally, changes in dietary patterns during pregnancy were observed, with a significant increase in the consumption of unhealthy foods as the pregnancy progressed.
Chan et al.[8], Taiwan.	Prospective cohort study.	To identify dietary patterns maintained by Taiwanese women during the third trimester of pregnancy and determine whether they are associated with perinatal depression.	$n = 258$. Healthy pregnant women between weeks 29 and 40 with an average age of 32. 72% had a university education and 83.3% were employed. More than half maintained a sedentary lifestyle. Those at risk of depression had lower educational levels, were single, unemployed, had experienced a miscarriage, and led an even more sedentary lifestyle.	Women under 20 years of age, women with multiple pregnancies, known risk of medical, surgical, or mental illness, and those unable to move, communicate, or complete the questionnaires were excluded.	FFQ.	EPDS.	The prevalence of prenatal depression (EPDS ≥ 10) was 31.3%, while the prevalence of postpartum depression was 35.7%. Four dietary patterns were identified: 'Healthy oils', 'Omnivorous', 'Vegetables and fruits', and 'Refined grains and offal'. The results showed that greater adherence to the 'Omnivorous' and 'Healthy oils' patterns was associated with a lower risk of depression. However, only the omnivorous pattern showed a significant association.
Flor-Alemany et al.[16], Spain.	Randomised clinical trial.	To investigate the association between adherence to the Mediterranean diet during pregnancy (week 16) and the risk of postpartum depression; and assess whether adherence to the Mediterranean diet impacts the relationship between exercise and postpartum depression during pregnancy.	$n = 85$. Predominantly Caucasian women with an average age of 33 years. More than half of the participants had a university degree, were married or in a relationship, and were employed. About 42% had experienced one or more miscarriage.	Having an acute, terminal, or neuromuscular disease; being malnourished; being unable to perform physical fitness tests during pregnancy; presenting risk factors (hypertension, type 2 diabetes); multiple pregnancy; chromosomal abnormalities or foetal malformations; uterine growth restriction; having experienced	FFQ; Med Diet-Score.	EPDS.	The results suggested a postpartum depression prevalence of 17% (EPDS ≥ 10). Regarding the relationship between eating habits, adherence to the Mediterranean diet, and postpartum depression, a negative association was found between fruit consumption and the likelihood of developing postpartum depression, while higher consumption of red meats and their

(*Continued*)

https://doi.org/10.1017/S0954422426100468 Published online by Cambridge University Press

Table 1. (*Continued*)

Study and country	Design	Objective	Sample size and characteristics	Exclusion criteria	Diet exposure tools	Perinatal depression measurement tools	Main results
				foetal death; having a limb fracture in the last three months; exercising more than 300 minutes per week; participating in another exercise programme; or being unwilling to meet the requirements.			derivatives was positively associated. Specifically, greater adherence to the Mediterranean diet during pregnancy was associated with a 72% lower likelihood of having postpartum depression.
Knox et al.[20], France.	Cohort study.	To explore and visualise the interrelationships between nutrition during pregnancy and maternal mental health, specifically the association between prenatal dietary patterns, intake of specific nutrients, and the occurrence of perinatal depression and anxiety in the French population.	$n = 1438$. Pregnant women characterised as being relatively younger, having higher educational and economic levels, being married or in a relationship, and having experienced fewer adverse events during childhood.	Multiple pregnancy, history of diabetes, inability to speak French, and intention to give birth in another hospital or move within the next three years.	FFQ.	CES-D, EPDS.	3.8% of women reported symptoms of prenatal depression (CES-D ≥ 16) and 14.9% exhibited clinical symptoms of postpartum depression (EPDS ≥ 11). Two dietary patterns were identified: 'Healthy' and 'Western'. The Healthy pattern was associated with the presence of essential micronutrients, while the Western pattern was related to a deficiency of micronutrients and an excess of certain macronutrients. Positive associations were found between the Western pattern and postpartum depression symptoms. The Healthy pattern, on the other hand, was not associated with symptoms of depression or anxiety. Additionally, lower educational levels were associated with the Western pattern.
Miyake et al.[23], Japan.	Cross-sectional study.	To evaluate how certain dietary patterns might influence depressive symptoms during pregnancy.	$n = 1744$. Pregnant women between 5 and 39 weeks of gestation, residing in southern Japan.	Women with a history of severe psychiatric illnesses, those who did not provide complete information, or who showed inconsistent data in the questionnaires.	DHQ.	CES-D.	The prevalence of depressive symptoms during pregnancy was 19.2%. Three dietary patterns were identified: 'Healthy', 'Japanese', and 'Western'. The results revealed an inverse association between the Healthy and Japanese patterns and the risk of depressive symptoms.
Papadopoulou et al.[29], Greece.	Cross-sectional study.	To determine the association between postpartum depression, the sociodemographic, and anthropometric characteristics of mothers, breastfeeding	$n = 3941$. Postpartum women of Greek nationality, aged between 21 and 48 years. 24.4% had only completed primary education, while only 34.7% had a university degree. Nearly half of the participants	Women with missing medical history data, incomplete information in the questionnaires, and women with any illness, including gestational diabetes and hypertension.	Med Diet-Score.	EPDS.	The prevalence of postpartum depression was 12.1% (EPDS ≥ 12). The data showed that postpartum depression was associated with lower educational level, being Greek, having postpartum obesity, being multiparous, delivering by Caesarean

https://doi.org/10.1017/S0954422426100468 Published online by Cambridge University Press

Table 1. (*Continued*)

		practices, and adherence to the Mediterranean diet.	(46.3%) had a low economic status. 67.7% were employed, more than half were first-time mothers, and most were married. Only 5.7% of the participants were categorised as obese.				section, not practising breastfeeding, and low adherence to the Mediterranean diet. Postpartum depression was significantly related to a lower tendency to adhere to the Mediterranean diet.
Teo et al.[36], Singapore.	Prospective cohort study.	To identify dietary patterns maintained during the postpartum period and study their association with postpartum depression and the development of anxiety.	$n = 490$. The participants selected for the study tended to be older than those initially recruited. They were characterised as being of Chinese nationality, university graduates, having a lower BMI during pregnancy, and being more likely to practise exclusive breastfeeding during the first month postpartum.	Women undergoing chemotherapy, those with serious health conditions such as type I diabetes, or those taking psychotropic medications were not included in the study.	Three-day food diary.	EPDS.	The prevalence of postpartum depression was 9.8% (EPDS ≥ 13). Four dietary patterns maintained during the postpartum period were identified: 'Traditional Chinese', 'Traditional Indian', 'Fast food', and 'Soup, vegetables, and fruit'. The results showed that greater adherence to the Traditional Indian diet, characterised by the consumption of herbs and legumes, was associated with fewer postpartum depression symptoms. Regarding the diet based on soup, vegetables, and fruits, a possible inverse relationship with postpartum depression was found, but the association was not significant. However, it was significant concerning anxiety symptoms. In contrast, the 'Traditional Chinese diet' and the 'Fast food diet' did not have significant associations with postpartum mental health.
Vilela et al.[37], Brazil.	Prospective cohort study.	To identify dietary patterns maintained before pregnancy and examine their relationship with the onset of depressive symptoms during pregnancy.	$n = 248$. Healthy pregnant women with a BMI of 25.1 kg/m^2 at the start of pregnancy, followed during weeks 5–13, 20–26, and 30–36. The average age of participants was 26.7 years, with a mean of 8.8 years of education. Most were married or in a stable relationship, and 22.7% had an unplanned pregnancy.	Women with twin pregnancies, diagnosed with infectious or non-communicable diseases, beyond week 13 of gestation, and those who reported a miscarriage were excluded from the study.	FFQ.	EPDS.	The mean EPDS score obtained by the participants was 9. On the other hand, three dietary patterns were identified before pregnancy: 'Common Brazilian', 'Healthy', and 'Processed'. It was observed that women with higher adherence to the Processed pattern had higher EPDS scores (≥ 10), a greater daily calorie intake, and fewer years of education compared to women with higher adherence to the other two patterns. Adherence to the Healthy pattern before pregnancy was inversely associated with the onset of depressive symptoms during pregnancy. However, the other two patterns did not show a significant association with EPDS scores.

(*Continued*)

Table 1. (*Continued*)

Study and country	Design	Objective	Sample size and characteristics	Exclusion criteria	Diet exposure tools	Perinatal depression measurement tools	Main results
Wang et al.[38], USA.	Cross-sectional study.	To analyse the association between maternal diet quality and the presence of prenatal depressive symptoms, as well as the moderating effect of economic well-being on this association.	*n* = 43. Healthy women aged between 18 and 41 years, in the second trimester of pregnancy. 71.1% of the participants were identified as Hispanic.	Participants with diabetes, significant obstetric complications, undiagnosed or treated psychiatric disorders, those on corticosteroids or psychotropic medications, or at risk of substance abuse were excluded. Diabetic and smoking women were also excluded.	ADII; HEI-2015; ASA24.	EPDS.	The main findings indicated that a higher HEI-2015 (adherence to dietary guidelines) and a negative ADII were associated with fewer prenatal depressive symptoms. Among pregnant women with poorer economic well-being, a pro-inflammatory diet was associated with more prenatal depressive symptoms, but this association was not significant among those with better economic well-being.

Abbreviations: Automated Self-Administered-24h (ASA24); Adapted Dietary Inflammatory Index (ADII); body mass index (BMI); Center for Epidemiological Studies Depression Scale (CES-D); diet history questionnaire (DHQ); Edinburgh Postnatal Depression Scale (EPDS); food frequency questionnaire (FFQ); Healthy Eating Index-2015 (HEI-2015).

Association between dietary patterns and postpartum depression

The association between dietary patterns and postpartum depression was evaluated in four studies. The study by Flor-Alemany et al.[16] revealed that greater adherence to the Mediterranean diet during pregnancy, as well as higher fruit consumption and lower red meat intake, was significantly associated with lower levels of depressive symptoms and a reduced risk of postpartum depression. Similar findings were reported by Papadopoulou et al.[29], who determined that adherence to the Mediterranean diet during the postpartum period, particularly its emphasis on fruit, nuts, and legumes, was significantly related to lower EPDS scores, suggesting a protective role of this dietary pattern against postpartum depression (Table 2).

In line with this, the research conducted by Knox et al.[20] identified a small but significant association between the Western diet, characterised by a deficient intake of certain micronutrients and an excess of macronutrients, and postnatal depressive symptoms. The results suggest that this pattern could increase the risk of postpartum depression, adversely affecting women's mental health. The study did not find significant associations between either the healthy or Western dietary patterns and prenatal depressive symptoms. Similarly, it did not establish a relationship between postpartum depression scores and adherence to a healthy dietary pattern. Additionally, it was determined that the relationship between a Western pattern and postnatal depressive symptoms was inversely related to the level of education.

Conversely, Teo et al.[36] explored postnatal dietary patterns maintained during the quarantine period in a multicultural society from Singapore. The results highlighted that a traditional Indian pattern was associated with fewer postpartum depressive symptoms. Additionally, there was a trend, although not significant, between scores for the soup–vegetables–fruit pattern and fewer postpartum depressive symptoms. No associations were found between traditional Chinese diets and fast food-based diets with postnatal mental health.

Methodological quality analysis of the included studies

The methodological quality of the studies was evaluated using the NOS (Wells et al.)[27] and the RoB 2 (Higgins et al.)[28], as previously mentioned (Table 2). The average quality score for observational studies was 6.6 out of 9, indicating a high level of quality[5,8,20,23,29,37]. Only two studies, one cohort study[36] and one cross-sectional study[38], had a final score of 5, indicating medium quality. The most common methodological flaw in the included observational studies was the lack of description of the derivation of the unexposed cohort and the failure to demonstrate that the outcome of interest was not present at baseline. Meanwhile, the selected controlled clinical trial presented a high risk of bias in several domains (random sequence generation, incomplete outcome data, and other biases) and some concerns regarding bias in outcome assessment blinding[16]. This suggests that the study has a high overall risk of bias, meaning that the study's results could be influenced by various types of biases affecting their validity and reliability. Details on the scores obtained by each of the studies can be found in the supplementary material (annexes 1–3).

https://doi.org/10.1017/S0954422426100468 Published online by Cambridge University Press

Table 2. Strengths, limitations, and methodological quality of the reviewed studies

Study	Main strengths	Main limitations	Methodological quality
Baskin et al.[5]	Widely used and validated questionnaires for the Australian population were employed. The study found a positive association between higher depression scores and higher educational levels, suggesting new lines of research.	The cross-sectional nature of the study limited the ability to establish causal relationships and firm conclusions between diet quality and depressive symptoms. Another limitation was the use of self-administered questionnaires. Lastly, most participants came from high socioeconomic backgrounds, so the findings cannot be generalised to the entire population.	7/9 (NOS)
Chan et al.[8]	The study obtained both longitudinal and cross-sectional observations. Validated and widely used scales were applied to identify depressive symptoms before and after childbirth. Moreover, the interviewers were trained in nutrition.	A cause-and-effect association between diet and depression during the third trimester of pregnancy cannot be established due to its partially cross-sectional design. Dietary data were not collected before conception, nor during the first or second trimester of pregnancy. The dietary frequency questionnaire used might not have included all foods consumed by the participants, which could have influenced the results. The findings might not be generalisable to the entire population since participants were recruited from a single health centre. Lastly, a lower cutoff score on the EPDS was used to indicate the presence of depressive symptoms.	7/9 (NOS)
Flor-Alemany et al.[16]	Participants were followed from 16 weeks of gestation through the postpartum period, which allowed for consideration of potential exposure to confounding variables. Moreover, to better control for bias, the study included several confounding factors such as sociodemographic factors, harmful health behaviours like smoking, and other risk factors such as having a diagnosis of depression or anxiety, number of miscarriages, weight gain during pregnancy, and lower back pain.	Firstly, as a quasi-experimental study, women were not randomly selected. Secondly, postpartum depression was measured with the EPDS, which, despite being a widely used and validated scale for pregnant women, is a self-administered scale. Lastly, this study only considered diet as an observed variable, meaning it was not modified as part of the intervention.	High risk of bias (RoB scale)
Knox et al.[20]	Unlike previous studies that assess one or a few nutritional components, this study uses a comprehensive approach to determine how nutritional components contribute to the development of depressive and anxiety symptoms during pregnancy. It also employed network analysis to examine the connections between specific variables and different nutrients. Another major strength is the sample size and participant characteristics, which, being similar to those of other European women, make this study easily replicable.	Data on dietary patterns and nutrient intake were obtained through a food frequency questionnaire administered after childbirth. These data may be biased by memory and may not accurately reflect maintained dietary habits. Furthermore, both diet and women's mental health were assessed at a specific time, and the tools used to evaluate mental health scores, although validated, are self-administered questionnaires rather than diagnostic tools, which could bias the results. Lastly, network analysis has limitations in its ability to make causal inferences and quantify risks.	7/9 (NOS)
Miyake et al.[23]	The study includes a relatively large and homogeneous sample, which increases the power of the findings. Various confounding factors such as age, gestational week, income, and educational level were controlled, and validated tools were used to assess diet and depression.	Its cross-sectional design prevents establishing causality. The results are specific to the Japanese population and may not be applicable to other populations.	7/9 (NOS)
Papadopoulou et al.[29]	Among the main strengths are the representativeness and size of the sample, which allowed for generalisation and increased the robustness of the results. Additionally, interviews were conducted in person by trained professionals, which helped to increase the accuracy of responses and reduce recall bias. Finally, multiple confounding factors were assessed to enhance the reliability of the associations found.	The cross-sectional design of the study is a limitation as it does not allow for the establishment of causal relationships between the studied variables. On the other hand, despite the methodical conduct of interviews, there is a possibility that responses may be subject to bias. Finally, the study did not consider other potential confounding factors.	7/9 (NOS)
Teo et al.[36]	This study is one of the first to determine dietary patterns maintained by Asian women during the postpartum period and their relationship with mental health. It also considers various confounding factors that may influence the nature of the results.	The results may not be representative of the population in Singapore due to the relatively small sample size. Additionally, the identified dietary patterns are specific to the Asian population, which makes it difficult to generalise the findings to other populations.	5/9 (NOS)
Vilela et al. [37]	Validated and high-quality instruments were used to measure dietary intake, depressive symptoms, and sociodemographic data. The study had high external validity, and it was observed that the socioeconomic	Loss of participants during follow-up may have affected the validity of the results. Another limitation was the factor analysis used to identify the dietary patterns, with decisions made by the researcher, which may influence	7/9 (NOS)

(*Continued*)

https://doi.org/10.1017/S0954422426100468 Published online by Cambridge University Press

Table 2. (*Continued*)

Study	Main strengths	Main limitations	Methodological quality
	profile of the women included in the study was similar to that of the general Brazilian population.	the interpretation of the identified patterns as well as the study results.	
Wang et al.[38]	A thorough assessment of the diet was conducted using two dietary quality indices, which provided consistent and significant results.	The study was conducted with a relatively small sample ($n = 43$), which may limit the generalisability of the results. It also had a cross-sectional design, which prevents inferring causal relationships between diet and depressive symptoms.	5/9 (NOS)

Abbreviations: Adapted Dietary Inflammatory Index (ADII); Center of Epidemiological Studies of Depression Scale (CES-D); Edinburgh Postnatal Depression Scale (EPDS); Newcastle–Ottawa Scale (NOS); Risk of Bias 2 tool (RoB).

Table 3. Characteristics of dietary patterns

Study	Type of dietary pattern	Foods used to define the pattern
Baskin et al.[5]	Healthy pattern	Fruits, vegetables, fish and seafood, wholegrains, nuts, eggs, water, and tea.
	Unhealthy pattern	Fast food, refined grains, sweets, desserts, energy drinks, potato chips, high-fat dairy products, fruit juices, red meats, condiments, processed sauces, and sweetened dressings.
Chan et al.[8]	Good oil pattern	MUFA (monounsaturated fats) vegetable oils, fatty fish.
	Vegetables and fruit pattern	A wide variety of fruits and vegetables.
	Omnivorous pattern	Dairy products, soy products, meats, poultry, eggs, fish, and seafood.
	Refined grains and organ meats pattern	White rice, sweetened beverages, white bread, and organ meats.
Flor-Alemany et al.[16]	Mediterranean pattern	Olive oil, fibre, fruits, vegetables, fish, cereals, meats, and alcohol. Since the population was pregnant, alcohol was not considered part of the diet.
Knox et al.[20]	Healthy pattern	High consumption of fruits, vegetables, high-fat dairy products, fish, legumes, and wholegrains.
	Western pattern	High consumption of sweets, snacks, processed meats, fast food, soft drinks, and chocolate.
Miyake et al.[23]	Healthy pattern	High consumption of green and yellow vegetables, other vegetables, mushrooms, legumes, fish, seafood, miso soup, sugar, potatoes, seaweed, and low consumption of bread and sweets.
	Japanese pattern	Characterised by high consumption of rice and miso soup and low consumption of coffee and cocoa, dairy products, sugar, confections, and bread.
	Western pattern	High consumption of beef and pork, processed meats, refined oils, chicken, eggs, seafood, and salty condiments, as well as low consumption of bread.
Papadopoulou et al.[29]	Mediterranean pattern	Cereals, potatoes, fruits, vegetables, dairy products, olive oil, legumes, fish, red meat, poultry, and moderate consumption of wine.
Teo et al.[36]	Traditional-Chinese-confinement diet	Characterised by a high consumption of traditional dried fruits, herbal tea, Chinese herbs, and foods cooked with wine, alcohol, or vinegar traditionally consumed by mothers during the first month postpartum.
	Traditional-Indian-confinement diet	Ethnic bread, Indian herbs, whole milk, seeds, and butter, considered key foods during the postpartum period.
	Eat-out diet	Characterised by a high consumption of potato chips, sugary drinks, sodas, ice cream, fried dim sum and local snacks.
	Soup–vegetables–fruit diet	Characterised by a higher consumption of various soups (vegetables, meats, fish, seafood, noodles), vegetables, fish (not fried), fruits, and a lower consumption of sweets, dairy products, snacks, and meats.
Vilela et al.[37]	Common Brazilian pattern	Rice, vegetables, eggs, legumes, and meats.
	Healthy pattern	Dairy products, fruits, fruit juices, green vegetables, legumes, fish, pasta, tubers, sweets, and tea.
	Processed pattern	Bread, fats, fast food, snacks, and sugar.
Wang et al.[38]	Pro-inflammatory diet	Diet high in saturated fats and sugars, with low levels of fibre and micronutrient-rich foods.
	Dietary guidelines for Americans	Fruits, vegetables, legumes, wholegrains, dairy, protein foods, seafood, plant proteins, and adequate amounts of fatty acids, with limited amounts of refined grains, soy, added sugars, and saturated fats.

.

https://doi.org/10.1017/S0954422426100468 Published online by Cambridge University Press

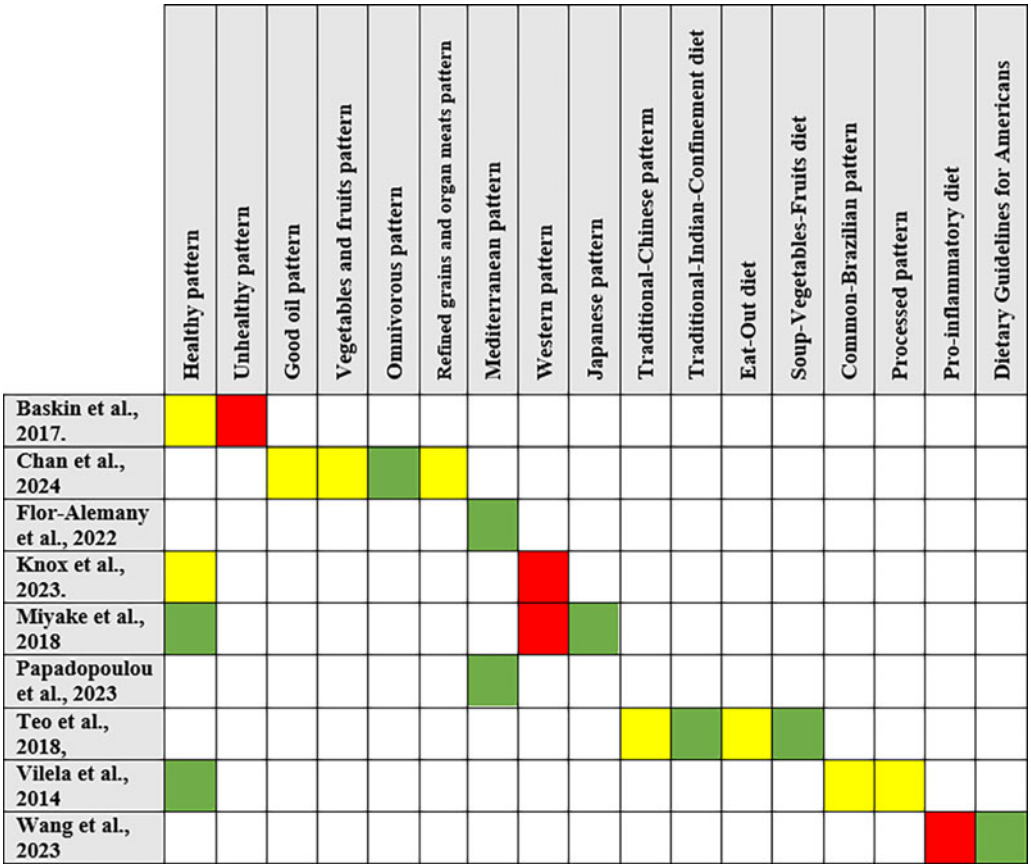


Fig. 2. Summary of potential associations between dietary patterns and perinatal depression.
Note: red: significant association between the diet and increased depressive symptoms; yellow: no association found between dietary pattern and depressive symptoms; green: protective effect of the diet on the occurrence of depressive symptoms.

Discussion

The main findings of this review suggest that adherence to healthy dietary patterns before, during, and after pregnancy could be beneficial in reducing or preventing depressive symptoms during the gestational and/or postpartum periods, while unhealthy patterns, based on a Western diet and high consumption of ultra-processed and pro-inflammatory foods, may be directly related to perinatal depression.

Previous studies conducted on pregnant and postpartum women have individually focused on micronutrient and vitamin intake, showing inverse associations between these and depressive symptoms[4]. However, analysing the numerous micronutrients, vitamins, and minerals that make up the diet in isolation can provide an incomplete analysis of their effects on mental health due to the complex interaction between them[18].

Quirk et al.[31] were pioneers in systematically reviewing the association between diet quality, dietary patterns, and depression in adult populations. However, they determined that there was limited evidence supporting the relationship between certain healthy diets, such as the Mediterranean diet, and the reduction of depressive symptoms, thus calling for stronger and more consistent evidence in this area. According to Quirk et al.[31], the combination of differences in how diet and depression are measured, the variability among study populations, the presence of potential confounding factors, and discrepancies in statistical methods contribute to the contradictory or inconsistent findings reported across studies.

In non-pregnant adult populations, diet quality has been associated with a lower likelihood of depressive disorders[30]. Numerous studies have demonstrated that nutritional habits may play a fundamental role in the development and progression of depression, as well as in the intensity and severity of depressive symptoms[21,22]. The results found in this scoping review partially align with these findings. However, the number of studies conducted on pregnant populations is significantly reduced as it is a relatively new area of research. Nevertheless, available studies on prenatal nutrition and mental health corroborate the association between a higher-quality maternal diet and a reduction in prenatal depressive symptoms[4]. Specifically, a cohort study observed that healthy dietary patterns were negatively associated with perinatal depression and were also linked to positive outcomes for both mothers and their babies[14].

Similarly, several studies have shown that greater adherence to healthier nutritional patterns, characterised by the consumption of vegetables, fruits, legumes, fish, dairy products, and olive oil during the first weeks postpartum, has been associated with lower likelihood of developing postpartum depression[24].

In this regard, Chatzi et al.[9] found in their study that the healthy pattern had a protective effect against depressive symptoms eight to ten weeks postpartum. Likewise, greater adherence to the Mediterranean diet during pregnancy has also been associated with lower prevalence of depressive symptoms and a reduced risk of postpartum depression[3]. However, it is increasingly recognised that the existing associations between the Mediterranean diet and positive outcomes are not solely due to the foods consumed but also to the sociocultural environments in which they are consumed[6]. Despite this evidence, Pina-Camacho et al.[7] found no relationship between unhealthy dietary patterns and postpartum depression in their research.

Several studies showed a significant association between certain types of dietary patterns and recommendations with depressive symptoms and maternal well-being. However, it is important to

https://doi.org/10.1017/S0954422426100468 Published online by Cambridge University Press

note that inconsistencies were found in the results, and, currently, there is considerable heterogeneity in the literature, making it somewhat difficult to establish a potential relationship between dietary patterns and perinatal depression.

Strengths and limitations

Although the studies analysed in this review present interesting results on the effect of diet on perinatal depression, some limitations must also be considered: (a) the review is almost entirely composed of studies with an observational design, so due to their predominantly cross-sectional nature it is difficult to draw firm and causal conclusions between certain dietary patterns and the presence of depressive symptoms during pregnancy and/or postpartum; (b) most studies use self-administered questionnaires to assess depressive symptoms and diet, which may introduce information bias, while the retrospective nature of some of the instruments used may also induce memory bias in the participants; and (c) some of the results obtained are characteristic of certain populations, which may not be fully representative of other populations. Additionally, due to time constraints and the scope of the results obtained, the search process was limited to the last ten years, and only articles in English and Spanish were included. The search was restricted to the past ten years to ensure that the evidence retrieved was up-to-date, relevant, and methodologically comparable. In the field of nutrition and perinatal mental health, dietary recommendations, dietary assessment tools, and diagnostic criteria for depression have undergone substantial changes over the last decade. Including older studies could have introduced bias due to outdated clinical practices, heterogeneous measurement tools, or less comparable sociocultural contexts. Furthermore, this temporal restriction allowed for a balance between the breadth and relevance of the evidence, ensuring a manageable volume of literature focused on findings with current clinical and public health applicability.

However, this scoping review also presents significant strengths: (a) it was conducted following the PRISMA declaration guidelines; (b) the systematic design of the review allowed for a comprehensive study of the available evidence on the topic of interest; (c) the search process was exhaustive and reproduced identically in three databases with broad importance in the health field; (d) a reference management tool, Zotero, was used to manage the articles obtained after the search process and to eliminate duplicates; (e) the risk of bias in the selected studies was assessed using validated tools; (f) the majority of the articles demonstrated high methodological quality; (g) some of the selected studies include, for better bias control, several confounding factors in their investigations, allowing for the proposal of new research avenues; (h) the representativeness and sample size of many of the selected studies enhance the robustness of the results; (i) there is great homogeneity in the use of validated instruments in pregnant populations among the selected studies; and finally (j) the variability present among the studied populations has provided an interesting range of information about predominant dietary patterns in different cultures.

Conclusions

Adherence to healthy dietary patterns (characterised by the high consumption of dairy products, fibre, fruits, vegetables, nuts, wholegrains, legumes, eggs, fish and seafood, water, tea) before, during, and after pregnancy could be beneficial in reducing or preventing depressive symptoms during the gestational and postpartum periods. Adherence to a Western diet and high consumption of ultraprocessed and pro-inflammatory foods are positively related to a higher risk of perinatal depression. Thus, although some studies showed inconsistencies in their results, the majority suggest that a high-quality diet has protective effects against perinatal depression. However, more studies and research are needed to confirm these associations and to better understand the underlying mechanisms.

Supplementary material. The supplementary material for this article can be found at https://doi.org/10.1017/S0954422426100468

Acknowledgements. None.

Financial support. No external funding was received to support this work.

Competing interests. The authors have no relevant interests to declare.

Authorships. L.R.-A., B.R.-G., and A.H.-R. were involved in the conception, design, and data collection. L.R.-A. constructed the figures with input from L.G.-M. and B.R.-G. All authors contributed to interpretation of the data and to writing, revision, and approval of the final manuscript.

References

1. Al-Abri K, Edge D, Armitage CJ (2023) Prevalence and correlates of perinatal depression. *Soc Psychiatry Psychiatr Epidemiol* **58**(11), 1581–1590. https://doi.org/10.1007/s00127-022-02386-9
2. Arab A, Mehrabani S, Moradi S, Amani R (2019) The association between diet and mood: a systematic review of current literature. *Psychiatr Res* **271**, 428–437. https://doi.org/10.1016/j.psychres.2018.12.014
3. Arouca A, Michels N, Moreno LA, González-Gil EM, Marcos A, Gómez S, *et al.* (2018) Associations between a Mediterranean diet pattern and inflammatory biomarkers in European adolescents. *Eur J Nutr* **57**(5), 1747–1760. https://doi.org/10.1007/s00394-017-1457-4
4. Baskin R, Hill B, Jacka FN, O'Neil A, Skouteris H (2015) The association between diet quality and mental health during the perinatal period. A systematic review. *Appetite* **91**, 41–47. https://doi.org/10.1016/j.appet.2015.03.017
5. Baskin R, Hill B, Jacka FN, O'Neil A, Skouteris H (2017) Antenatal dietary patterns and depressive symptoms during pregnancy and early post-partum. *Matern Child Nutr* **13**(1), e12218. https://doi.org/10.1111/mcn.12218
6. Bonaccio M, Iacoviello L, Donati MB, de Gaetano G (2022) The tenth anniversary as a UNESCO world cultural heritage: an unmissable opportunity to get back to the cultural roots of the Mediterranean diet. *Eur J Clin Nutr* **76**(2), 179–183. https://doi.org/10.1038/s41430-021-00924-3
7. Pina-Camacho L, Jensen SK, Gaysina D & Barker ED (2015) Maternal depression symptoms, unhealthy diet and child emotional–behavioural dysregulation. *Psychol Med* **45**, 1851–1860. https://doi.org/10.1017/S0033291714002955
8. Chan L-C, Wang H-H, Wahlqvist ML, Liu C-C, Liu J-Y, Lee M-S (2024) Perinatal dietary patterns and symptomatic depression: a prospective cohort study. *Matern Child Nutr* **20**(1), e13561. https://doi.org/10.1111/mcn.13561
9. Chatzi L, Melaki V, Sarri K, Apostolaki I, Roumeliotaki T, Georgiou V, *et al.* (2011) Dietary patterns during pregnancy and the risk of postpartum depression: the mother–child 'Rhea' cohort in Crete, Greece. *Public Health Nutr* **14**(9), 1663–1670. https://doi.org/10.1017/S1368980010003629
10. Chen J, Zhao J, Chen X, Zou Z, Ni Z (2023) Paternal perinatal depression: a concept analysis. *Nursing Open* **10**(8), 4995–5007. https://doi.org/10.1002/nop2.1797
11. Dagher RK, Bruckheim HE, Colpe LJ, Edwards E, White DB (2021) Perinatal depression: challenges and opportunities. *J Women's Health* **30**(2), 154–159. https://doi.org/10.1089/jwh.2020.8862
12. Davis C, Bryan J, Hodgson J, Murphy K (2015) Definition of the Mediterranean diet; a Literature Review. *Nutrients* **7**(11), 9139–9153. https://doi.org/10.3390/nu7115459

13. Hernández-Ruiz Á, Díaz-Jereda LA, Madrigal C, Soto-Méndez MJ, Kuijsten A, Gil Á (2021) Methodological aspects of diet quality indicators in childhood: a mapping review. *Adv Nutr* **12**(6), 2435–2494. https://doi.org/10.1093/advances/nmab053
14. Englund-Ögge L, Brantsæter AL, Sengpiel V, Haugen M, Birgisdottir BE, Myhre R, *et al.* (2014) Maternal dietary patterns and preterm delivery: results from large prospective cohort study. *BMJ* **348**, g1446. https://doi.org/10.1136/bmj.g1446
15. Fish-Williamson A & Hahn-Holbrook J (2023) Nutritional factors and cross-national postpartum depression prevalence: an updated meta-analysis and meta-regression of 412 studies from 46 countries. *Front Psychiatry* **14**, 1193490. https://doi.org/10.3389/fpsyt.2023.1193490
16. Flor-Alemany M, Migueles JH, Alemany-Arrebola I, Aparicio VA, Baena-García L (2022) Exercise, Mediterranean diet adherence or both during pregnancy to prevent postpartum depression—GESTAFIT trial secondary analyses. *Int J Environ Res Public Health* **19**(21), Article 21. https://doi.org/10.3390/ijerph192114450
17. Grant MJ & Booth A (2009) A typology of reviews: an analysis of 14 review types and associated methodologies. *Health Info Libr J* **26**(2), 91–108. https://doi.org/10.1111/j.1471-1842.2009.00848.x
18. Jacka FN, Pasco JA, Mykletun A, Williams LJ, Hodge AM, O'Reilly SL, *et al.* (2010) Association of Western and traditional diets with depression and anxiety in women. *Am J Psychiatry* **167**(3), 305–311. https://doi.org/10.1176/appi.ajp.2009.09060881
19. Khan R, Waqas A, Bilal A, Mustehsan ZH, Omar J, Rahman A (2020) Association of Maternal depression with diet: a systematic review. *Asian J Psychiatry* **52**, 102098. https://doi.org/10.1016/j.ajp.2020.102098
20. Knox B, Galera C, Sutter-Dallay A-L, Heude B, de Lauzon-Guillain B, van der Waerden J (2023) A network analysis of nutritional markers and maternal perinatal mental health in the French EDEN cohort. *BMC Pregnancy Childbirth* **23**(1), 603. https://doi.org/10.1186/s12884-023-05914-w
21. Lassale C, Batty GD, Baghdadli A, Jacka F, Sánchez-Villegas A, Kivimäki M, *et al.* (2019) Healthy dietary indices and risk of depressive outcomes: a systematic review and meta-analysis of observational studies. *Mol Psychiatry* **24**(7), 965–986. https://doi.org/10.1038/s41380-018-0237-8
22. Li Y, Lv M-R, Wei Y-J, Sun L, Zhang J-X, Zhang H-G, *et al.* (2017) Dietary patterns and depression risk: a meta-analysis. *Psychiatry Res*, **253**, 373–382. https://doi.org/10.1016/j.psychres.2017.04.020
23. Miyake Y, Tanaka K, Okubo H, Sasaki S, Furukawa S, Arakawa M (2018) Dietary patterns and depressive symptoms during pregnancy in Japan: baseline data from the Kyushu Okinawa maternal and child health study. *J Affect Disord*, **225**, 552–558. https://doi.org/10.1016/j.jad.2017.08.073
24. Opie RS, Uldrich AC, Ball K (2020) Maternal postpartum diet and postpartum depression: a systematic review. *Matern Child Health J* **24**(8), 966–978. https://doi.org/10.1007/s10995-020-02949-9
25. Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, *et al.* (2021) The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* **372**, n71. https://doi.org/10.1136/bmj.n71
26. Higgins JPT & Green S (editors) (2013) *Cochrane Handbook for Systematic Reviews of Interventions*. Version 5.1.0. London: The Cochrane Collaboration.
27. Wells GA, Shea B, O'Connell D, Peterson J, Welch V, Losos M, *et al.* (2000) *The Newcastle–Ottawa Scale (NOS) for Assessing the Quality of Nonrandomised Studies in Meta-Analyses*. Ottawa, ON: Ottawa Hospital Research Institute. The Newcastle–Ottawa Scale (NOS) (accessed June 2026).
28. Higgins JPT, Savović J, Page MJ, Elbers RG & Sterne JAC (2020) Chapter 8: Assessing risk of bias in a randomized trial. In: JPT Higgins, J Thomas, J Chandler, M Cumpston, T Li, MJ Page and VA Welch, editors. *Cochrane Handbook for Systematic Reviews of Interventions*. 2nd ed. Chichester, UK: John Wiley & Sons. pp. 205–228.
29. Papadopoulou SK, Pavlidou E, Dakanalis A, Antasouras G, Vorvolakos T, Mentzelou M, *et al.* (2023) Postpartum depression is associated with maternal sociodemographic and Anthropometric characteristics, perinatal outcomes, breastfeeding practices, and Mediterranean diet adherence. *Nutrients* **15**(17), 3853. https://doi.org/10.3390/nu15173853
30. Psaltopoulou T, Sergentanis TN, Panagiotakos DB, Sergentanis IN, Kosti R, Scarmeas N (2013) Mediterranean diet, stroke, cognitive impairment, and depression: a meta-analysis. *Ann Neurol* **74**(4), 580–591. https://doi.org/10.1002/ana.23944
31. Quirk SE, Williams LJ, O'Neil A, Pasco JA, Jacka FN, Housden S, *et al.* (2013) The association between diet quality, dietary patterns and depression in adults: a systematic review. *BMC Psychiatry* **13**, 175. https://doi.org/10.1186/1471-244X-13-175
32. Rechenberg K & Humphries D (2013) Nutritional interventions in depression and perinatal depression. *Yale J Biol Med* **86**(2), 127–137.
33. Steel Z, Marnane C, Iranpour C, Chey T, Jackson JW, Patel V, *et al.* (2014) The global prevalence of common mental disorders: a systematic review and meta-analysis 1980–2013. *Int J Epidemiol*, **43**(2), 476–493. https://doi.org/10.1093/ije/dyu038
34. Sun Y, Ferguson M, Reeves MM, Kelly JT (2023) Maternal dietary patterns and risk of postpartum depression: a systematic review. *Matern Child Health J* **27**(12), 2077–2090. https://doi.org/10.1007/s10995-023-03781-7
35. Sutton A, Clowes M, Preston L, Booth A (2019) Meeting the review family: exploring review types and associated information retrieval requirements. *Health Info Libr J* **36**(3), 202–222. https://doi.org/10.1111/hir.12276
36. Teo C, Chia A-R, Colega MT, Chen L-W, Fok D, Pang WW, *et a.* (2018) Prospective associations of maternal dietary patterns and postpartum mental health in a multi-ethnic Asian cohort: the growing up in Singapore towards healthy outcomes (GUSTO) study. *Nutrients* **10**(3), 299. https://doi.org/10.3390/nu10030299
37. Vilela AAF, Farias DR, Eshriqui I, Vaz JS, Franco-Sena AB, Castro MBT, *et al.* (2014) Prepregnancy healthy dietary pattern is inversely associated with depressive symptoms among pregnant Brazilian women. *J Nutr* **144**(10), 1612–1618. https://doi.org/10.3945/jn.114.190488
38. Wang P, Yim IS, Lindsay KL (2023) Maternal diet quality and prenatal depressive symptoms: the moderating role of economic well-being. *Nutrients* **15**(12), 2809. https://doi.org/10.3390/nu15122809
39. Yelverton CA, Rafferty AA, Moore RL, Byrne DF, Mehegan J, Cotter PD, *et al.* (2022) Diet and mental health in pregnancy: nutrients of importance based on large observational cohort data. *Nutrition* **96**, 111582. https://doi.org/10.1016/j.nut.2021.111582

https://doi.org/10.1017/S0954422426100468 Published online by Cambridge University Press