NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Guideline

Maternal and child nutrition: nutrition and weight management in pregnancy, and nutrition in children up to 5 years

Draft for consultation, July 2024

This guideline covers nutrition and weight management in pregnancy for anyone who is planning to become pregnant or is already pregnant, and nutrition in children up to 5 years. Care of babies and children born preterm or with low birth weight are not covered. The guideline does not give detailed advice on what constitutes a healthy diet.

NICE has also produced a guideline on antenatal care, and a guideline on postnatal care that covers babies' feeding in the first 8 weeks after the birth.

This guideline will update and replace the following NICE guidelines:

- The NICE guideline on maternal and child nutrition (PH11, published March 2008 and updated in 2011), except the recommendations on weighing babies (these recommendations have been retained from PH11).
- The recommendations on weight management during pregnancy from the NICE guideline on weight management before, during and after pregnancy (PH27, published July 2010).

This updated guideline amalgamates the following new and existing recommendations:

- New recommendations on maternal and child nutrition. These are marked as **[2024]** because we have reviewed the evidence, and new recommendation have been added. You are invited to comment on these recommendations.
- Existing recommendations on weighing healthy babies that we are retaining from the original maternal and child nutrition guideline (PH11, published March 2008 and updated in 2011). These recommendations are shaded in grey and marked as **[2008]** or **[2011]**. We have not reviewed the evidence or updated these recommendations so cannot accept changes on them. We have made some minor editorial wording changes for clarification.
- New recommendations on weight management during pregnancy. These are marked as **[2024]** because the evidence has been reviewed and the recommendations have been added. You are invited to comment on these recommendations.
- New recommendations on gestational diabetes. These are marked as **[2024]** because the evidence has been reviewed and the recommendations have been added. You are invited to comment on these recommendations.

Who is it for?

- Healthcare professionals working in the NHS who are responsible for maternal and child nutrition (for children from birth to 5 years), including midwives, obstetricians, health visitors, dietitians, public health nutritionists, primary healthcare professionals, general practitioners, community paediatricians, school and community nurses, dentists and dental professionals, and pharmacists
- Commissioners and providers of community and secondary antenatal and postnatal care services, weight management and activity or exercise services, and primary care services
- Providers of preschool education and care services and early years settings
- Employers, human resource teams, senior leadership staff and managers, and staff in education settings
- Anyone who is planning a pregnancy or who is pregnant, and their families

- Families, carers, partners, people who look after babies and children up to 5 years, and the public

What does it include?

- the recommendations
- recommendations for research
- rationale and impact sections that explain why the committee made the 2024 recommendations and how they might affect practice
- the guideline context.

Full details of the evidence and the committee's discussion on the 2024 recommendations are in the evidence reviews.

See update information for a full explanation of what is being updated.

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Contents

Recommendations

People have the right to be involved in discussions and make informed decisions about their care, as described in NICE's information on making decisions about your care.

Making decisions using NICE guidelines explains how we use words to show the strength (or certainty) of our recommendations, and has information about prescribing medicines (including off-label use), professional guidelines, standards and laws (including on consent and mental capacity), and safeguarding.

1.1 Vitamin supplementation

Unless otherwise stated, these recommendations are for all healthcare professionals who discuss maternal nutrition before, during and after pregnancy, and child nutrition (from birth to 5 years).

The recommendations in this section should be read in conjunction with:

- NICE's guideline on antenatal care
- NICE's guideline on postnatal care
- NICE's guideline on vitamin D
- NHS advice on vitamins, supplements and nutrition in pregnancy
- NHS advice on vitamin D
- the recommendations in the Scientific Advisory Committee on Nutrition (SACN) update on folic acid
- the recommendations in the SACN report on vitamin D and health.

Folic acid before and during pregnancy

1.1.1 Commissioners, service providers and healthcare professionals should ensure that information about the importance of folic acid supplementation before and during pregnancy is readily available in healthcare settings such as:

- community pharmacies
- GP surgeries

- sexual health clinics
- contraception clinics
- fertility clinics
- clinics in community centres and local hubs
- antenatal and postnatal care clinics
- young people's services. **[2024]**

1.1.2 Discuss the importance of folic acid with anyone who may become pregnant, is planning a pregnancy or is already pregnant (whether it be their first or a subsequent pregnancy), during face-to-face, telephone or virtual appointments or group sessions about:

- contraception
- sexual health
- pregnancy planning and preconception health
- fertility
- antenatal health and wellbeing
- future pregnancies, postnatal health and wellbeing, and child health. **[2024]**

1.1.3 Advise anyone who may become, or is planning to become, pregnant or is in the first 12 weeks of pregnancy, to take 400 micrograms of folic acid a day, in line with UK government advice. Discuss the following and provide information that is in the person’s preferred format and relevant to their individual circumstances and level of understanding:

- What folic acid is and how it helps prevent neural tube defects and other congenital malformations.
- The need to take folic acid before trying for a baby (ideally for 3 months before) or as early as possible after a first positive pregnancy test, and for at least the first 12 weeks of pregnancy.
- The importance of taking folic acid supplements even if food (including flour) is fortified with folic acid.
- That folic acid supplements are easy to take and are well tolerated.

- How to remember to take the folic acid supplements each day (for example, setting up reminders or pairing with routine activity such as brushing teeth).
- Free Healthy Start vitamins, who is eligible, and how to apply.
- That free Healthy Start vitamins contain a daily 400 microgram dose of folic acid, and vitamins C and D.
- Where to obtain free or low-cost folic acid supplements.

For more guidance on communication (including different formats and languages), providing information and shared decision making, see the NICE guidelines on patient experience in adult NHS services and shared decision making. **[2024]**

1.1.4 Offer a high-dose folic acid supplement (5 mg a day) to anyone who is planning to become pregnant or is in the first 12 weeks of pregnancy, if they have an increased risk of having a baby with a neural tube defect or other congenital malformation, for example, if they:

- (or their partner) have, or if there is a family history of, a neural tube defect or other congenital malformation
- have had a previous pregnancy affected by a neural tube defect or other congenital malformation
- have type 1 or type 2 diabetes
- have a haematological condition that requires folic acid supplementation, such as sickle cell anaemia or thalassaemia
- are taking medicines that can affect how folic acid is absorbed or metabolised (for example, people taking anti-epileptic medicines or medicines for HIV). **[2024]**

1.1.5 Reassure anyone with a body mass index (BMI) of 25 kg/m^2 or more who is planning to become pregnant or is in the first 12 weeks of pregnancy, that they do not need to take more than 400 micrograms of folic acid a day, unless they have any of the factors listed in recommendation 1.1.4. **[2024]**

1.1.6 Reassure anyone with an increased risk of pre-eclampsia who is planning to become pregnant or is in the first 12 weeks of pregnancy, that they do not need to take more than 400 micrograms of folic acid a day, unless they have any of the factors listed in recommendation 1.1.4. **[2024]**

1.1.7 If a person has had bariatric surgery and is planning a pregnancy or is pregnant, advise them to contact their bariatric surgery unit for individualised, specialist advice about folic acid and other micronutrients. **[2024]**

1.1.8 Provide encouragement for anyone who is not taking the recommended folic acid supplement, by giving targeted information, support and follow-up reminders (including digital health technologies such as apps or digital support groups, if available). Also see the NICE guideline on medicines adherence. **[2024]**

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on folic acid before and during pregnancy.

Full details of the evidence and the committee's discussion are in the evidence reviews:

- evidence review A: high-dose folic acid supplementation before and during the first 12 weeks of pregnancy
- evidence review B: optimum folic acid supplementation dose before and during the first 12 weeks of pregnancy for those with a BMI ≥ 25 kg/m^2 or more
- evidence review C: interventions to increase uptake of folic acid supplementation before and during the first 12 weeks of pregnancy
- evidence review P: facilitators and barriers to increase the uptake of government advice on folic acid and vitamin supplements.

Vitamin D and other vitamin supplements during and after pregnancy and for babies and children under 5

1.1.9 Discuss the importance of vitamin supplements during and after pregnancy, and for children under 5 years, with people at opportunities such as:

- antenatal health and wellbeing appointments
- health visitor appointments
- baby development checks
- postnatal health and wellbeing appointments, including the 6- to 8-week postnatal GP check
- vaccination appointments (both during pregnancy and after the birth)
- community pharmacy visits
- family hub visits
- visits to young people's services
- breastfeeding support group sessions. **[2024]**

1.1.10 Advise anyone who is pregnant or breastfeeding about taking vitamin D and other vitamin supplements. Discuss the following and provide information that is in the person's preferred format and relevant to their individual circumstances and level of understanding:

- Why vitamin supplements are needed in addition to a healthy diet. Which vitamins are important during pregnancy, after pregnancy and for babies and children, in particular, folic acid (see the section on folic acid) and vitamin D (see the NICE guideline on vitamin D: supplement use in specific population groups and NHS advice on vitamin D).
- Recommended dosages, different formulations, and how to take vitamin supplements.
- Ways to remember to take the vitamin supplements each day.
- Where to obtain vitamin supplements (including free or low-cost supplements).
- Free Healthy Start vitamins, who is eligible, and how to apply.

- That free Healthy Start vitamins for anyone who is pregnant or breastfeeding contain a daily 400 microgram dose of folic acid as well as vitamins C and D.
- That free Healthy Start vitamin drops for children contain vitamins A, C and D.

For more guidance on communication (including different formats and languages), providing information, and shared decision making, see the NICE guidelines on patient experience in adult NHS services and shared decision making. **[2024]**

1.1.11 In line with UK government guidance, advise anyone who is pregnant or breastfeeding about the following:

- That they should take a vitamin D supplement (10 micrograms or 400 international units [IU] a day) between September and March, or throughout the year if they are at increased risk of vitamin D deficiency because they, for example:
  - have darker skin, for example, people of African, African-Caribbean or south Asian ethnicity, because their bodies may not make enough vitamin D from sunlight **or**
  - have little or no exposure to sunshine because they are not often outdoors or usually wear clothes that cover up most of their skin when outdoors.
- If they are eligible for free Healthy Start vitamins (which contain vitamins D, C and folic acid), that they should take 1 vitamin tablet a day.
- That during pregnancy they should not take cod liver oil or any supplements containing vitamin A (retinol); this may include regular (non-pregnancy) multivitamins.
- If they are following a restricted diet (for example, a vegan or gluten-free diet), that they may need to add foods and drinks containing vitamin B12 to their diet or take a vitamin B12 supplement (see the NHS advice on being vegetarian or vegan and pregnant and the NHS webpage on B vitamins). See the NICE guideline on vitamin B12

deficiency in over 16s for advice about taking vitamin B12 supplements and what to do if vitamin B12 deficiency is suspected or confirmed. **[2024]**

1.1.12 Advise parents and carers that babies and children should be given vitamin supplements from birth until 5 years of age, in line with UK government advice about vitamins for babies and vitamins for children:

- Babies from birth to 1 year who are being breastfed should be given a daily supplement containing 8.5 to 10 micrograms (340 to 400 IU) of vitamin D.
- Babies who are being fed infant formula should not be given a vitamin D supplement if they are having more than 500 ml (about a pint) of infant formula a day, because infant formula is fortified with vitamin D and other nutrients (note that infant formula is not necessary from 1 year).
- Children aged 1 to 4 years should be given a daily supplement containing 10 micrograms (400 IU) of vitamin D.
- From 6 months up until 5 years, children should also be given daily supplements containing vitamins A and C, in addition to vitamin D.
- Those eligible for free Healthy Start vitamins can receive the free vitamin drops (which contain vitamins A, C and D and are suitable from birth) up to their 4th birthday. **[2024]**

1.1.13 Commissioners and service providers should offer free vitamin D supplements for anyone who is pregnant or breastfeeding, and for children under 5, if they have an increased risk of vitamin D deficiency (see recommendation 1.1.12). **[2024]**

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on vitamin D and other vitamin supplements during and after pregnancy and for babies and children under 5.

Full details of the evidence and the committee's discussion are in the evidence reviews:

- evidence review E: interventions to increase uptake of vitamin supplements (including Healthy Start vitamins) in line with government advice
- evidence review P: facilitators and barriers to increase the uptake of government advice on folic acid and vitamin supplements.

1.2 Healthy eating, physical activity and weight management during pregnancy

Unless otherwise stated, these recommendations are for all healthcare professionals who discuss maternal health during pregnancy, in particular, midwives, dietitians and health visitors.

The recommendations in this section should be read in conjunction with:

- NICE's guideline on antenatal care
- NICE's guideline on overweight and obesity management, which covers weight management before and after pregnancy [LINK TO BE UPDATED AT PUBLICATION]
- NHS advice on keeping well in pregnancy, particularly the sections about food and diet
- NHS Start for Life advice on healthy eating in pregnancy
- The Eatwell Guide
- NHS Healthy Start page for healthcare professionals.

1.2.1 Commissioners and service providers should ensure that healthcare professionals provide independent and non-commercial, evidence-based, consistent information about healthy eating, physical activity and weight management during pregnancy in line with UK government advice, whether it is a person's first or a subsequent pregnancy. **[2024]**

Healthy eating in pregnancy

1.2.2 Discuss the importance of healthy eating with anyone who is pregnant. Ask people about their usual eating habits and preferences, and discuss the following:

- The benefits of healthy foods and drinks, and healthy eating habits for the pregnant person, baby and the wider family.
- Foods and drinks that should be encouraged and foods and drinks to avoid during pregnancy. (Also see UK Chief Medical Officers' Low Risk Drinking Guidelines chapter on pregnancy and drinking.)
- Healthy food and drink options that are acceptable and available for the person.
- Myths about what and how much to eat during pregnancy. For example, reassure people that they do not need to 'eat for two' and that they do not need a special diet during pregnancy, but it is important to eat a variety of different foods every day to get the right balance of nutrients for them and their baby. **[2024]**

1.2.3 When discussing healthy eating in pregnancy:

- Take into account the person's needs and circumstances.
- Provide tailored, non-judgemental and culturally sensitive information that is in the person's preferred format.
- Provide evidence-based, non-commercial sources of further information, such as printed and online materials.
- Consider additional support for young pregnant people and those from low income or disadvantaged backgrounds (see the NICE guideline on pregnancy and complex social factors). This may include, for example, longer or more frequent contacts, bespoke or enhanced services, modified communication, referrals to or information about services in local family hubs or charities, and information about Healthy Start (depending on eligibility).
- Take into account affordability and people's resources when giving advice about a healthy diet and cooking; if needed, provide information

about government and local schemes that can offer advice and help to access healthy food and drinks (including Healthy Start; depending on eligibility) and income support schemes.

For more guidance on communication (including different formats and languages), providing information, and shared decision making, see the NICE guidelines on patient experience in adult NHS services and shared decision making. **[2024]**

1.2.4 Help people to gain the skills and the confidence they need to incorporate healthy foods into their diet. For example, refer people to local cookery classes or groups where people share their skills by cooking and eating together. **[2024]**

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on healthy eating in pregnancy.

Full details of the evidence and the committee's discussion are in the evidence reviews:

- evidence review G: interventions for helping to achieve healthy and appropriate weight change during pregnancy
- evidence review I: interventions to increase uptake of healthy eating and drinking advice during pregnancy
- evidence review Q: facilitators and barriers to increase the uptake of government advice on healthy eating and drinking in pregnancy.

Physical activity in pregnancy

1.2.5 Discuss the importance of physical activity with anyone who is pregnant (see the UK Chief Medical Officers' guidance on physical activity in pregnancy and NHS Start for Life advice on exercising in pregnancy). Ask people about their usual physical activity and exercise habits and

preferences, and provide information on the following that is in the person's preferred format and relevant to their individual circumstances:

- How to safely continue with physical activity.
- How to gradually increase physical activity during pregnancy if they are not already physically active.
- The importance of minimising sedentary time, such as sitting for long periods. **[2024]**

For a short explanation of why the committee made this recommendation and how it might affect practice, see the rationale and impact section on physical activity in pregnancy.

Full details of the evidence and the committee's discussion are in evidence review G: interventions for helping to achieve healthy and appropriate weight change during pregnancy.

Weight management in pregnancy

1.2.6 When discussing weight during pregnancy, follow the recommendations on sensitive communication and avoiding stigma during discussions about weight in the NICE guideline on overweight and obesity management [LINK TO BE UPDATED AT PUBLICATION]. For more guidance on communication, providing information (including providing information in different formats and languages) and shared decision making, see the NICE guidelines on patient experience in adult NHS services and shared decision making. **[2024]**

1.2.7 Discuss healthy weight change during pregnancy and provide information on the following that is in the person's preferred format and relevant to their individual circumstances and preferences:

- Different factors that can affect weight change during pregnancy, for example, weight of the baby, weight of the placenta, maternal increase in blood volume, amniotic fluid, breast tissue expansion and body fat,

and how these (especially the weight of the baby) vary between individuals and affect weight differently.

- The importance of maintaining or starting a healthy diet and physical activity during the pregnancy.
- The estimated healthy ranges for total weight change during pregnancy (see recommendation 1.2.13 in the section on height, weight and BMI), but that there is lack of evidence about what the optimal weight change per week in each trimester should be.
- How people can monitor their diet, physical activity levels and weight change during the pregnancy (see the sections on healthy eating in pregnancy and physical activity in pregnancy).
- Local and online sources of information and support, including self-management tools and materials (particularly those that are free or low-cost).
- The risks associated with gaining excessive weight during the pregnancy for people with a pre-pregnancy BMI in the healthy, overweight and obesity weight categories (see NHS information on BMI ranges). Risks include having a baby who is large-for-gestational age, developing hypertension or gestational diabetes, or needing a caesarean section (see the section on excessive weight gain in pregnancy).
- The risks associated with gaining too little weight during the pregnancy regardless of pre-pregnancy BMI, for example, having a baby who is small-for-gestational age, or developing gestational diabetes (see the section on low weight gain in pregnancy).
- That there is not enough evidence to suggest that any particular nutritionally balanced diet is better than another in helping to achieve optimal weight change in pregnancy. **[2024]**

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on weight management in pregnancy.

Full details of the evidence and the committee's discussion are in the evidence reviews:

- evidence review F: healthy and appropriate weight change during pregnancy
- evidence review G: interventions for helping to achieve healthy and appropriate weight change during pregnancy.

Height, weight and BMI

1.2.8 In line with NICE's guideline on antenatal care, offer to measure the person's height and weight and calculate BMI at the first face-to-face antenatal appointment, and explain why this is important for planning care. Use BMI percentile charts for anyone under 18, because the BMI measure alone does not take growth into account and is inappropriate for this age group. **[2024]**

1.2.9 Reassure the person that their weight and BMI can be shared sensitively with them (for example, by being written down rather than spoken aloud), or not shared with them, depending on what they prefer. **[2024]**

1.2.10 Do not routinely offer to weigh people throughout their pregnancy unless there is a clinical reason to do so (for example, gestational diabetes, hyperemesis gravidarum or thromboprophylaxis). **[2024]**

1.2.11 For anyone with a BMI of over 30, offer testing for gestational diabetes in line with the recommendations on testing in the NICE guideline on diabetes in pregnancy. **[2024]**

1.2.12 For anyone with a BMI of over 40, discuss referral to a specialist obesity service or a specialist practitioner for tailored advice and support during the pregnancy. **[2024]**

1.2.13 For estimated healthy total weight change in a singleton pregnancy according to pre-pregnancy BMI, see table 1 in the National Academy of Medicine's report on the current understanding of gestational weight gain

among women with obesity and the need for future research. Take into account:

- the person's individual risk in relation to weight change during pregnancy **and**
- the balance between potential negative and positive outcomes associated with weight gain that is outside the recommended weight change in pregnancy. **[2024]**

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on height, weight and BMI.

Full details of the evidence and the committee's discussion are in the evidence reviews:

- evidence review F: healthy and appropriate weight change during pregnancy
- evidence review G: interventions for helping to achieve healthy and appropriate weight change during pregnancy
- evidence review Q: facilitators and barriers to increase the uptake of government advice on healthy eating and drinking in pregnancy.

Excessive weight gain in pregnancy

1.2.14 If there are concerns about excessive weight gain during pregnancy:

- ask for further details, and discuss healthy eating and physical activity in pregnancy (see the sections on healthy eating in pregnancy and physical activity in pregnancy, and recommendation 1.2.7 in the section on weight management in pregnancy)
- ensure routine monitoring of the baby to check whether they are potentially large for their gestational age (also see the section on monitoring fetal growth and wellbeing in NICE's guideline on antenatal care)
- consider a test for gestational diabetes. **[2024]**

For a short explanation of why the committee made this recommendation and how it might affect practice, see the rationale and impact section on excessive weight gain in pregnancy.

Full details of the evidence and the committee's discussion are in evidence review F: healthy and appropriate weight change during pregnancy.

Low weight gain in pregnancy

1.2.15 If there are concerns about low weight gain during pregnancy:

- ask for further details and discuss healthy eating and physical activity in pregnancy (see the sections on healthy eating in pregnancy and physical activity in pregnancy, and recommendation 1.2.7 in the section on weight management in pregnancy)
- ensure routine monitoring of the baby to check whether they are potentially small for their gestational age (also see the section on monitoring fetal growth and wellbeing in NICE's guideline on antenatal care)
- consider a test for gestational diabetes. **[2024]**

For a short explanation of why the committee made this recommendation and how it might affect practice, see the rationale and impact section on low weight gain in pregnancy.

Full details of the evidence and the committee's discussion are in evidence review F: healthy and appropriate weight change during pregnancy.

Gestational diabetes

The recommendations in this section should be read in conjunction with the NICE guideline on diabetes in pregnancy.

1.2.16 When a person is diagnosed with gestational diabetes, ask about their usual diet and physical activity in order to provide individualised advice. **[2024]**

1.2.17 Advise people with gestational diabetes that there is currently no convincing evidence that a particular diet (for example, a low-glycaemic index diet, low-carbohydrate diet, low-fat diet, or high-fibre diet) is better than the other. Discuss a healthy diet for gestational diabetes that is the most preferable and appropriate for the person. See NHS advice on a healthy diet for gestational diabetes. **[2024]**

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on gestational diabetes.

Full details of the evidence and the committee's discussion are in evidence review H: healthy lifestyle interventions for those with gestational diabetes.

1.3 Breastfeeding and formula feeding

Unless otherwise stated, these recommendations are for all healthcare professionals who discuss babies' feeding, as well as breastfeeding peer supporters.

The recommendations in this section should be read in conjunction with:

- the recommendations on planning and supporting babies' feeding in the NICE guideline on postnatal care (which covers the antenatal period and the first 8 weeks after birth)
- NICE's guideline on faltering growth
- NHS Start for Life advice on feeding your baby
- the recommendations in the SACN report on feeding in the first year of life
- the UNICEF baby friendly initiative.

Continuing breastfeeding beyond 8 weeks after birth

1.3.1 Provide support throughout the pregnancy and the postnatal period about planning, starting and establishing breastfeeding in line with the recommendations on planning and supporting babies' feeding in the NICE guideline on postnatal care, to improve the likelihood of continued breastfeeding in line with national recommendations. **[2024]**

1.3.2 At each health contact, provide information, advice and reassurance about continuing or re-establishing exclusive breastfeeding until the baby is around 6 months old, and about the importance of continuing breastfeeding alongside solid foods until around 2 years. Topics to discuss or ask about include the following:

- The baby's feeding, and whether there are any new or continuing issues with, or questions about, breastfeeding.
- The value of breastfeeding and breast milk for the baby's health and development, and for maternal health (see NHS Start for Life advice on the benefits of breastfeeding).
- The importance of feeding only breast milk to maintain breastfeeding as supplementing with formula milk compromises breast milk supply.
- Psychological factors such as the emotional impact of, and motivation to continue, breastfeeding.
- How people can feel more confident and comfortable to breastfeed in different situations, including the right to breastfeed in any public space (under the Equality Act 2010).
- The level of support available from partners, family and friends to continue breastfeeding.
- Attending local breastfeeding support groups, for example, breastfeeding 'cafes' and drop-in groups.
- Practical suggestions and tips for convenience, such as having a stockpile of expressed breast milk. See NHS Start for Life advice on expressing breast milk.
- Reassurance that there is no need to follow a special diet while breastfeeding. **[2024]**

1.3.3 Provide information and encouragement for partners and other family members to support continued breastfeeding, as appropriate. **[2024]**

1.3.4 When discussing continuing breastfeeding, allow adequate time so that conversations do not feel rushed. Information provided should support informed decision making and be:

- clear, evidence-based and consistent
- tailored to the person's needs, preferences, beliefs, culture and circumstances
- supportive and respectful.

For more guidance on communication, providing information (including providing information in different formats and languages) and shared decision making, see the NICE guidelines on patient experience in adult NHS services and shared decision making. **[2024]**

1.3.5 Provide additional support (for example, virtual support groups, phone calls, emails or text messages, depending on the person's preference) to supplement (but not replace) face-to-face discussions about continuing breastfeeding. This may include information about out-of-hours support (such as the national breastfeeding helpline) and peer support. **[2024]**

1.3.6 Offer face-to-face breastfeeding support group sessions (such as breastfeeding 'cafes' or drop-in groups) where appropriately trained healthcare professionals or peer supporters provide people with individualised, practical, emotional and social support to maintain breastfeeding. **[2024]**

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on continuing breastfeeding beyond 8 weeks after birth.

Full details of the evidence and the committee's discussion are in the evidence reviews:

- evidence review J: approaches and interventions for maintaining breastfeeding beyond 8 weeks after birth
- evidence review K: facilitators and barriers for maintaining breastfeeding beyond 8 weeks after birth.

Continuing breastfeeding after returning to work or study

1.3.7 Reassure people who are breastfeeding that they do not need to stop when they return to work or education. See NHS Start for Life advice on breastfeeding and returning to work. **[2024]**

1.3.8 Encourage people to inform their employer or education provider about continuing breastfeeding in good time before they return to work or study. Advise that they may find it helpful to involve human resources or student services in the discussions, as appropriate. **[2024]**

1.3.9 Discuss how people can balance breastfeeding with returning to work or education, and encourage them to think about what support they may need from their employer or education provider for as long as they continue breastfeeding. Topics to discuss include the following:

- The person's views and preferences about continuing breastfeeding when they return to work or education.
- The timing of any shared parental leave, because it may be more helpful for the other parent to take parental leave after breastfeeding has been well established.
- The timing of the person's return to work or education, whether they can take extended leave or extend their studies, and whether there are flexible working or learning possibilities such as different working hours or days, hybrid or remote work or study options.
- The support that employers and education providers can offer, for example, providing a private, safe and hygienic area to express milk, fridge and storage space, and additional breaks.
- That the Equality Act 2010 states that it is legal to breastfeed in public places anywhere in the UK, and that it is unlawful for businesses to discriminate against anyone who is breastfeeding a child of any age.
- That employers have legal requirements and guidance that they need to follow, for example:
  - Health and Safety Executive (HSE) guidance for employers about protecting pregnant workers and new mothers **and**

  - ACAS advice on accommodating breastfeeding employees in the workplace.
- How to express breastmilk (by hand or with a breast pump) and how to safely store expressed breast milk. See NHS Start for Life advice on expressing breast milk.
- Childcare options and the practical benefits of childcare being near to the place of work or education.
- Sources of further advice and support about returning to work or education, for example, helplines such as the National breastfeeding helpline, peer support and local and national support groups. **[2024]**

1.3.10 Employers, human resource teams, senior leadership staff and managers, and staff in education settings should take into account the following, in order to improve the work and education environment and meet legislation around accommodating breastfeeding employees or students:

- Legal requirements and guidance for employers, for example:
  - Health and Safety Executive (HSE) guidance for employers about protecting pregnant workers and new mothers **and**
  - ACAS advice on accommodating breastfeeding employees in the workplace.
- Options for flexible, hybrid or home working.
- How settings can support people to breastfeed or express milk (for example, providing a private space, fridge and storage space, and additional breaks).
- Developing a breastfeeding policy for employees and students.
- Appointing a designated breastfeeding lead.
- Training for all employees about policies and legislation.
- Support from breastfeeding ambassadors, champions or advocates, and from peers. **[2024]**

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on continuing breastfeeding after returning to work or study.

Full details of the evidence and the committee's discussion are in evidence review M: facilitators and barriers to continue breastfeeding when returning to work or study.

Formula feeding

1.3.11 Commissioners and service providers should ensure that healthcare professionals provide independent and non-commercial, evidence-based, consistent advice on safe and appropriate formula feeding. **[2024]**

1.3.12 Commissioners and service providers should ensure that healthcare professionals do not inadvertently promote or advertise infant or follow-on formula by displaying, distributing or using any materials or equipment produced or donated by infant formula, bottle and teat manufacturers, including, but not limited to, product samples, leaflets, posters or charts. **[2024]**

1.3.13 At every health contact, ask about how the baby's feeding is going. If the baby is breastfed and the parents are thinking about introducing formula, or if they require further information about formula feeding or combination feeding, discuss their reasons for thinking about formula milk in a sensitive, non-judgemental way to help them make an informed decision. Also see the recommendations on formula feeding in the NICE guideline on postnatal care. **[2024]**

1.3.14 If parents choose formula feeding, direct them to additional sources of support and non-commercial, evidence-based, consistent advice on safe and appropriate formula feeding such as:

- NHS Start for Life advice on bottle feeding
- NHS Start for Life advice on mixed feeding

- NHS bottle feeding advice
- UNICEF's Baby Friendly Initiative guide to bottle feeding
- NHS advice on when to introduce beakers and cups
- schemes that offer advice and help to buy healthy food and milk (including Healthy Start; depending on eligibility). **[2024]**

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on formula feeding.

Full details of the evidence and the committee's discussion are in evidence review L: facilitators and barriers to follow existing government advice on safe and appropriate formula feeding.

1.4 Weighing babies and young children

1.4.1 As a minimum, weigh babies at birth and in the first week as part of an overall assessment of feeding. If a baby loses more than 10% of their birth weight in the early days of life, measure their weight again at appropriate intervals depending on the level of concern, but no more frequently than daily, in line with the NICE guideline on faltering growth. Also see the recommendations on weighing babies in the sections on:

- care of the newborn baby in the NICE guideline on intrapartum care **and**
- assessment and care of the baby in the NICE guideline on postnatal care. **[2011, amended 2024]**

1.4.2 Weigh healthy babies at 8, 12 and 16 weeks and at 1 year, at the time of routine immunisations. If there is concern, see NICE guideline on faltering growth. **[2011, amended 2024]**

1.4.3 Weigh babies using digital scales that are maintained and calibrated annually, in line with medical devices standards (spring scales are inaccurate and should not be used). **[2008]**

1.4.4 Commissioners and managers should ensure that health professionals receive training on weighing and measuring babies. This should include how to:

- use equipment
- document and interpret the data **and**
- help parents and carers understand the results and implications. **[2008]**

1.4.5 Ensure that support staff are trained to weigh babies and young children and to record the data accurately in the child health record held by the parents. **[2008]**

1.5 Healthy eating behaviours in babies and children from 6 months and up to 5 years

Unless otherwise stated, these recommendations are all healthcare professionals who discuss child nutrition.

The recommendations in this section should be read in conjunction with:

- NICE's guidelines on:
  - faltering growth
  - oral health promotion for local authorities and partners
  - oral health promotion for general dental practice
  - food allergy under 19s: assessment and diagnosis
- the recommendations for improving nutrition in schools, nurseries and childcare facilities in the NICE guideline on overweight and obesity management [LINK TO BE UPDATED AT PUBLICATION]
- the recommendations in the SACN reports on:
  - feeding in the first year of life
  - feeding young children aged 1 to 5 years
- NHS advice on:
  - weaning and feeding
  - food allergies in babies and young children
- NHS Start for Life advice on weaning.

Introducing solid foods (complementary feeding) for babies between 6 months and 1 year

1.5.1 Commissioners and providers of services should ensure that healthcare professionals have independent and non-commercial, evidence-based, and consistent information about the timely and appropriate introduction of solid foods to babies in line with UK government advice and this guideline. **[2024]**

1.5.2 Commissioners and providers of services should support healthcare professionals who have knowledge and expertise in introducing solid foods to babies (for example, health visitors) to act as 'champions' to pass on information to other staff. **[2024]**

1.5.3 In the final trimester of pregnancy, advise parents-to-be:

- that they should introduce solid foods to their baby from around 6 months onwards, alongside usual milk feeds
- about government and local schemes that offer advice and help to buy healthy food and milk (including Healthy Start; depending on eligibility), and income support schemes. **[2024]**

1.5.4 When the baby is 2, 3 and 4 months old, remind parents that they should not introduce solid foods until their baby is around 6 months old. This could include reminders at appointments, or by sending text messages or letters. **[2024]**

1.5.5 When the baby is between 4 and 5 months old, arrange an opportunity for parents to find out more about introducing their baby to solid food from the age of 6 months. This could be a face-to-face or online appointment, phone consultation or group session. **[2024]**

1.5.6 When discussing and giving advice on introducing solid foods, take into account the family's circumstances and living conditions, and be culturally sensitive. **[2024]**

1.5.7 During discussions about introducing solid foods, provide independent, non-commercial, evidence-based information in line with current UK government advice, and use printed or online resources (for example, Start for Life materials) to complement and reinforce the discussions. Topics to discuss include the following:

- When and how to introduce solid foods.
- Appropriate foods and drinks to introduce.
- Offering a variety of foods, flavours and textures (not all sweet).
- The benefits of homemade foods (without adding sugar, salt or sweetening agents).
- The introduction of cups and beakers alongside solid foods.
- Foods and drinks to avoid.
- Building up feeding frequency and increasing the diversity of foods over time.
- Responsive feeding.
- The continuing role of breast milk, breastfeeding and infant formula.
- Addressing concerns and anxieties related to introducing solids.
- Dealing with concerns about gagging and choking, and common challenges like mess and food waste.
- That babies should not be left alone when they are eating or drinking.
- That parents should introduce potentially allergenic foods, including egg and peanut products in small amounts in age-appropriate forms alongside other solid foods; advice and reassurance about why this is important, signs of an allergic reaction, and what to do if symptoms occur.
- Being aware of potentially misleading information and marketing from commercial baby food companies that conflicts with UK government guidance, for example, age of introduction, hidden sugar content and snack foods.
- Concerns about the cost of healthy food and where to get support, including government and local schemes that offer advice and help to

buy healthy food and milk (including Healthy Start; depending on eligibility) and income support schemes. **[2024]**

1.5.8 For babies between 6 and 12 months, at every contact and at the Healthy Child Programme developmental review at 8 to 12 months, ask about the baby's feeding and remind families of the topics discussed in recommendation 1.5.7. **[2024]**

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale and impact section on introducing solid foods (complementary feeding) for babies between 6 months and 1 year.

Full details of the evidence and the committee's discussion are in the evidence reviews:

- evidence review N: interventions to promote appropriate and timely introduction to solids (complementary feeding) for babies from 6 to 12 months
- evidence review R: facilitators and barriers to increase the uptake of government advice on appropriate and timely introduction to solids and healthy eating and drinking in children

Healthy eating and drinking for children from 1 up to 5 years

1.5.9 Commissioners and providers of services should ensure that healthcare professionals and people working in early years services have independent and non-commercial, evidence-based, and consistent information about healthy eating and drinking for children from 1 up to 5 years, in line with UK government advice and this guideline. **[2024]**

1.5.10 Take into account the family's circumstances, and sensitively tailor the discussion and advice around healthy eating and drinking to the family's needs, circumstances, preferences and understanding. Give particular consideration to children from low income or disadvantaged backgrounds, for example, by providing additional support for their families, such as longer or more frequent contacts, bespoke or enhanced services,

modified communication, referrals to or information about services in local family hubs or charities and information about Healthy Start (depending on eligibility). **[2024]**

1.5.11 Provide independent, non-commercial, evidence-based and consistent information on healthy eating practices and promote interventions, such as:

- schemes that improve access to healthy foods, for example, Healthy Start, free school meals, or local initiatives
- interventions that improve families' skills and confidence to include healthy foods in their diet such as 'cook and eat' classes. **[2024]**

1.5.12 When discussing healthy eating and drinking with families, provide information, and use printed or online resources (for example, Start for Life materials) to complement and reinforce the discussions. Topics to discuss include the following:

- The importance of a balanced and diverse diet, comprised of 3 meals a day, 2 healthy snacks and water or milk.
- That formula milks are not needed, sugar-sweetened drinks should not be given, and fruit juice should be limited (no more than 150 ml per day).
- That the UK government dietary recommendations as depicted in the Eatwell Guide apply from around 2 years of age.
- The benefits of homemade food (without adding sugar, salt or sweetening agents).
- Ensuring that snacks offered between meals are low in sugar and salt (for example, vegetables, fruit, plain (not flavoured) milk, bread and homemade sandwiches with savoury fillings).
- The importance of families eating together, and how parents and carers can set a good example through their own food choices.
- Encouraging children to repeatedly handle and taste a wide range of vegetables and fruit at home and in early years settings.
- Avoiding food-based rewards, and instead use, for example, stickers.

- Being aware of potentially misleading information and marketing from commercial food companies that conflicts with UK government guidance, for example, hidden sugar content and pre-packaged snack foods.
- Concerns about the cost of healthy food and where to get support, including government schemes that offer advice and help to buy healthy food and milk (including Healthy Start depending on eligibility), free school meal schemes, local initiatives, and income support schemes. **[2024]**

1.5.13 Early years settings should ensure that healthy eating and drinking are prioritised, and that actions are part of a whole setting approach that involve the following:

- Providing healthy foods and drinks in line with the Early years foundation stage (EYFS) statutory framework (if possible, prepared on-site; also see example menus for early years settings in England), including produce from settings-based gardens where possible.
- Repeated offering of unfamiliar foods (vegetables and fruit) and role modelling.
- Talking to children about healthy foods and healthy eating, and food education such as cooking, play, and themed weeks.
- Involving families and carers to promote consistency between the setting and home.

See also recommendations on preventing overweight, obesity and central adiposity for early-years settings, nurseries, other childcare facilities and schools in the NICE guideline on overweight and obesity management [LINK TO BE UPDATED AT PUBLICATION]. [**[2024]**

For a short explanation of why the committee made these recommendations and how they might affect practice, see the rationale section on healthy eating and drinking for children from 1 to 5 years.

Full details of the evidence and the committee's discussion are in the evidence reviews:

- evidence review O: interventions to promote healthy eating and drinking practices, including complementary feeding, in children from 12 months to 5 years
- evidence review R: facilitators and barriers to increase the uptake of government advice on appropriate and timely introduction to solids and healthy eating and drinking in children

Recommendations for research

The guideline committee has made the following recommendations for research.

Key recommendations for research

1 Digital technologies to increase uptake of folic acid supplementation

What is the clinical and cost effectiveness of digital technologies (for example, social media and online support groups) to increase the uptake of folic acid supplementation before and during the first 12 weeks of pregnancy? **[2024]**

For a short explanation of why the committee made this recommendation for research, see the rationale section on folic acid before and during pregnancy.

Full details of the evidence and the committee's discussion are in evidence review C: interventions to increase uptake of folic acid supplementation before and during the first 12 weeks of pregnancy.

2 High-dose folic acid supplementation

What is the safest and most effective dose for folic acid supplementation before and during the first 12 weeks of pregnancy for people at a high risk of conceiving a child with a neural tube defect or congenital malformation? **[2024]**

For a short explanation of why the committee made this recommendation for research, see the rationale section on folic acid before and during pregnancy.

Full details of the evidence and the committee's discussion are in evidence review A: high-dose folic acid supplementation before and during the first 12 weeks of pregnancy.

3 Optimum dose of vitamin D during pregnancy for people with a BMI that is within the overweight or obesity weight categories

What dose of vitamin D is appropriate during pregnancy for people with a body mass index (BMI) that is within the overweight or obesity weight categories? **[2024]**

For a short explanation of why the committee made this recommendation for research, see the rationale section on vitamin D and other vitamin supplements during and after pregnancy.

Full details of the evidence and the committee's discussion are in evidence review D: optimum vitamin D dose during pregnancy for those medically classified as overweight or obese.

4 Dietary interventions during pregnancy for people with gestational diabetes

What are the most clinically and cost-effective dietary interventions to improve glycaemic control, maternal and baby outcomes for people with gestational diabetes? **[2024]**

For a short explanation of why the committee made this recommendation for research, see the rationale section on gestational diabetes.

Full details of the evidence and the committee's discussion are in evidence review H: healthy lifestyle interventions for those with gestational diabetes.

5 Safe and appropriate formula feeding

What are the facilitators and barriers for safe and appropriate formula feeding in the context of poverty and food insecurity? **[2024]**

For a short explanation of why the committee made this recommendation for research, see the rationale section on formula feeding.

Full details of the evidence and the committee's discussion are in evidence review L: facilitators and barriers to follow existing government advice on safe and appropriate formula feeding.

Rationale and impact

These sections briefly explain why the committee made the recommendations and how they might affect practice.

Folic acid before and during pregnancy

Recommendations 1.1.1 to 1.1.8

Why the committee made the recommendations

Evidence on interventions to improve the uptake of folic acid supplementation before and during pregnancy showed mixed findings. Overall, information provision and education interventions compared to usual care helped to improve uptake, when provided face-to-face as well as in printed materials, and when delivered by healthcare professionals. Qualitative evidence also highlighted the importance of making information about folic acid supplementation before and during pregnancy available in different healthcare settings that people who may become pregnant visit, to raise awareness of its importance. This could be in the form of, for example, posters or leaflets.

In addition to having information readily available, the committee agreed that folic acid supplementation should be proactively discussed with anyone who is likely to become pregnant, planning to become pregnant or is already pregnant. Qualitative evidence showed that barriers to taking folic acid supplements include

misinformation or confusion about the impact of folic acid, including a belief that it causes nausea. The committee agreed the importance of providing information in line with government advice, and reassuring people that folic acid supplementation is well tolerated and low cost or, in some cases, free.

No evidence was identified on high-dose (5 mg or more) folic acid during preconception and pregnancy, although 5 mg is the current recommended dose for those with an increased risk of conceiving a child with neural tube defects or other congenital malformations.

There was evidence that women with a history of births affected by neural tube defects who took 4 mg of folic acid before conception and during pregnancy had a lower risk of having a baby with a neural tube defect in the current pregnancy. No evidence was available for other known 'at-risk' groups so these were based on committee consensus. Based on the evidence, the committee would have recommended 4 mg of folic acid as the high dose for the 'at-risk' populations; however, 5 mg is recommended, partly for practical reasons, and it reflects current practice. This is because the only formulations available are 0.4 mg (400 micrograms) and 5 mg, so it is not feasible for people to take 4 mg. Folic acid is generally well tolerated even in high doses, and there is no known evidence of harm in different populations (evidence for other populations was not reviewed by the committee). There is also likely little difference between a 5 mg and 4 mg dose because folic acid does not have a narrow therapeutic index. The recommendation reflects current practice because 5 mg is the current recommended dose for those with increased risk of having a baby with neural tube defects or other congenital malformations. The committee also made a recommendation for more research into the safest and most effective dose of folic acid supplementation for this population.

There was no evidence to support high-dose folic acid for those with a BMI that is within the overweight or obesity weight categories. The committee agreed that the standard dose of 400 micrograms is sufficient, unless there are other factors that increase the risk of having a baby with neural tube defect or congenital malformation. For those at risk of pre-eclampsia, the evidence, while limited, did not show that high-dose folic acid would prevent pre-eclampsia. The committee agreed that people

who have had bariatric surgery may need specific advice about folic acid and other micronutrients before and during pregnancy.

The committee also agreed that support and encouragement should be available for people who do not take folic acid supplements as recommended.

The evidence on the role of digital technologies to improve uptake of folic acid supplementation before and during pregnancy was limited, so the committee made a research recommendation on the clinical and cost effectiveness of such technologies.

How the recommendations might affect practice

Overall, the recommendations should reinforce best practice. Providing targeted information and reminders may have a small resource impact but this should be offset by the benefits of improving folic acid uptake. The recommendations on high-dose folic acid generally reflect current practice. However, there will be a change in practice because people with a BMI that is within the obesity weight category will no longer be advised to take high-dose folic acid unless they have other risk factors.

Return to recommendations

Vitamin D and other vitamin supplements during and after pregnancy and for babies and children under 5

Recommendations 1.1.9 to 1.1.13

Why the committee made the recommendations

Overall, there was limited evidence on interventions to improve the uptake of vitamin supplements. Qualitative evidence showed that people sometimes lacked information about the benefits of vitamin D supplementation or found the information confusing. Tailored information provided in different appointments, settings and opportunities was preferred. The committee agreed that healthcare professionals should provide current government advice about vitamin supplementation at various opportunities and in different settings.

There was some evidence that information provision, together with a supply of vitamin D drops, improved vitamin D uptake in babies aged 3 months. The

committee agreed that it is important to make people aware of the Healthy Start scheme so that those eligible can access free vitamins. Qualitative evidence showed that even those eligible for the free Healthy Start vitamins sometimes struggle to obtain them for various reasons, emphasising the importance of information from healthcare professionals. Because the Healthy Start scheme is not universally available, the committee agreed that providing free vitamin supplements to those at an increased risk of vitamin D deficiency could prevent vitamin D deficiency and associated outcomes. There was evidence that free vitamin D supplementation during pregnancy and for children up to 4 years of age with dark or medium tone skin (who are at higher risk for vitamin D deficiency) is cost-effective.

Evidence on the appropriate dose of vitamin D during pregnancy for people with a BMI that is within the overweight or obesity weight categories was limited and inconclusive, so the committee made a research recommendation on the optimum dose of vitamin D for people with a body mass index (BMI) that is within the overweight or obesity weight categories.

How the recommendations might affect practice

The recommendations on information provision reinforces current best practice. Free Healthy Start vitamins are already available in some areas for everyone who is pregnant or breastfeeding and children under 5, regardless of their eligibility for the wider Healthy Start scheme. Where this is not available, provision of free vitamin supplements for those at an increased risk of deficiency may have some resource impact but this should be balanced by preventing vitamin D deficiency.

Return to recommendations

Healthy eating in pregnancy

Recommendations 1.2.1 to 1.2.4

Why the committee made the recommendations

The recommendations are based on quantitative and qualitative evidence and the committee's expertise.

Evidence from randomised controlled trials showed that information provision and education on healthy eating and drinking during pregnancy (compared to usual care) had some beneficial effects on eating practices.

Qualitative evidence suggested that people value personalised discussions with midwives about healthy eating. Feeling accepted and understood were considered important. There was qualitative evidence that young pregnant people lack trust in healthcare professionals because of a perceived lack of support and understanding of their situation.

There was evidence that overall, dietary advice from healthcare professionals leads to better understanding for the person and their unborn baby, and influences uptake of healthy cooking and eating habits in the long term. Qualitative evidence also showed that, in addition to discussions, people value other written information, particularly in digital formats, and want these to be trustworthy. The committee agreed that information sources should be evidence-based and non-commercial.

A major barrier for healthy eating identified in qualitative research is the cost of healthy food. The committee agreed that practical support and advice about accessing free or affordable foods and financial help is essential in supporting pregnant people to eat healthily. In addition, people lack confidence and skills in cooking healthy meals, so classes where people can learn to cook healthy, affordable meals were highlighted as an example of how to overcome this.

How the recommendations might affect practice

The recommendations reinforce current best practice. In some areas, the recommendations may have small resource implications relating to the additional healthcare professional time needed to discuss healthy eating in pregnancy, particularly with young people and those from low income or disadvantaged backgrounds.

Return to recommendations

Physical activity in pregnancy

Recommendation 1.2.5

Why the committee made the recommendation

Overall, evidence on physical activity-based interventions during pregnancy showed no impact on weight change during pregnancy, but showed some benefit in terms of other outcomes such as reducing the rate of gestational diabetes and babies being large-for-gestational age. The committee agreed that starting or maintaining moderate physical activity during pregnancy is important for both the pregnant person and their unborn baby. They recommended that discussion around physical activity is individualised and based on a discussion about the person's usual habits and preferences, because this will help encourage physical activity during pregnancy.

How the recommendation might affect practice

The recommendation reinforces current best practice. In some areas, the recommendation may have small resource implications relating to the additional healthcare professional time needed to discuss physical activity in pregnancy.

Return to recommendations

Weight management in pregnancy

Recommendations 1.2.6 and 1.2.7

Why the committee made the recommendations

The committee were aware that discussions around weight are often perceived as judgemental and insensitive. This can prevent people from engaging, and creates distrust and negative feelings towards healthcare professionals.

Evidence from randomised controlled trials was not able to show that dietary and physical activity interventions are particularly helpful in managing weight in pregnancy; however, they did show some other benefits, for example, on gestational hypertension and pre-eclampsia. Quantitative evidence was also unable to determine the optimal weight change during pregnancy for any pre-pregnancy weight category.

However, the evidence showed that either low or excessive weight gain during pregnancy both lead to an increased chance of some adverse outcomes. Excess

weight gain in particular, is associated with adverse outcomes such as gestational hypertension, gestational diabetes and the baby being large-for-gestational age. Those with a pre-pregnancy BMI in the overweight and obesity weight categories are most affected, although an impact was also seen in those with a pre-pregnancy BMI in the healthy weight category.

How the recommendations might affect practice

The recommendations reinforce current best practice. In some areas, the recommendations may have some resource implications relating to the additional healthcare professional time needed to discuss weight management in pregnancy.

Return to recommendations

Height, weight and BMI

Recommendations 1.2.8 to 1.2.13

Why the committee made the recommendations

BMI is currently calculated at the antenatal booking appointment, in line with current practice and the NICE antenatal care guideline. This enables risk assessment and determines the need for further tests or referral.

The committee agreed that weighing everyone throughout pregnancy is not needed and should only be offered when there is a clinical need. The committee agreed that a referral to a specialist obesity service or a specialist practitioner should be discussed with people with a pre-pregnancy BMI of 40 or over because of the higher risk of complications and other considerations during the pregnancy. Quantitative evidence was unable to determine the optimal weight change during pregnancy for any pre-pregnancy weight category. However, there are estimates of healthy total weight change in singleton pregnancy according to the pre-pregnancy BMI (separate estimates exist for twin pregnancies), which may be helpful to use in discussions, although these estimates do not account for trimester-specific healthy weight change. The committee agreed that healthcare professionals should take into account individual factors that could influence weight change in pregnancy, for example, comorbidities such as thyroid disease, renal disease and gestational hypertension, and previous pregnancy history.

How the recommendations might affect practice

The recommendations reinforce current best practice.

Return to recommendations

Excessive weight gain in pregnancy

Recommendation 1.2.14

Why the committee made the recommendation

There was evidence that excessive weight gain during pregnancy is associated with gestational diabetes in people with a pre-pregnancy BMI in the healthy, overweight and obesity weight categories. Excessive weight gain is also associated with the baby being large-for-gestational age.

How the recommendation might affect practice

More people may be considered for gestational diabetes testing, but resource implications are not expected to be significant, and any potential additional cost is likely to be offset by the benefits of early identification of gestational diabetes. It is current practice to offer people with a pre-pregnancy BMI in the obesity weight category testing for gestational diabetes.

Return to recommendations

Low weight gain in pregnancy

Recommendation 1.2.15

Why the committee made the recommendation

There was evidence that low weight gain during pregnancy is associated with the baby being small-for-gestational age, and gestational diabetes across all pre-pregnancy weight categories.

How the recommendation might affect practice

More people may be considered for gestational diabetes testing, but resource implications are not expected to be significant, and any potential additional cost is likely to be offset by the benefits of early identification of gestational diabetes. It is

current practice to offer people with a pre-pregnancy BMI in the obesity weight category testing for gestational diabetes.

Return to recommendations

Gestational diabetes

Recommendations 1.2.16 and 1.2.17

Why the committee made the recommendations

Dietary change is the first-line intervention for gestational diabetes. However, the evidence did not show any particular diet to be better than another for outcomes such as weight change during pregnancy, gestational hypertension, mode of birth, baby being born large-for-gestational age and the need for pharmacological interventions. The committee agreed that a healthy diet that is appropriate and preferable for the individual should be discussed. They also made a research recommendation to determine what type of diet is most beneficial for those with gestational diabetes.

How the recommendations might affect practice

The recommendations reflect current practice.

Return to recommendations

Continuing breastfeeding beyond 8 weeks after birth

Recommendations 1.3.1 to 1.3.6

Why the committee made the recommendations

The UK Scientific Advisory Committee on Nutrition (SACN), UNICEF and the World Health Organization recommend 6 months of exclusive breastfeeding, and continuing breastfeeding until the child is at least 2 years. The committee agreed that appropriate support before birth and during the first weeks after birth will enable continued breastfeeding for longer. There are various reasons why people may consider stopping breastfeeding or starting supplementing with formula. Every face-to-face health contact is an opportunity to support continued breastfeeding, and the

committee agreed to list different discussion points that can help with this, based on qualitative evidence and their knowledge and experience.

Qualitative evidence showed that in order to maintain breastfeeding, it is important to build the confidence and motivation to breastfeed. The evidence also highlighted the important impact that partners, family members and friends have in either discouraging or supporting breastfeeding. The positive impact that peers can have was also evident. The evidence also highlighted that breastfeeding is sometimes experienced as embarrassing or not socially acceptable. Evidence showed that receiving inconsistent or conflicting information about breastfeeding, often in a rushed encounter with a healthcare professional, contributes to the challenges in continuing breastfeeding. Sometimes people felt that discussions on breastfeeding were judgemental or intrusive, rather than supportive.

The committee agreed that face-to-face contacts with a healthcare professional after the baby is 8 weeks old are usually infrequent, so opportunities to provide support and advice are considered beneficial.

There was evidence from an analysis of randomised controlled trials that group interventions aimed at promoting breastfeeding are effective in increasing breastfeeding rates. Economic analysis showed that group interventions delivered by a mixture of healthcare professionals and peer supporters in addition to standard care provides additional benefits and reduced costs compared with standard care alone, making additional group interventions highly cost effective.

How the recommendations might affect practice

Support for breastfeeding exists but is not consistently available in primary care and community services. There may be some costs associated with improving breastfeeding support services through enhancing face-to-face discussions, virtual or remote contacts, and drop-in group sessions. However, improving breastfeeding rates could bring cost savings to the healthcare system as a whole because breastfeeding is associated with the prevention of breast and ovarian cancer, diabetes and obesity in breastfeeding people, as well as prevention of infections and obesity in babies.

Return to recommendations

Continuing breastfeeding after returning to work or study

Recommendations 1.3.7 to 1.3.10

Why the committee made the recommendations

The recommendations are based on qualitative evidence and the committee's expertise. The committee agreed that healthcare professionals and breastfeeding peer supporters can play an important role in supporting people to continue breastfeeding after returning to work or study. They can discuss the different topics that the person may need to think about, and encourage them to talk to their employer or education provider before their return. The committee also agreed that employers and education providers can facilitate continuation of breastfeeding by exploring how their setting, policies and arrangements can better support those returning to work after having a baby.

The evidence identified various barriers to continue breastfeeding. It showed that people worry that breastfeeding at work is perceived as unprofessional and feel embarrassed, isolated or judged when trying to maintain breastfeeding while working or studying. Many reported that they did not know about a policy on breastfeeding in their workplace or university, or what facilities were available for them to use. Even if a breastfeeding policy was in place, implementation tended to vary from office to office and in practice, often depended on supervisors' and colleagues' attitudes towards breastfeeding. The evidence also reported that some women experience difficulties accessing breastfeeding spaces, even if they were available. Sometimes the breastfeeding spaces were considered to be unclean and unsuitable, lacking privacy or lacking important features such as power plugs, a sink or fridge to store breast milk safely.

The evidence also highlighted issues that could encourage the person to continue with breastfeeding after they return to work or study. The evidence emphasised the value of raising awareness of breastfeeding in workplaces or universities, having clear policies, and the need to assess each person's needs individually. The evidence showed that people value proactive and supportive communication and conversations that began before their return to work or study. The evidence also

reported on the benefits of peer support. Having childcare near the workplace or campus area is a key factor in maintaining breastfeeding according to the evidence. The evidence described how workplaces that show flexibility through, for example, flexible hours, flexible breaks, part-time work or working from home arrangements can help ease the struggle of maintaining breastfeeding while working.

How the recommendations might affect practice

Healthcare professionals and peer supporters may need to spend more time discussing how to enable people to continue breastfeeding after returning to work or study.

There is great variation in how workplaces and education settings support breastfeeding so the recommendations may lead to improved support and greater consistency.

Return to recommendations

Formula feeding

Recommendations 1.3.11 to 1.3.14

Why the committee made the recommendations

The recommendations are based on qualitative evidence and the committee's expertise. The evidence showed that support and advice on safe formula feeding from healthcare professionals is often felt to be limited, inconsistent and confusing, so people seek information from various other sources that are often inconsistent or unreliable. There was evidence that people perceive healthcare professionals to be reluctant to discuss formula feeding and people reported feeling judged.

There was also evidence about the power that the marketing of infant formula brands can have on people's choices. The committee discussed that people feel confused about the information in formula brand labels and the differences between different brands, and can perceive the most expensive brands to be the best quality while being hesitant to buy cheaper options. At the same time, the cost of infant milk as a barrier for safe formula feeding was reflected in the qualitative evidence. This was confirmed by the committee's experience that because of cost, people regularly have

to dilute infant formula, or give less infant formula than recommended, or substitute infant formula with other drinks that are not suitable for babies. These practices can lead to adverse outcomes for the babies. In order to better understand parents' experiences related to formula feeding within the context of poverty and food insecurity, the committee made a research recommendation on the facilitators and barriers for safe and appropriate formula feeding.

The committee discussed the importance of healthcare professionals providing independent, non-commercial, evidence-based and consistent advice as well as providing information about the Healthy Start scheme and other initiatives that give advice and financial support to access infant formula.

How the recommendations might affect practice

The recommendations should improve support for safe formula feeding and reinforce current best practice.

Return to recommendations

Introducing solid foods (complementary feeding) for babies between 6 months and 1 year

Recommendations 1.5.1 to 1.5.8

Why the committee made the recommendations

Evidence from randomised controlled trials about which interventions improve appropriate and timely introduction to solid foods for babies was inconclusive. However, providing information to parents (either face-to-face or in a telephone call), in addition to leaflets, was shown to have some benefit on the appropriate timing of introducing solid foods (at around 6 months).

The committee agreed that advice about introducing solid foods should start in late pregnancy and continue in the first months after the birth. An appointment to discuss this in more detail before the baby is 6 months old will allow practical advice and support to be given. The committee agreed that the best timing for this would be when the baby is around 4 to 5 months. Qualitative evidence showed that group sessions help parents understand how to provide variable and nutritional food for the

baby, how to adapt family meals to be appropriate for the baby, and the differences between commercial and homemade foods. Qualitative evidence suggested that parents are confused about marketing information in commercial baby foods that conflict with feeding guidelines, such as introducing solids before 6 months of age. Parents also expressed worry and concern over their baby's feeding. Overall, parents found information – even from healthcare professionals – to sometimes be confusing or inconsistent, emphasising the importance of healthcare professionals being appropriately trained and knowledgeable about evidence-based best practice, which can then be shared with parents.

The committee agreed, based on their experience, that knowledge and expertise around the introduction of solids varies between healthcare professionals. They discussed how those with expertise could act as 'champions' to promote and share knowledge among other staff about the safe and appropriate introduction of solids, which can then be shared with parents.

Qualitative evidence showed that affordability of healthy foods can be a barrier. The committee agreed that healthcare professionals should discuss sources of support to access healthy foods.

The committee agreed that healthcare professionals should continue to check on the baby's feeding when there is an opportunity to do so, and that they should reinforce and remind parents about the advice given so that appropriate and safe feeding practices are followed.

How the recommendations might affect practice

The recommendations will largely reinforce current best practice. However, not all areas offer a session to discuss introduction of solids at 4 to 5 months, so there may be some resource implications in these areas. Commissioners and service providers in some areas may need to improve training for healthcare professionals about introducing solid foods to babies, in line with the recommendations and government advice.

Return to recommendations

Healthy eating and drinking for children from 1 to 5 years

Recommendations 1.5.9 to 1.5.13

Why the committee made the recommendations

Qualitative evidence among parents of young children highlighted the importance of sensitively considering the family's individual circumstances and needs when discussing healthy eating. The evidence highlighted the barriers that people face in providing their children with healthy foods. People from low income or disadvantaged backgrounds face particular barriers if they cannot afford food or have living conditions that prevent them from preparing healthy meals.

Evidence from randomised controlled trials on what type of interventions might improve healthy eating in children was inconclusive. There was some evidence that providing information about children's healthy eating for parents from low income or disadvantaged backgrounds had some beneficial impact on healthy eating behaviours and parents' confidence. There was also some evidence that providing information about healthy eating combined with offering children healthy foods improved their vegetable and fruit intake. This was supported by qualitative evidence on parents' views and experiences. Qualitative evidence also showed that parents' lack of skills or confidence in preparing healthy meals prevents them from offering such foods to their children.

The committee agreed that healthy eating in children can be improved in various ways, including providing information through individualised discussions with families supplemented by printed or online resources, improving access to healthy food through, for example, welfare schemes, and building parents' skills and confidence through, for example, group cooking sessions.

The committees discussed the topics to discuss with families in line with government guidance, including providing information about financial or practical support in accessing healthy foods.

Quantitative and qualitative evidence also touched on the role of early years settings. Based on the evidence and their expertise, committee recommended ways in which these settings can promote healthy eating and drinking in children.

How the recommendations might affect practice

The recommendations reinforce current best practice. In some areas, the recommendations may have small resource implications relating to the additional healthcare professional time needed to discuss healthy eating and drinking for children, particularly with families from low income or disadvantaged backgrounds.

Return to recommendations

Context

The aim of this guidance is to improve nutrition during pregnancy and in babies and children under 5. The recommendations focus on supporting best practice on how to improve uptake of existing advice on nutrition in pregnancy and in early childhood.

Nutritional status, weight and health behaviours during pregnancy can have a significant impact on the short- and long-term health of the pregnant person and the growth and development of the baby, which in turn can have effects on the long-term health of the child. Among other things, social determinants of health, including poverty and food insecurity play a role in this. According to the National Maternal and Perinatal Audit (NMPA), more than half (54%) of pregnant people in England in 2018–19 had a body mass index (BMI) outside the healthy weight category (18.5 to 24.9 kg/m^2) at the booking appointment. The data shows that those living in the most deprived areas are more likely to have a BMI that is within the underweight or obesity weight categories.

It is estimated that up to 45% of pregnancies in the UK are unplanned or associated with feelings of ambivalence, which can have an impact on poor preconception health, including low uptake of preconception folic acid supplements. Less than a third of people take folic acid before pregnancy, with the lowest uptake observed among people living in the most deprived areas. This guideline includes recommendations on improving uptake of folic acid and other vitamin supplementation around pregnancy as well as guidance around healthy eating, physical activity and weight management during pregnancy.

The reports by the Scientific Advisory Committee on Nutrition (SACN) on feeding in the first year of life and feeding young children aged 1 to 5 years make

recommendations on many areas of public health nutrition for children, but there are still areas of variation regarding implementation and uptake of advice. For example, exclusive breastfeeding is recommended for the first 6 months of age, with continued breastfeeding alongside solid foods for the first 1–2 years of life. However, according to the Office for Health Improvement and Disparities' report on Breastfeeding at 6 to 8 weeks, in 2020–21 in England, the rate of exclusive breastfeeding at 6 to 8 weeks was only 36.5%, and the rate of partial breastfeeding was 17.7%. Over time, breastfeeding rates drop even more. Again, there is a social gradient. It is known that lower breastfeeding rates are associated with lower socioeconomic status. The NICE guideline on postnatal care includes recommendations on baby feeding that cover the antenatal period as well as the first 8 weeks after the birth. This guideline follows on by providing guidance on support for babies' feeding beyond the first 8 weeks after birth. This guideline also covers recommendations on vitamin supplements for children, introducing solid foods, and healthy eating in children up to 5 years of age.

Finding more information and committee details

To find NICE guidance on related topics, including guidance in development, see the NICE topic pages on fertility, pregnancy and childbirth and diet, nutrition and obesity.

For details of the guideline committee, see the committee member list.

Update information

November 2024

We are updating and replacing the NICE guideline on maternal and child nutrition (PH11)

This guideline will update and replace the NICE guideline on maternal and child nutrition (PH11, published March 2008 and updated in 2011). We have reviewed the evidence, and new recommendations are marked **[2024]**.

We are retaining recommendation 17 on weighing babies and young children from the NICE guideline on maternal and child nutrition (PH11)

We are retaining recommendation 17 on weighing babies and young children from PH11. We have not reviewed the evidence or updated the wording apart from minor editorial and formatting changes for clarification. The wording from PH11 recommendation 17 appears in this update in the section on weighing babies and young children (recommendations 1.4.1 to 1.4.5) and is marked **[2008]** or **[2011]**. We are not accepting consultation comments on this retained wording.

The updated guideline will replace PH11. See the previous NICE guideline (PH11) and supporting documents.

We are updating the recommendations on weight management during pregnancy from the NICE guideline on weight management before, during and after pregnancy (PH27)

This guideline will also update and replace the recommendations on weight management during pregnancy from the NICE guideline on weight management before, during and after pregnancy (PH27, published July 2010). We have reviewed the evidence, and new recommendations are marked **[2024]**. All the other recommendations in PH27 are being updated or amalgamated into the updated NICE overweight and obesity management guideline (NGXXX; TO BE UPDATED AT PUBLICATION).

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