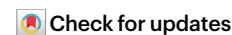


Behavioural science can improve parenting interventions



Parenting interventions can help to give children a good start in life. By using methods from behavioural science, we can better understand how these interventions work. This can help us to make them more effective, scalable and sustainable.

Parenting interventions aim to change parenting behaviours by encouraging and supporting caregivers to engage in play and communication activities with their children and be responsive to child cues to nurture and improve child development. We know from randomized controlled trials (RCTs) that they can be effective. For example, the Msingi Bora parenting intervention in Kenya involved educational sessions that encouraged caregivers to engage in five key practices: responsive play, responsive communication, hygiene, nutrition, and love and respect in the family¹. The intervention improved maternal stimulating practices and child cognitive, language and socioemotional outcomes¹.

Governments across the world recognize the importance of giving every child a good start in life, and many have adopted the World Health Organization (WHO), United Nations Children's Fund (UNICEF) and World Bank's [Nurturing Care Framework](#) (which is aligned with Sustainable Development Goal targets 3.2, 4.1 and 4.2). Recent years have seen substantial efforts to develop, implement and evaluate parenting interventions that target different components of this framework, such as opportunities for early learning^{2,3,4}.

However, in a recent review that included 125 RCTs, we identified important gaps in our understanding of what core elements work, the mechanisms that elicit behaviour change and how they can be implemented⁵. Failure to address these gaps has hindered efforts to adapt, scale-up and sustainably integrate programmes into existing health, education and social service systems^{2,3,4}. This means that parenting interventions are not reaching their full potential, and children are being left behind.

We believe that behavioural science can help. By leveraging behavioural science, researchers, implementing organizations and governments can co-develop



evidence-informed, sustainable, and scalable parenting interventions.

Here we use the term 'behavioural science' to mean an intersectoral approach to the study of normal human behaviour and decision-making, with the aim of increasing the adoption of positive behaviours (a definition that is adapted from [WHO](#) and [Impact Canada](#)). Although it is the science of understanding how to effectively change human behaviour, parenting intervention researchers have seemingly ignored its valuable lessons to date. Here are three key behavioural science lessons that can help to resolve existing issues in parenting intervention research.

First, to identify active ingredients of parenting interventions, researchers need to engage in a more intentional and transparent development process. The development of an intervention should begin by first determining the approach that will be adopted, formally analysing the target behaviour and identifying theoretically predicted mechanisms of action. Context-specific formative research should then be conducted before testing

the intervention's efficacy. Tools such as the 'Behaviour Change Interventions Ontology'⁶ and 'Behaviour Change Techniques Ontology' (BCTO)⁷ were developed to facilitate the design of behaviour change interventions by elucidating the mechanisms that need to be modified to bring about behaviour change, and the intervention functions required to change those mechanisms. For example, the BCTO catalogues 281 behaviour change techniques – that is, "the smallest parts of the content of a behaviour change intervention that are observable, replicable and on their own have the potential to bring about behaviour change"⁷ – that researchers can use to code interventions as an initial step to identifying what works and how in parenting interventions. This process can also help to identify components that can be empirically tested as potential mechanisms through which parenting interventions improve children's development.

Second, behavioural scientists have created iterative frameworks for developing and testing interventions that evaluate elements such as feasibility and efficacy before attempting

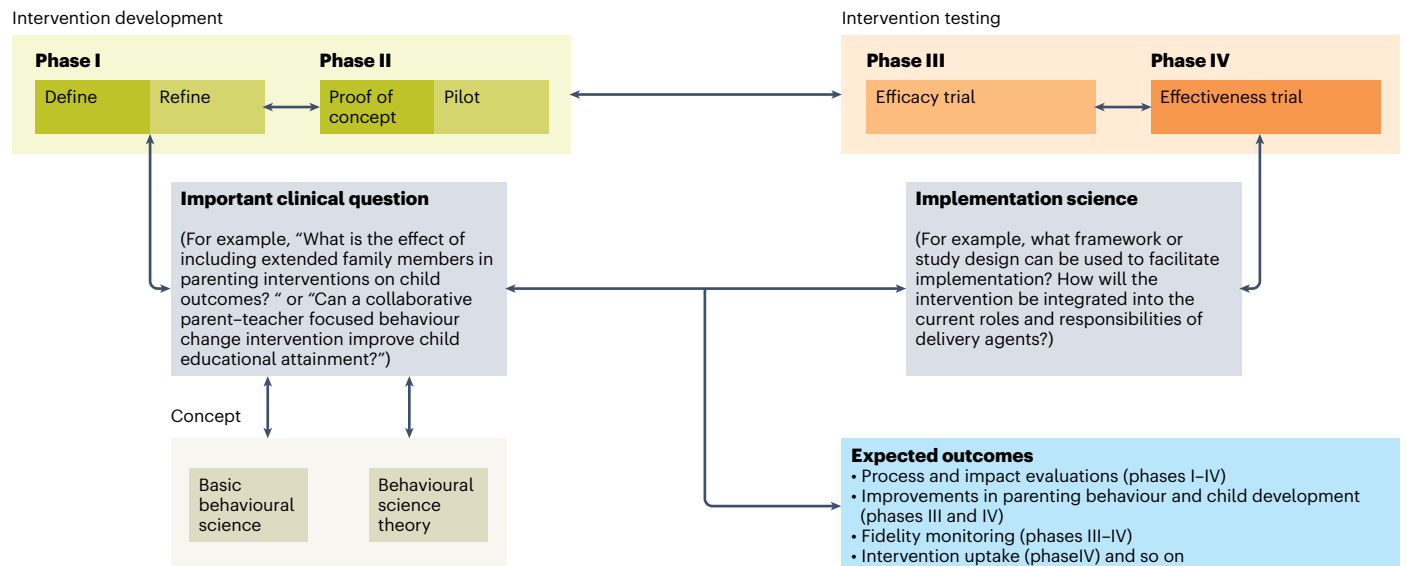


Fig. 1 | Adapted behavioural intervention development and testing framework. This framework is based on the ORBIT (obesity-related behavioural intervention trials) and Medical Research Council complex intervention guidelines and developed within integrated knowledge transfer/patient-oriented research frameworks. Intervention development elements are in green; testing

elements are in orange. Grey squares represent core elements that should drive the process. Bidirectional arrows indicate that as researchers move through the phases they can go forward or backwards depending on study needs. Adapted with permission from ref. 8, Elsevier.

to scale-up⁸ (Fig. 1). Policymakers and non-governmental organizations that implement parenting interventions, and researchers who test their efficacy, should use this framework to minimize the number of programmes that are implemented at scale with little evidence of their efficacy in improving child and parent outcomes.

Finally, researchers need to systematically report the content of parenting interventions and how they are implemented by following established reporting guidelines. We recommend the TIDieR (template for intervention description and replication) guidelines, which ensure that interventions are described in sufficient detail to allow their replication⁹. These can be used together with the C.A.R.E. (consolidated advice on reporting early child development implementation research) guidelines¹⁰, which were specifically developed to improve reporting on implementation processes in parenting interventions.

If those of us passionate about improving the early child environment truly want to give

all children a good start in life, we must make a concerted effort to leverage existing tools to create, test and implement methodologically sound parenting interventions. This includes using structured processes to develop parenting interventions, identifying their active ingredients, empirically examining the mechanisms through which they work, and systematically reporting how they are implemented. All of these components are needed to inform the scaling up and sustainable implementation of parenting interventions to realize our global commitment to ensure that all girls and boys have access to quality early childhood development.

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Competing interests

The authors declare no competing interests.