



Australian Government
National Health and Medical Research Council

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NHMRC PLAIN LANGUAGE SUMMARY: THE EVIDENCE ON
PROMOTING SOCIAL AND EMOTIONAL DEVELOPMENT AND
WELLBEING OF INFANTS IN PREGNANCY AND THE FIRST YEAR OF LIFE

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NHMRC Plain Language Summary:

The evidence on promoting social and emotional development and wellbeing of infants in pregnancy and the first year of life

Plain language summary of a National Health and Medical Research Council (NHMRC) evaluation of evidence on the effectiveness of parenting/caregiving strategies, implemented during pregnancy or up to age 12 months, to promote the social and emotional development and wellbeing of infants.

Note on the report

This document is a summary of the *NHMRC Report on the Evidence: Promoting social and emotional development and wellbeing of infants in pregnancy and the first year of life* (Report on the Evidence).

In the Report on the Evidence, NHMRC presents a rigorous analysis of the scientific evidence on programs and services for parents of young babies, provided in pregnancy or the first year of life, that may influence infant social and emotional development and wellbeing. The report is for Australian organisations and services to use when developing policies, or designing and planning programs for parents or caregivers.

The full report, including the original evidence reports on which it was based, is available at [this link](#).

How to use the report

Policy makers can use the report to understand the types of evidence-based practices and programs that exist and are showing benefits. It will help inform evidence-based policy decisions and advice, and to identify opportunities for further research.

Healthcare workers and other practitioners can use the report to help identify the types of evidence-based practices, programs and services that may be useful for their clients. For some of the interventions, we suggest when, where and by whom the practice can be delivered. In the [full report](#), results can be viewed in a variety of ways, including by outcomes, by the target community group, or by the type of program (see [full report](#)).

Researchers can use the report to consider the gaps in the evidence reported and identify opportunities for further research. It will help researchers identify which interventions/programs could be evaluated in Australia, the research questions to address, and current needs for improved study design. Information on research implications and opportunities can be found in the [Discussion](#) section of the report, as well as in the GRADE assessment of the evidence for each intervention.

Parents and caregivers can use the report to learn about useful programs and services that help babies develop healthy emotions and relate well to other people as they grow. The report does not provide advice for parents and caregivers or make general recommendations about caring for babies.

About NHMRC

NHMRC is Australia's leading agency for developing evidence-based health information.

NHMRC produced the report by analysing the best available evidence and taking advice from an [expert committee](#). NHMRC also invited people working in government and other organisations to review the draft report and suggest improvements to ensure that it is useful and relevant for its intended readers.

What is healthy social and emotional development for babies and children?

Children who develop in a healthy way have a better chance of understanding and regulating their emotions, expressing these in their everyday activities and behaviours, and relating well to other people. Experiences during very early childhood, especially of parental care, help shape a child's way of thinking, feeling and behaving, their abilities to understand and regulate their emotions, and the ways they relate to other people. This is often called social and emotional wellbeing. The way that babies are cared for while their brains are growing rapidly will affect social and emotional development – not just during infancy, but also later in life.

Sensitive, responsive, affectionate relationships give infants experiences of safety, predictability, encouragement and emotional comfort. These can then help set them on the path to more favourable long-term outcomes, including better adjustment at school, and better relationships with their peers.

Parents in all cultures provide these experiences in various ways. Supporting and nurturing babies is important; although this report does not make judgements on any cultural parenting practices, NHMRC acknowledges that there are diverse and potentially child-enriching cultural parenting practices in Australia.

Why was NHMRC interested in this topic?

The period from pregnancy up to 12 months of age is a critical one for babies' development. Services for parents and babies, and the people who provide these services, aim to help parents give their babies the best care possible. As well as keeping babies physically healthy and safe, services help parents understand and respond to their baby's needs, and understand what type of care a baby needs at each age. These aspects of parenting are important to help babies develop in healthy ways socially and emotionally.

NHMRC believes that health services and social services for Australian parents of young babies should be based on the best evidence. The need to find the best evidence on this topic is what led to this review of the evidence.

¹ People who work in services for parents and babies include midwives, maternal, child and family health nurses, doctors, early childhood workers, social service providers and others.

What did NHMRC look for?

NHMRC assessed the evidence of programs² that were designed to give babies the best possible start by working with parents or caregivers during pregnancy or a baby's first year of life. These included programs that aim to help babies develop socially and emotionally by:

- supporting and educating parents (and parents-to-be) about caring for babies
- preventing problems with crying, feeding or sleeping, or helping parents manage these behaviours
- improving parents' understanding of their baby's emotional needs and abilities to respond with sensitive, skilled care.

NHMRC was interested in different programs and approaches that were used during pregnancy or in a baby's first year of life. The report considered possible benefits and harms that were measured during babies' first year of life, in childhood, and up to age 18 years. The focus was on whether or not programs helped babies develop socially and emotionally.

The report also includes results from programs and approaches in the lives of children up to 18 years, including effects on:

- bodies and minds (including growth, physical development, language, thinking, problem-solving, decision making skills, mental health, social life, self-esteem and coping)
- behaviour (including behaviours as a baby, as a child, and as an adolescent)
- general health and safety
- relationships between parents and children
- parents' or caregivers' mental health (including depression, anxiety, stress and quality of life)
- parents' and caregivers' knowledge about how to care for babies and about ways of parenting
- parents' and caregivers' attitudes to programs
- family relationships
- families' contact with child protection authorities (including in situations of maltreatment, neglect, or removal of children from parents' care).

NHMRC worked with professional evidence reviewers³ to find and analyse the best available evidence. NHMRC also set up a working committee⁴ of experts to look closely at the findings and think about how these could be made available to Australian families.

It was not practical to collect all the individual studies from around the world that have evaluated programs for parents and babies, because there have been so many. NHMRC asked the evidence reviewers to look for systematic reviews⁵ assess their quality, compile information about the quality and findings of the individual studies they included, and analyse the results of the systematic reviews into a single review (overview). The research included systematic reviews that were published between January 1994 and December 2014 and provided results where the effects of programs were measured.

² 'Programs' here means any efforts to improve parenting, which could include advice provided to parents, visits by nurses, services provided to parents, structured programs that parents participate in over several sessions, or any type of education or training for parents on how to care for their babies. The NHMRC report uses the term 'interventions' for all types of programs.

³ Australian Research Centre for the Health of Women and Babies at the University of Adelaide

⁴ The members of the working committee are listed on the [NHMRC website](#)

⁵ A systematic review is a research method that combines the results of all available similar studies, assesses their quality and findings, and analyses the results together. A systematic review provides more reliable information than individual studies.

What kind of programs were included?

After carefully searching for and reviewing the articles, the evidence reviewers found 21 programs that had been offered during pregnancy or during a baby's first year of life and were shown to make a difference in at least one important aspect of children's, parents' or families' lives. Some of these programs aimed to help parents with a particular aspect of caring for their baby, such as establishing sleep routines, skin-to-skin care for newborns, or massage for babies.

Others were designed for a particular goal, such as fostering a healthy bond between baby and parent, promoting confident, competent parenting, improving parent's sensitivity and/or understanding of their babies' capabilities, or preventing behaviour problems later as a child or adolescent.

Several programs took place over a series of sessions with new parents. One of these involved trained workers (e.g. nurses) explaining to parents what is normal, and what to expect and look out for at each stage of their baby's development. Some programs had more than one component, such as education and/or support sessions provided to parents during pregnancy or after the birth of their baby, or home visits by nurses or other trained workers that aimed to provide information, support and practical guidance to new parents.

Some programs were designed for parents of babies with special needs, such as babies born preterm or with a low birthweight, or babies with developmental delay or developmental disabilities (or at risk of these problems). Some were designed to prevent or to treat depression and anxiety among women with young babies.

Some programs were designed for any parent or caregiver. Others were designed for a particular group of parents, such as fathers, teenage parents, parents in socio-economically disadvantaged circumstances, parents with alcohol or drug problems, or parents in low- and middle-income countries.

NHMRC's main interest in these programs was whether they help babies develop emotionally and socially, so the programs may also have had other benefits (for children, parents or others) that are not covered in the report.

How did NHMRC assess the evidence?

The working committee looked closely at the evidence for each of these programs, using the Grading of Recommendations Assessment, Development and Evaluation (GRADE)⁶ method for assessing evidence from health research. This involved:

- working out which potential benefits (and harms) of programs would be important to parents, people who work with parents, and the general public
- carefully assessing the quality of research studies to know how reliable their results are
- analysing the statistical results
- weighing up the benefits of each program against possible harms, costs and inconveniences
- thinking about whether programs might work in Australia, by considering people's values and preferences, costs, whether parents are likely to accept the program and participate, and whether programs are feasible to set up
- considering whether each program would help make our system fairer, particularly for groups of people who are disadvantaged or marginalised in our community.

⁶ 'Grading of Recommendations Assessment, Development and Evaluation' (GRADE) was developed by the Grade Working Group (<http://www.gradeworkinggroup.org>) and is used around the world.

What were the main findings?

Overview

For some programs, there were encouraging results suggesting that they might help improve babies' capacity for healthy emotional lives and relationships, although we did not find proof of this in babies less than one year old. This is not surprising, because researchers are only just beginning to study these aspects of babies' lives.

Several of the programs had other benefits for babies, or later as children or adolescents. Other programs didn't have enough evidence to show whether or not they were effective. They may be good for babies, but we don't have the proof yet.

As well as the key findings summarised below, this work shows how Australian research might fill in the gaps in the evidence. For example, very few studies that assess programs for babies and new parents actually measure the signs of improved social and emotional wellbeing of infants, partly because this is quite challenging to do. It will be important to measure these in future studies, because we now know that they are an important part of a child's development that can affect the child throughout her or his whole life.

Which programs might work in Australia?

Education and support programs⁷ for parents, provided during pregnancy or in the baby's first year by trained professionals, can:

- improve babies' ability to think and how to understand the world around them
- improve the way babies relate to people and show emotions

- improve babies' sleep
- improve parents' knowledge about babies' behaviour
- improve parenting, and parents' care of their children's general health
- help a couple adjust to becoming parents
- reduce maltreatment of children.

The working committee considered that education and support programs for parents were suitable for all Australian parents. These programs are already available in many Australian communities. They can also be adapted for particular groups of parents with special needs.

Programs designed to foster a healthy bond between baby and parent or caregiver⁸ can be given by professionals and trained non-professionals. These are likely to increase mothers' sensitivity and attachment⁹ to their babies. The working committee considered that these programs would be suitable for all Australian parents.

Programs based on the Neonatal Behavioural Assessment Scale are completed within a few weeks of birth. A trained professional either performs the tests while explaining what they are doing to the baby's parents, or shows the parents how to do the test. Together, they learn about the individual baby's behaviours and abilities. These programs might help improve parents' sensitivity and responsiveness to their babies.

What programs might work for parents and babies who need more support?

Home visiting programs involve trained workers providing new parents with education about child development and behaviour management, information or practical support (or all of these), in their own home. These programs are mainly for parents who need extra support because they are young, single or experiencing financial hardship or social isolation. Home visiting programs are likely to improve parenting, improve babies' chance of receiving all the recommended immunisations, improve babies' intelligence and ability to think and get to know the world around them, and improve sleeping. Home visiting is also likely to help prevent abuse or neglect of children and to reduce injuries and hospital admissions in children.

Home visiting programs designed specially to prevent behaviour problems (later antisocial behaviours), starting in the first year of life, are likely to lessen disruptive behaviour during childhood. The working committee considered that home visiting programs would be suitable for Australian parents who need more support, such as single parents, teenage parents, parents who are experiencing socioeconomic disadvantage or who have had few educational opportunities, and those with children who are more likely to have problems with emotions or relating to other people, or are at risk of maltreatment.

Programs designed for parents of infants born preterm or with low birthweight¹⁰ are provided by groups of trained professionals with different skills. The working committee considered that these programs were suitable for Australian babies born preterm or with low birthweight, because they are likely to improve babies' ability to think and get to know the world around them, and to improve parenting. **Kangaroo care** (also called 'kangaroo mother care') is another example of a program that is mainly for babies born with low birthweight. It involves the baby being carried or held in close skin-to-skin contact by a parent, supervised by trained health professionals. Kangaroo care is practised while the mother is awake and does not involve co-sleeping. Kangaroo care programs usually encourage breastfeeding. Kangaroo care can improve babies' survival and reduce their risk of serious infections. The working committee considered that kangaroo care would be suitable for Australian babies born with a low birthweight.

Other programs

Baby massage by parents or caregivers might help improve babies' sleep and how they behave with and respond to others, and might help reduce crying and fussing. Massage should stop if the baby does not seem to be enjoying it. The working committee considered that it is suitable for parents to massage their babies, if they choose to.

Programs designed for parents who are experiencing **socioeconomic disadvantage**¹¹ (such as community or home-based programs to improve child development, and relationship-based programs), and programs designed for **teenage parents**¹² (including individual or group-based parenting programs), might help improve interactions between parents and children.

Which programs are most effective?

Although they showed some benefits, the research did not clearly show which programs would be most effective in giving babies the best start in their emotional and social life. There are several possible reasons for this:

- Researchers around the world have not yet agreed on the definition of healthy infant social and emotional development, or how to measure it. This makes it hard to compare work from different researchers and build up stronger evidence.
- This is a new research area. Research on the emotional and social development of babies under 1 year old is expanding, but is not yet common. As more evidence is collected, we will understand more.
- This review only included systematic reviews (studies that collect the results of individual studies). Some programs may be effective, but evidence about them has not yet been included in systematic reviews, so it is not included in the report.
- Many of the studies included in this research were designed mainly for other purposes, such as improving babies' learning capacity or physical development. They provided some relevant findings, but those areas were not their main purpose.
- It is possible that some researchers did not publish results for unsuccessful programs, so we could be missing useful information about what does not work. There was also a lack of information about whether any of these programs might have unwanted effects (for example, make parents feel stressed).

More research is needed before we can fully understand how to help parents give their baby the best start. Studies of programs for babies and parents should also measure their effects on babies' emotional and social development, and keep recording results for long enough to measure effects on childhood and later life. Research should also explore which programs or practices are the best value for money.

⁷ For example: parenting skills, coping with stressors

⁸ In the evidence these were grouped together as 'interventions for enhancing sensitivity and/or attachment security'.

⁹ 'Attachment' means the emotional bond between a baby and his or her main caregiver. For more information, see [glossary](#)

¹⁰ For example: home visiting, education and support, parent-infant interaction programs

¹¹ For example: community or home-based programs to improve child development and relationship-based programs

¹² For example: individual or group-based parenting programs focused on improving parenting attitudes, practices, skills/knowledge or wellbeing