

About the narrative and integrated review conducted to inform the development of an ADHD parent education program and other ADHD education programs

Louise Brown, Doctor of Philosophy (Nursing) Candidate at Curtin University and Appointed AADPA Director is developing an ADHD parent program that aims to empower parents to commence the process of fostering the development of their children as independent, healthy, functioning adults with ADHD in their prepubescent years. This will be the first ADHD parenting program informed by an integrated review of the ADHD research, grounded in biopsychosocial theory, and encompassing acceptance of disability, recovery and shared management principles.

The program is being developed using the first five steps of the six steps in quality intervention development (6SQuID) outlined by Wright et al. (2015). These being (1) define and understand the problem and its causes, (2) clarify which causal or contextual factors are malleable and have greatest scope for change, (3) identify how to bring about change, (4) identify how to deliver the change mechanism, and (5) test and refine on a small scale. Step 6 in 6SQuID is outside the scope of this project but will be useful at a later stage to collect sufficient evidence of the program's effectiveness to justify rigorous evaluation/implementation (Wright et al., 2015).

Content

The content of the parenting program has been developed based on evidence obtained from:

- A narrative review examining child development across the life course.
- An integrated review that addresses the following research question: What impact does ADHD have on a child and adult's brain maturation and composition, brain connectivity and innovation, cognitive function, self-awareness, and emotion regulation and social competency?

The program will contain materials related to the underlying pathophysiology and cognitive differences associated with ADHD, in order to facilitate parental understanding of the condition and provide guidance on how to apply this knowledge and understanding during day-to-day parenting in a competent and attuned manner.

The research project was developed with the expectation that the narrative and integrated review findings can also be used to inform the development of other evidence-based ADHD clinical and psychoeducation programs for health care providers, teachers and people with ADHD.

Step 1: Narrative review

Guided by Bronfenbrenner's (2005) bioecological model of human development, a narrative review was conducted to provide a 'typically expected' baseline overview of child development across the life course (or the sequential, life-long process through which a child develops physically, cognitively, socially and emotionally). When conducting the narrative review, specific

focus was placed on sequential brain maturation and composition, brain connectivity and innovation, cognitive function, self-awareness, and emotion regulation and social competency. Along with neuroscience and psychology research, prominent theories and models were incorporated to help explain these phenomenon.

Bronfenbrenner's (2005) bioecological model of human development was used as it provides a useful framework for identifying and examining the characteristics of a developing child and the primary environmental determinants – both immediate and remote –that interact and influence a child's neuropsychological development and actualisation of potential (Bronfenbrenner & Morris, 2006). Informed by human development research, the key assumption underlying the model is that while a child's characteristics primarily reflect their biological endowment in infancy and early childhood, biological endowment does not independently produce the characteristics they will display in adulthood (Bronfenbrenner & Ceci, 1994). Instead, over time a child's characteristics more and more reflect dynamic, interactive interactions between their biological endowment and environmental experiences (Bronfenbrenner & Ceci, 1994). It is through these dynamic interactions that child development takes place (Bronfenbrenner & Morris, 2006). They influence brain development via neuroplasticity and allostasis, along with a child's emerging (1) cognitive functions, (2) self-regulation, emotional and social competency, (3) ability to cope with stress; (5) self-concept and self-esteem, (6) internalised working models (or the cognitive framework) through which they understand and experience the world), (7) motivation; and (8) knowledge and skill acquisition (Bronfenbrenner & Morris, 2006; Nelson et al., 2014b).

Step 2: Integrated review

Integrated review methodology was employed to find extant international literature published between January 1998 and February 2023 on ADHD and answer the following research question: What impact does ADHD have on a child and adult's brain maturation and composition, brain connectivity and innovation, cognitive function, self-awareness, and emotion regulation and social competency?

The methodology underlying the integrated literature was guided by the modified stages of an integrative review outlined by Whitemore & Knafl (2005). This being: problem identification, literature search, data evaluation, data analysis (involving reduction, display comparison and verification of data,) and presentation of synthesised findings (Whitemore & Knafl, 2005). Integrated review methodology was chosen as it allows for the inclusion of diverse research methodologies (experimental and non-experimental) as well as empirical and theoretical literature (Whitemore & Knafl, 2005). It also facilitates comprehensive examination of complex concepts and phenomenon from varied perspectives, and the development of a summary of the data that can be used to advance the understanding of a complex condition or phenomenon, inform theory development, or be applied directly to practice and policy (Whitemore & Knafl, 2005).

Rationale

The narrative review findings establish a neurotypical baseline from which the integrated review findings can be interpreted. Incorporating both the neurotypical baseline and the divergent findings associated with ADHD into the content of ADHD education programs is likely to help facilitate health care professional, teacher, and parental understanding of ADHD and the impact the condition has on a neuro-psycho-social characteristics of children and adults with the condition.

The need for people to receive information about the pathophysiology underlying ADHD has been identified by parents and adults with ADHD. Australian caregivers participating in a study by Ahmed et al. (2014), reported the need for jargon-free, relatable explanations of ADHD that facilitate understanding of the neurobiological origins of the condition so they could appreciate the efficacy of ADHD medication and their role as a parent in monitoring and managing their child's ADHD. Seery et al. (2022), in their Delphi consensus study reported adults with ADHD rated the need for education on ADHD to include an overview of neurotypical brain and cognitive processes as important, so that they could better understand their condition.

Parent and teacher training

Incorporating both the neurotypical baseline and the divergent findings associated with ADHD into parent and teacher training is also likely to assist parents and teachers to sensitively understand and interpret the ADHD's symptoms and cognitive differences displayed by children with ADHD, (2) appreciate what children with ADHD are likely able to do or not do at a particular age so they can ensure there is a good fit between the child's inherited vulnerabilities and the demands they place upon them, and (3) pause, reflect, adapt and respond to the child's individuality in a way that facilitates healthy attachment along with self-actualisation and positive adaptation. Without this understanding, parents and teachers are at risk of placing inappropriate, mismatched expectations on children with ADHD, misinterpreting their behaviour, ascribing motivations that are unreasonable and unwarranted, and responding in an misattuned and ineffective manner, which can damage the attachment relationship and negatively influence a child's long-term outcomes (National Academies of Sciences, 2016; Teti et al., 2017).

Training for adults with ADHD

When incorporated in to education for adults with ADHD, this information provides a framework that can be used by individuals to (1) self-reflect and develop self-awareness, self-acceptance and self-compassion around where their challenges lie, and (2) develop personalised strength-based strategies that enable them to effectively scaffold their ADHD-related challenges and become empowered and efficient at independent self-management.

The development of additional ADHD education

Together, healthcare practitioner and teacher education on ADHD, as well as psychoeducation

provided to people with lived experience of ADHD, becomes a framework through which:

- Health care providers, parents, teachers and community members view, interpret and respond to children and adults with ADHD and societal discourse is informed.
- People with ADHD understand and perceive themselves.

A child's interactions with their health care providers, parents, teachers and community members also have a significant effect on their development over the life course, as discussed above.

Currently, the quality of ADHD education in all arenas varies greatly. Often the content is either overly clinical or superficial, or contains models presented as facts or grand statements that cannot necessarily be qualified in the research data. From a personal perspective, some of the language and the tone used in ADHD education also needs addressing.

Program completion

The current research project, 'Formative evaluation of an ADHD parent education program' is scheduled for completion by August 2024. On completion, Louise Brown and her university supervisors aim to secure funding to:

- Develop a formal program manual (including videos and other presentation tools) and a presenter training program.
- Pilot the ADHD parent program on a larger scale.

The narrative and integrated review findings are currently being written up for publication and are ready to be used to develop additional education programs, or to update existing education programs.