

EVALUATION OF THE TRIAL IMPLEMENTATION OF A PROTOCOL FOR ASSESSING AND SUPPORTING CHILDREN WITH DEVELOPMENTAL DELAYS AND DISABILITIES AT RURAL CHILD AND YOUTH CARE CENTRES

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ABSTRACT

The Ecological Assessment and Intervention Protocol (ECO-AIP) was designed by Heyns and Roestenburg (2021) to address inadequate service rendering to children with developmental delays and disabilities (DDD) at rural Child and Youth Care Centres (CYCCs). This article presents the results of a trial implementation of the ECO-AIP at two rural CYCCs to ascertain whether the protocol made any difference to the care practices of the staff and the developmental health of the children. Qualitative focus groups were conducted using a semi-structured interview schedule and thematic analysis. This research study found that the ECO-AIP added substantially to the staff's knowledge and skills base, leading to a general improvement in the quality and sophistication of service rendering. The ECO-AIP guided multidisciplinary CYCC teams in identifying DDDs in rural children and in supporting them to reach developmental milestones.

Keywords: *Child and Youth Care Centre (CYCC), child development, developmental delays and disabilities (DDD), developmental milestones, protocol, Ecosystemic Assessment and Intervention Protocol (ECO-AIP)*

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INTRODUCTION

Background

In South Africa alternative care for children comprises temporary safe care, foster care, adoption, or child placement in a Child and Youth Care Centre (CYCC) (RSA, 2005). CYCCs usually provide residential care to a minimum of six child residents. Previous research suggests that large numbers of children residing at CYCCs frequently suffer from developmental delays and sometimes from diagnosable developmental disabilities (Lou, Taylor & Di Folco, 2018; Naumova, Odintsova, Arinzina, Muhamedrahimov, Grigorenko & Tsevetkova, 2016) due to the “likelihood of having experienced abuse, neglect, and pre-placement trauma” (Jee, Conn, Szilagyi, Blumkin, Baldwin & Szilagyi, 2010:1356).

Choo, Agarwal, How and Yeleswarapu (2019:119) define child developmental delays as failure to achieve developmental milestones relative to peers of a similar age. Such delays can occur in any one the six developmental areas of physical, cognitive, socio-emotional, communication, sensory and daily functioning. Global developmental delay in turn refers to a significant delay in two or more of these areas (Choo *et al.*, 2019).

In contrast, developmental disabilities refer to “severe, lifelong impairment in development areas that affect the child’s learning, self-sufficiency and adaptive skills” (Choo *et al.*, 2019: 119). Examples of such disabilities are cerebral palsy and autism. Collectively, these are referred to as developmental delays and disabilities (DDD).

Early identification and diagnosis of DDDs are of utmost importance to maximise child functioning and optimise development through supportive and directed interventions (Collins, Pringle, Alexander, Darmstadt, Heymann, Huebner & Zindel, 2017). Collins *et al.*, (2017) emphasise the need for “robust screening and assessment tools” to identify children with DDDs accurately to prevent non-identification or false identification, which can contribute to longer-term disability.

The South African government recognises early childhood development as a fundamental and universal human right. As such it requested the development of services and protocols that allow for early detection and remedial interventions. This should be supported by quality childcare and inclusive early learning opportunities for children with DDDs, especially in under-resourced rural areas (Department of Social Development, 2015), where children “still struggle because of structural disadvantage” (Mkabile, 2020:1). These structural disadvantages include “difficulty accessing services for cost and distance reasons, unsafe living conditions and transport routes, poorer access to education, work and nutrition, and living in conditions of environmental degradation” (Mkabile, 2020: 1).

The researchers observed many of these structural disadvantages at CYCCs in the rural contexts of the Eastern Cape and KwaZulu-Natal provinces of South Africa. Although well-meaning in their service and care efforts, it appeared that both qualified and less qualified CYCC staff working with DDDs in these specific contexts lacked the advanced knowledge and skills necessary to identify and appropriately

support children with DDDs. This was confirmed by interviews with experts in children's developmental health serving these areas (Heyns & Roestenburg, 2021). As a consequence, identification errors occur, resulting in inconsistent interventions that frequently lack a developmental focus. Overall, the lack of precision and service adequacy leads to poor services to children, while the lack of a developmental focus contributes to unaddressed DDDs in children. These observations motivated the development of an assessment and intervention protocol that promotes adequate, well-coordinated, and precise clinical assessment and intervention practices in these facilities. In addition to the clinical focus, the researchers developed a strategy for introducing and integrating the protocol (the ECO-AIP) with the daily routines and practices of all staff at these CYCCs.

Design specifications of the ECO-AIP

The researchers applied the National Institute for Clinical Excellence (NICE) 12-step guideline in designing the Ecological Assessment and Intervention Protocol (ECO-AIP) (NICE, 2002). This guideline offers one option for a step-by-step approach to the development and implementation of protocols ((NICE, 2002).

The design process (steps one to eight) incorporated empirical evidence from experts in child development and CYCC staff priorities related to the requirements of assessment and intervention. Besides including clinical pointers, observation guidelines and diagnostic criteria, the protocol includes intervention pathways to direct interventions in the future, ensuring that a developmental focus would prevail. In addition, the protocol helps CYCC teams identify, classify and select appropriate developmental activities in response to their observations of the child's developmental condition.

Steps nine to eleven of the NICE guidelines involve testing the initial protocol in real-life contexts such as CYCCs to address operational problems when applying the protocol. Pilot testing ensures flexibility and in-vivo adjustments to adapt a protocol to local circumstances and demands (NICE, 2002). In addition, initial pilot testing evaluates "ease of use" and "effectiveness", which is the aim of the current study (NICE, 2002: 11).

NICE (2002:12) suggests that subsequent and repeated testing facilitates the upscaling of projects, in this case to multiple CYCCs across the country (step 10). In doing this, documentary variations of the protocol could be standardised while assessing implementation problems and familiarisation with "what happens in practice" (step 11). In addition, prolonged evaluation helps to sustain the implementation fidelity of the protocol by keeping it under review for some time and securing continued training of new staff in the protocol (NICE, 2002).

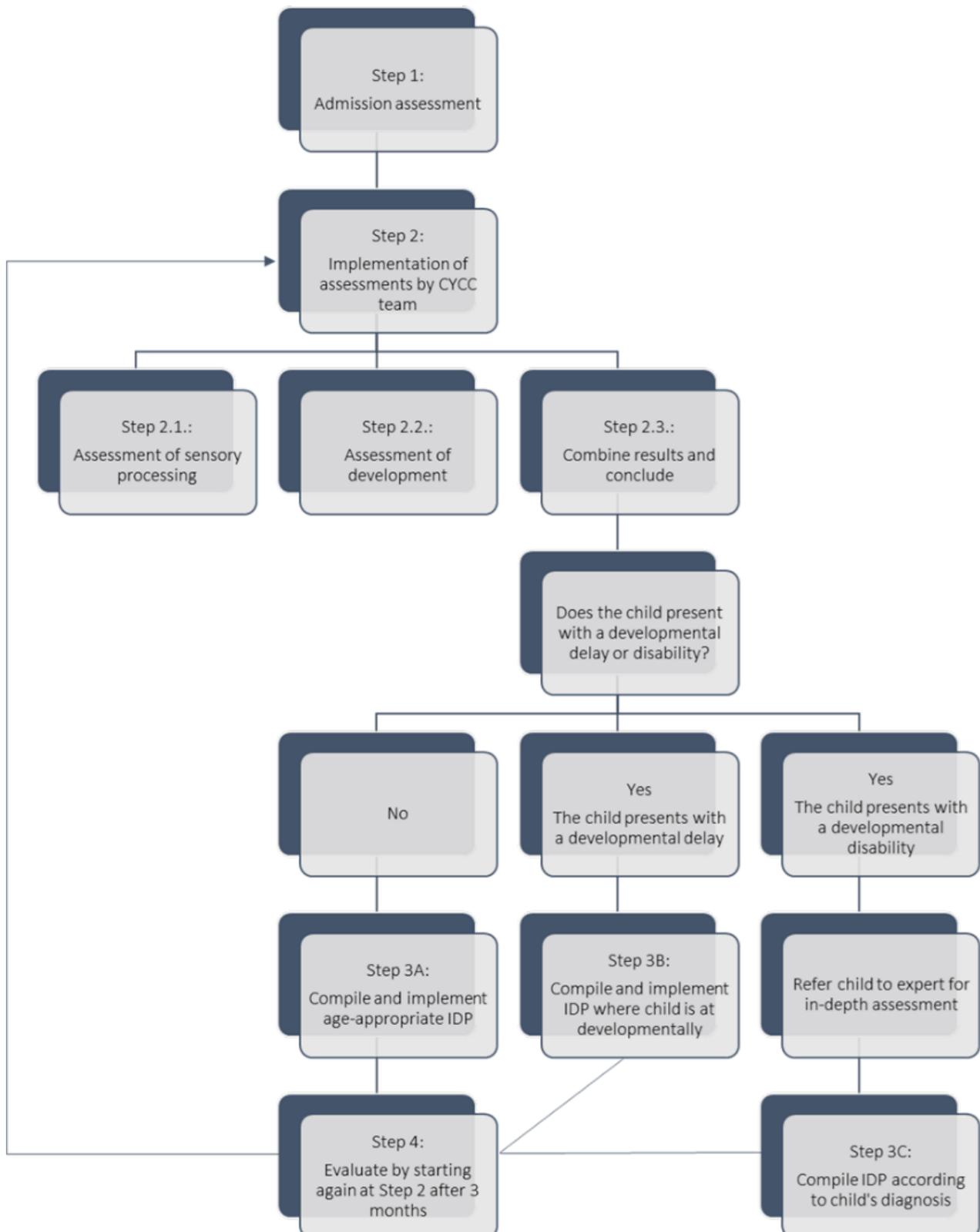
The designed ECO-AIP

The ECO-AIP is a:

circular, continuous assessment procedure followed periodically and routinely to help with identifying DDDs in children, compile and implement appropriate stimulation activities suited to support each child and to monitor and re-assess the child's functionality and progress with intervention (Heyns & Roestenburg, 2021).

The ECO-AIP and its algorithmic steps appear in Figure 1.

FIGURE 1
ECOLOGICAL ASSESSMENT AND INTERVENTION PROTOCOL



Note: IDP = Individual Development Plan

Notice that the protocol provides for routine weekly or sometimes even daily assessments, the findings of which team members share during weekly team meetings. The pivotal point in the protocol is where a decision regarding the child's developmental condition necessitates a decision on an intervention

trajectory. A further principle in universal adoption of the protocol is that different disciplines – caregivers, social workers, and child development specialists – work together with children in a dynamic fashion to monitor change in the child’s condition over time.

Theoretically, the ECO-AIP builds on the ecosystemic perspective of Urie Bronfenbrenner (1979), denoting that the child’s development reflects individual characteristics that largely depend on environmental systems at four systemic levels: (a) microsystems – the child’s immediate family context, including behavioural patterns in the family; (b) mesosystems – interconnections between microsystems as reflected in the family’s connectedness with other families and social systems; (c) exosystems – environmental conditions that indirectly influence the child’s development, such as the family’s poverty status, employment position, educational level and integration in the community context, and lastly; and (d) macrosystems – those attitudes, beliefs and values held by culture and society that indirectly influence parenting styles and how parents share aspects such as discipline and the general perspectives held on child development (Sapiets, Totsika & Hastings, 2020). According to the macrosystems conceptualisation, cultural beliefs play a significant role in parents’ approach to raising children in rural contexts. The rural context of South Africa is no exception. As will be seen in the results section of this article, the researchers have found that cultural beliefs profoundly influence the prevalence of developmental delays in children and the way in which they are managed in rural villages. For instance, because of a belief that the parent is being punished for past indiscretions when a disabled child is born, they do not seek assistance and the prognosis for the child only worsens over time.

Lessons learned from previous experiences with protocol development (Heyns & Roestenburg, 2019) indicate that implementation science principles are essential in promoting consistency and fidelity. The researchers therefore planned to prolong the implementation to ensure proper integration of the new behaviour into existing operations at the CYCCs. According to this principle, information transfer through training alone is insufficient unless supported by the introduction of new practices (behaviour) associated with the new protocol. Therefore, a standard definition of implementation was adopted, meaning that there was significant focus on “putting something into effect or action”, integrating knowledge, introducing new behaviour and practices and changing existing work patterns at the target CYCC (Walsh, Reutz & Williams, 2015). Specific long-term, multilevel implementation strategies were planned to ensure penetration and sustained efficacious organisational interventions (Hanson, Self-Brown, Rostad & Jackson, 2016). Although such long-term strategies would not be possible over the short span of a six-month pilot implementation, the researchers aimed to alter behaviour patterns consecutively with knowledge transfer. Implementation of the newly acquired information would be positively enhanced this way, and the researchers followed the implementation phases of the Exploration, Preparation, Implementation, Sustainment (EPIS) framework. This framework was designed by the California Evidence-Based Clearinghouse for Child Welfare (CEBC) (Walsh *et al.*, 2015) specifically for public mental health and social service settings (Novins, Green, Legha, & Aarons, 2013). After a qualitative research study, Heyns and Roestenburg (2021) reported in their article on the exploration and preparation phases of the ECO-AIP. CYCC staff and experts in developmental health suggested evidence-based practices and intervention strategies that could help optimise the development of children with DDDs given the challenges of rural contexts (Hanson *et al.*, 2016).

The protocol was supplemented with added interventions and these formed the basis of the proposed change in practices at CYCCs. This study reports on the early implementation phase for these added ideas and lessons learned. In the future, sustainability can be measured when the protocol has been adopted and engrained in the CYCCs operations and followed up by supervision and support to reinforce practices (Hanson *et al.*, 2016).

Successful implementation of the ECO-AIP required commitment to and integration of the ECO-AIP as part of the CYCCs standard operational procedure. Such integration required a restructuring of specific activities of the staff, such as the repeated and routine assessment of children. After providing CYCC staff with comprehensive training manuals during two separate in-depth training sessions, equipping them with fundamental knowledge and skills regarding child development, assessment strategies and

essential intervention options, they had to practise identifying and supporting children with DDDs by following several case studies. The trial implementation lasted six months, enabling the CYCC staff to report on the protocol's effectiveness and value for the CYCC.

This research examined whether implementing the protocol and expanding staff members' knowledge and skills base promoted how DDDs were identified, assessed and addressed with appropriate interventions and support, and whether this improved children with DDDs' overall developmental health at a rural CYCC. The research evaluated the effectiveness of the ECO-AIP implementation at two rural CYCCs that voluntarily participated in the trial implementation.

RESEARCH METHODS

The researchers employed a qualitative descriptive approach to “tap the deeper meanings of particular human experiences (concerning the ECO-AIP) and generate theoretically richer observations” (Rubin & Babbie, 2013: 40). With this approach to implementing the ECO-AIP, the researchers gathered the different staff members' rich descriptions of their experiences, while implementing the protocol and applying the newly acquired knowledge about child development to the children in each respective CYCC. Following this, the study did a post-implementation evaluation and reflection on both the training sessions and protocol using semi-structured interview schedules and a focus group discussion format and thematic analysis methods to evaluate the implementation.

The researchers obtained ethics approval from the Health Sciences Ethics Office for Research, Training, and Support of the North-West University. The ethics principles upheld during this research study are outlined below.

- Privacy and confidentiality were upheld by:
 - * storing all hardcopies containing personal information (such as the informed consent forms) of participants in a lockable safe,
 - * assigning codes to each participant as soon as transcripts were uploaded,
 - * asking group members to take responsibility for confidentiality,
 - * and not making any individual comments identifiable in any reports.
- The researchers made sure not to cause psychological or social harm to any of the participants by making them feel just as well leaving the group as when they entered (Gravetter & Forzano, 2006).
- The researchers made sure not to do any economic harm by providing the training at no cost and reimbursing participants for traveling costs when attending the focus groups.
- We adhered to Covid-19 regulations such as social distancing, wearing of masks and sanitising.

Sampling

The population comprised all rural CYCCs in the country, although the trial implementation of the ECO-AIP occurred at two rural CYCCs – one in the Eastern Cape and one in KwaZulu-Natal. These poverty-stricken provinces include urban to semi-rural and deep rural areas. “Rural” was determined by definition as “those areas that are without access to ordinary public services such as water and sanitation and are without a formal local authority” (Fobosi, 2012: 1). “The Eastern Cape, KwaZulu-Natal, and Limpopo provinces are home to about 75% of all rural children in South Africa”, and these areas frequently lack proper health care services (Hall, 2018: 3).

Participating CYCCs had to show evidence of: 1) caring for children with confirmed DDDs, 2) not having a fixed protocol or framework for assessing and supporting DDD children, and 3) having at least ten employees (such as social workers and caregiver personnel) serving children in their care at the time of recruiting drives. Apart from these specific inclusion criteria, all centres in the respective areas qualified for selection, irrespective of the kinds of DDDs presented. Reported developmental delays ranged from socio-emotional and physical developmental to visual perceptual delays. Examples of reported developmental disabilities included cerebral palsy and an autism spectrum disorder. In addition,

participants to the project had to be working with DDD children, providing a suitable testing ground to apply their newly acquired skills to actual situations. Test sites were securely under the supervision of qualified social workers, ensuring the continued protection of vulnerable children throughout the implementation phase.

Recruitment targeted all CYCCs using a publicly available contact list focusing on the demarcated areas. Recruiters sent invitation letters and advertisements to these prospective CYCCs and provided further information to those expressing an interest in the project. Questions were answered during follow-up information sessions while assessing the fit between the project and CYCCs focus (Rubin & Babbie, 2013). Two centres were selected. Participation required buy-in by at least 80% of staff to ensure the implementation would work.

The two participating centres were coded as MW CYCC (located in KwaZulu-Natal province) and CR CYCC (located in Eastern Cape province). The background of the respective facilities is described below.

- MW CYCC forms part of a town classified under a B1 municipal sub-category, meaning that it consists of a secondary city and smaller local municipality (Statistics South Africa, 2016). MW CYCC is located in a neighbouring rural area and the staff complement totals 12. At the time of the research, they cared for 34 school-going children. Most children had delayed development in either cognitive, language or social areas. Seven of these children attended mainstream local schools and struggled with adjustment. Five children attended a local special school for children with learning disabilities. MW CYCC did not follow a protocol but informally referred children to the special school once the social worker had identified potential developmental problems. Their care model was one of “stay-in, refer-out” in that they saw themselves as providing basic care services only and referred out for specialised services upon identification of a DDD.
- CR CYCC is part of a town classified as a B3 municipal sub-category, consisting of a local municipality with no large core (Statistics South Africa, 2016). Several rural communities surround the municipality. CR CYCC had 55 children in its care at the time of the research, several of whom were between 0 to 3 years old or young pre-schoolers, usually remaining in care until adolescence. There were 29 staff members. Many children in the centre presented with DDDs and three children were in specialised facilities due to the severity of their delays. Two other children had confirmed developmental disabilities and were awaiting transfer. The facility thus informally implemented a “referral-out” protocol by limiting their care to basic level and not intervening in DDDs if possible, but transferring them out to other facilities. They were in the business of caring for “minimal-problem” children. The social workers could identify probable DDDs, but they had to travel far distances of up to 400 kilometres at great expense to have these children assessed by experts in neighbouring cities.

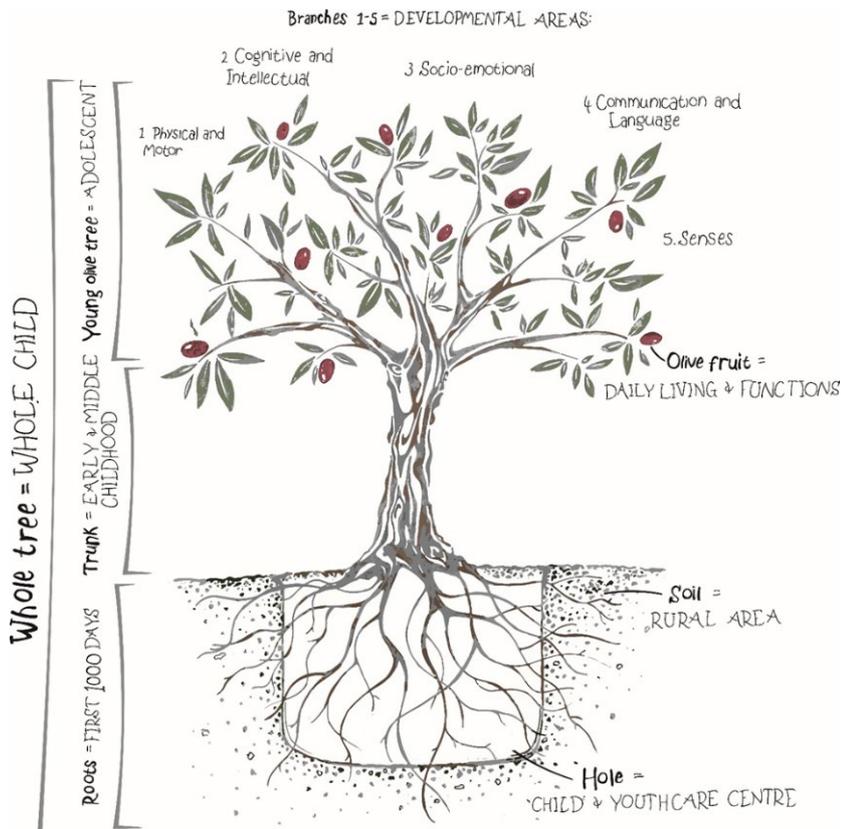
The two participating facilities thus dealt differently with the challenges of identifying DDD cases, but neither could manage DDD children effectively in-house. In this sense, they were ideal candidates for the training programme and the introduction of a new protocol.

Pre-implementation training sessions

According to feedback from the CYCCs, none of the participating staff members had previously received training on child development.

All staff (see Table 3 for the different disciplines that were represented) at the two CYCCs received training on the ECO-AIP and its related knowledge and skills base on two separate occasions. The training was made practical and easy to remember by comparing the child to a developing tree, explaining the different parts of the tree as the critical areas for development as demonstrated in Figure 2.

FIGURE 2
SUMMARY OF CHILD DEVELOPMENT - TREE ANALOGY



The training was supported by a manual that participants could use as a reference during the implementation. One of the researchers (an experienced trainer and publisher) developed the training manuals and conducted the training after three years' experience and in-depth empirical research in child development. Training manuals were developed in English.

Table 1 provides specifics about the content of the training. During the first two-day training session, participants received extensive and new clinical knowledge on child development and protocol information and its role in operations. A competency assessment strategy ensured reasonable knowledge and skill levels, facilitating the implementation's fidelity.

Participants also received toolkits containing early childhood development tools for assessment and basic interventions with which to help children reach essential developmental milestones. In addition, participants received form kits containing laminated copies of the protocol, assessments and individual development plans. Together, the toolkit and form kits enabled the implementation of the ECO-AIP, integrating it into the CYCCs operational procedures.

TABLE 1
CONTENT OF INITIATION TRAINING SESSION

Section & Information	Content & Operational matters	ECO-AIP steps
Section 1: The soil that the child grows up in = The place where the child is born (rural area)	Content: The impact that the environment could have on the child's development. Guidelines that community-based organisations should use to minimise developmental problems in children. Operationally: Participants act as advocates for children in the communities where they reside.	N/A
Section 2: Plant the tree in a hole = Placing a child in a specific environment – the CYCC & Admission Assessment & Sensory Assessment	Content topics: Evidence-based guidelines; teamwork; structuring of the physical environment to suit the child's needs; attachment and relationship building, and individualistic, holistic, and multidisciplinary approaches. Operationally: Introduce the new way of working according to protocol. Structure a multidisciplinary assessment of children in-house at the facility.	Step 1: Admission assessment Practise how to complete the above form as a multidisciplinary team, with the assistance of a reunification social worker and family. Contains biographical and background information on all aspects of child's life. Step 2.1: Sensory assessment Practise how to complete the above assessment as a multidisciplinary team using close observation of the child by all role players. Delivers sensory aversions and sensory-seeking behaviour results.
Section 3: Terms relating to child development	Content: Terms relating to development. Operationally: Empower staff with knowledge.	N/A
Section 4: Developmental milestones & Developmental assessment	Content: Roots of the tree – Milestones during the first 1 000 days of a child's life. The trunk of the tree – Milestones during early and middle childhood stages. Young tree – Milestones during the adolescent stage. Operationally: Introduce new, structured operational procedures for identifying DDDs in children.	Step 2.2: Developmental assessment Practice how to complete this assessment – requires observations and team discussions. Shows where child is at developmentally. Step 2.3: Combine results and conclude Learn how to identify whether a child presents with DDDs in order to intervene appropriately.
Section 5: Individual Development Plans (IDPs)	Content: Compile and implement IDP. Operationally: Introduce new, structured operational procedures to identify possible interventions and appropriately support the individual child.	Step 3: Compile and implement IDP Learn how to compile an IDP as a multidisciplinary team. Child and youth care workers (CYCWs) are primary implementors, while social worker and health and management role players monitor and assist.
Section 6: Evaluation	Content: Monitor and evaluate (every three months) if IDP is effective and adjust interventions accordingly. Operationally: Introduce new operational procedures on how to evaluate if the interventions are working.	Step 4: Evaluation The team learns how to evaluate by starting again at step 2 of the ECO-AIP.
Section 7: What can harm healthy development?	Content: What actions, food or drink, stimulation, or other input to avoid while working with the CYCC child. Operationally: Empower with knowledge, changing how CYCC staff work with children.	N/A

A mid-term follow-up refresher training session helped facilitate the adoption of the new operational procedure and refresh newly acquired skills (Heyns & Roestenburg, 2019).

Table 2 summarises the content of the mid-term training session. A previous study found that the specific three developmental delays and disabilities included in this training were identified as the most prevalent at South African CYCCs (Heyns, 2020a).

TABLE 2
CONTENT OF MID-TERM TRAINING SESSION

Section & Information	Content & Operational matters
Section 1: Review of ECO-AIP	Content: Recap and establish knowledge about the steps to follow in the ECO-AIP. Discuss challenges that came up during the implementation of the ECO-AIP. Operationally: Sustain the integration of the protocol by ensuring its implementation with fidelity and reflection on challenges experienced.
Section 2: Understanding developmental delays and disabilities	Content: Difference between a delay and a disability. Operationally: Empower with the knowledge to distinguish between a developmental delay and a developmental disability.
Section 3: Specific developmental delays	Content: Three specific developmental delays that often present in CYCCs: Socio-emotional developmental delay Physical developmental delay Visual-perceptual delay. Operationally: Empower staff to identify these specific delays. Empower staff with knowledge on how to support this child.
Section 4: Specific developmental disabilities	Content: Three specific developmental disabilities that often present at CYCCs: Cerebral Palsy Sensory Processing Disorder Autism Spectrum Disorder Operationally: Empower staff to identify these specific disabilities. Empower staff with knowledge on how to support this child.
Section 5: Other diagnosed developmental delays and disabilities	Content: When a child was diagnosed with a DDD other than the ones mentioned above, they completed an IDP. Operationally: Participants able to complete IDP for diagnosis other than those covered in training, empowering participants with new knowledge.

Due to COVID-19 restrictions some of the training occurred online, although live sessions could be held by the start of implementation.

Post-implementation focus group data collection

Focus group discussions were the primary data-collection method of choice, as it allowed the researchers to question several individuals simultaneously. It was also more cost effective, flexible and generated rich data (Rubin & Babbie, 2013).

Three focus groups were held, one with MW CYCC and two with CR CYCC. The first group (consisting of MW CYCC staff) attracted 10 participants and the second and third a total of 21 participants from CR CYCC. A pre-developed semi-structured interview schedule served as a data-collection tool and sessions were recorded digitally and supplemented by field notes and reflective diaries. Saturation occurred by the third group as the content started to repeat (De Chesnay, 2015).

A summary of demographic details of pre-implementation training and post-implementation data collection appear in Table 3.

TABLE 3
DEMOGRAPHICS OF PARTICIPANTS ACROSS SETTINGS

Participating CYCC	First training: Implementation of ECO-AIP	Second training: Specific DDDs	Focus Groups (FG)
MW CYCC KZN province	March 2020 to October 2020		
	Demographics of trainees: Social workers: 1 CYCWs: 10 Managers: 2 Directors: 1 Volunteers: 1	Demographics of trainees: Social workers: 1 CYCWs: 9 Managers: 2 Directors: 1	Demographics of participants – FG 1: Social workers: 1 CYCWs: 7 Managers: 1 Directors: 1
CR CYCC EC province	November 2020 to April 2021		
	Demographics of trainees: Social workers: 1 CYCWs: 10 Managers: 1	Demographics of trainees: Social workers: 1 CYCWs: 11 Managers: 1	Demographics of participants – FG 2: CYCWs: 7
			Demographics of participants – FG 3: • Social workers: 1 • CYCWs: 6
			Demographics of participants – FG 4: • Social workers: 1 • CYCWs: 5 • Managers: 1
Implementation of ECO-AIP by CYCC			

Digital recordings of focus group discussions were transcribed directly after the discussion into a Word document. Transcriptions were then prepared for analysis using Atlas.ti Version 9.0.

Data analysis

Data were analysed inductively according to the steps for thematic analysis – a method for “identifying, analysing and reporting patterns within data” – as described by Braun and Clarke (2006:79). First, transcriptions were read and re-read, making notes on them, a process called memoing. Then, a collation of initially generated codes and potential themes formed the basis of a second-order analysis to derive the themes.

Trustworthiness was improved by using an independent coder who repeated the analysis independently, confirming most of the themes derived. Reports on the final set of themes appear in the research results section of this article. These contributed valuable information for the development and adaptation of the ECO-AIP.

FINDINGS

Once the similarities in the themes had been identified, the results were presented as themes and codes. A summary of the main themes that describe the opinions and suggestions of staff (based on real-life practice implementation) provided the feedback needed for the advanced development of the ECO-AIP.

Content of ECO-AIP

Knowledge gained

Knowledge gain was a recurring theme throughout the focus groups. Participants homogeneously stated that they gained knowledge and understanding of the core attributes of the training they received. These attributes include topics such as observation and awareness, developmental stages and milestones, assessment of children, identification of DDDs in children, differentiation between a delay and a disability, support of individual children, and teamwork.

Firstly, participants stated that they learned how to observe children. According to them, “*everyone’s level of awareness has been raised*” (P25, FG4). They, for instance, paid more attention to available

background information such as that contained in the Road to Health Charts (RTHC) (graphical charts to assist with identifying intervention pathways) (FG3 & 4).

Participants gained knowledge of age-appropriate developmental stages and milestones, enabling them to better understand and recognise children's developmental conditions. For example, a participant stated "*being able to understand*" and "*recognise*" (Participant 25 [P25], Focus Group [FG] 4) when children are delayed compared to "*other children*" of the same age (P21, FG3). In addition, participants from all focus groups provided examples of children they were working with who had not reached certain developmental milestones.

The reported increased awareness and observational ability complemented participants' assessments of whether or not children presented with a DDD, greatly enhancing the accuracy of their findings. During the group sessions, participants continuously explained how to conduct these assessments, demonstrating their satisfaction with learning new methods (FG1 & 4). They stated that the improved ability to do assessments enabled them to identify DDDs, whereas "*before we did not know we had children with delays*" (P1, FG1). In addition, results from all focus groups indicated that they could now identify when a child had a developmental problem. "*We are identifying challenges and needs earlier*" (P25, FG4). These expressions testify to the knowledge gained through training.

All the focus group participants reported that they were able to now differentiate between a developmental delay and a developmental disability. "*It made me understand that THIS child is disabled. And which child has delayed development*" (P4, FG1). "*We have learned to identify the difference between the delay and the disability*" (P21, FG3).

Being able to identify DDDs in the CYCC children enabled participants to support children by implementing age-appropriate, individualistic child-specific interventions. "*We do know now what to do to help the child develop*" (P8, FG1). "*I know that I cannot treat them the same*" (P7, FG1), and we "*obtained some ideas on what to do with the individual child*" (P8, FG1). Participants from FG2 and 3 provided some examples of activities they did with children who were delayed or disabled to "*help the child to accomplish something*" (P26, FG4).

Gaining knowledge about the importance of teamwork was a recurring theme reported by the participants in focus groups 3 and 4. The focus was specifically on teamwork between social workers and child and youth care workers. Participants indicated that DDD children's assessment and support are not the social workers' responsibilities alone, but rather a team effort. "*Since we do not spend as much time with the children, we depend on the caregivers*" (P21, FG3). "*We need to work together in everything. We need to give each other information*" (P29 & 31, FG4).

A need for further information

There is room for the ECO-AIP to be developed further by including more advanced information about interventions.

Participant 25 (FG4), for instance, suggested programme additions in the form of "*other programmes*", further interventions that will address specific problems (such as sensory problems) identified in children.

Focus group 1 participants asked for more content on the developmental milestones for the school-going and adolescent developmental stages.

There were also requests from participants in focus groups 1 and 4 for the inclusion of specific and "*as many as possible different kinds of activities that you could do*" (P3, FG1) at the rural CYCC with a child with a specific need while the child is awaiting services from inaccessible experts. Participant 28 referred to them "*being stuck with the child*" and wanted to be able "*to do something*" until the appropriate experts could assist the child.

Language

All focus groups indicated that the language used in the training manuals was “*difficult*” (P9, FG1 & P14, FG2), “*academic*” (P3, FG1), and “*hard to understand*” (P9, FG1, P14 & 15, FG2). In addition, all groups indicated that understanding the information and relating definitions and terms will be more accessible if the training manuals could be translated into their home languages – mainly isiXhosa and isiZulu. This indicated the need for the simplification of user manuals.

Opinions about operational effectiveness

This theme describes the opinions participants reported on the operational effectiveness of the ECO-AIP after implementing taught content.

Structure to assessment and intervention

Participants from focus groups 1, 3 and 4 stated that the ECO-AIP provided them with “*a clear vision*” (FG1), “*direction*” (FG3) and “*structure*” (FG3) for the assessment and intervention with children in CYCCs. For example, participant 2 from focus group 1 stated that she “*now knows how to take things step-by-step.*” These steps were said to be “*quite clear*” (P25, FG4).

Improved developmental health of children

Overall, participants from focus groups 1, 2 and 4 stated that, in their view, the new method for assessing children contributed to the children’s developmental health and that their health improved after the implementation of the ECO-AIP. They stated that children were now “*learning, growing, responding and flourishing*” (P25, FG4).

Participants provided case studies of children with whom they were working while implementing the ECO-AIP, noting the following:

- Improvement in cognitive development – such as recognition of colours (FG2);
- Improvement in physical development – such as moving from crawling to walking (FG1, 2, 3 & 4);
- Improvement in socio-emotional development – improved self-confidence and socialisation (FG4);
- Improved daily functioning – such as a child that now can feed itself (FG3).

Helpful tools

Participants reported that the toolkit (a box of early childhood development toys for each developmental stage) and form kits (laminated copies of all assessments options) were helpful tools to “*help these children*” (P20, FG3). In addition, these assisted CYCC staff to “*identify issues*” and “*stimulate*” the children (P25, FG4).

Suggestions for further development of the ECO-AIP

Expansion to the community

Participants from all focus groups suggested the broader implementation of the ECO-AIP in the CYCC context. They added that it should be adapted to address misperceptions and culturally preconceived ideas about the causes and management of disabilities in rural communities. They felt it was necessary to address these cultural ideas to improve services to children and the way parents deal with DDD children.

The influence of cultural perceptions on child development was prevalent: “*if you get a disabled child, you maybe have a problem. Then you are being punished for something that you have done*” either “*by the ancestors*” or “*by God*” (P8, FG1 & P 21, FG3). Children with DDDs were consequently “*locked up*”, not receiving the help they needed (P10, FG1 & P21, FG3). In addition, “*Some people do not want*

to be associated with such a child”, and parents “do not want people to know that they have a disabled child” (P8, FG1).

Individual participants from a similar cultural background, however, indicated that “people are different in the rural areas” and that the way in which you view and manage a DDD child will “depend on your beliefs” (P11, 13, 17, FG2). Participant 21 stated that cultural beliefs sometimes “keep us away from learning positive things on how to help each other and our children” (FG3).

Participant 10 (FG1) reflected that the rural community where she resides was “the worst place” for children with DDDs, while Participant 4 (FG1) confirmed that they had DDD children “at home” in the rural areas and that these children sometimes suffered because of the traditional views held about these children. Participant 3 from the same focus group confirmed that the information they gained was “helpful for them” from a “personal perspective.” Participants requested that members from rural communities should “also get this information” (P11, FG2).

Future training on the ECO-AIPs should be directed towards “schools” (P21, FG3), “clinics” (P21, FG3), “family environments” and dedicated “parenting programmes” (P25, FG4), “alternative care” environments such as “foster or adoptive parents” (P25, FG4).

Rural vs urban areas

Participants reported that the ECO-AIP was helpful in the rural areas because “we do not have access to as many facilities as people in the urban areas” (P3, FG1). In addition, because there were waiting periods of up to “two years for a first appointment” with an expert, “people need that understanding and help perhaps more in the rural areas” (P3, FG1).

However, all focus groups indicated that the ECO-AIP would be effective in rural and urban areas. “Children are children. They have the same problems, whether they are in town or a rural area” (P3, FG1). “It can be applied anywhere” (P25, FG4).

Training

Specifically, MW CYCC stated that they “needed the information explained” (P3 & 8, FG1) and that having “time to discuss as a group how to implement activities would have made it much easier” (P3, FG1).

Participant 13 (FG2) confirmed that understanding the information “would be difficult if not explained”. Participant 21 (FG3) stated that “it would not be easy to use the manual if someone was not explaining it”. Participants from focus group 3 felt that exercises and case studies aimed at practising how to implement assessments were helpful to make the implementation of the ECO-AIP “easier” (P19, 20 & 21).

DISCUSSION

The above analysis reveals mainly five themes that seemed to underpin participants’ conversation.

The participants’ knowledge about implementing the ECO-AIP increased and it seemed as if the target CYCCs actively considered the importance of an operational procedure as part of their functions as childcare facility for the first time. The knowledge gained regarding specific developmental delays and disabilities was significant, inspiring renewed enthusiasm about child development. This enthusiasm was reflected in the increased quality of CYCC staff’s observation skills and awareness of children’s developmental needs. As a team, participants became capable of assessing children more uniformly and systematically when using the structured assessment forms and pre-designed toolkit. The IDP format designed by the researchers guided and empowered CYCC staff to compile structured and individualised development plans for each child that included suitable support mechanisms. The content of the ECO-AIP training and the way it was implemented clearly altered the way in which CYCC staff worked with children.

Based on comparisons of evaluations from successive assessment results (every three months of the child's stay in the facility), participants reported that children's developmental health improved in nearly all developmental areas because of the knowledge gained and then applied at the CYCC. The researchers attribute this change to the acquired ability to identify developmental delays earlier than before and to intervene appropriately. In addition, other studies confirm that early detection helps increase the proportion of children who achieve their developmental potential (Collins *et al.*, 2017) and that appropriate stimulation activities can positively alter children's developmental trajectories (Choo *et al.*, 2019). In so doing, the need to transfer children to specialist facilities could decrease in the long run.

Although participants attributed the change in practice to the clarity of the protocol and stepwise knowledge framework, the contribution of the protocol to teamwork and systematic work practices seemed to be an additional benefit. This finding is consistent with a generic definition of a protocol as a "document that formalises working practices by making explicit who should do what, when, how, and why" (Ilott, Booth, Rick, & Patterson, 2010: 771). This study confirmed previous research, which indicates that protocols provide algorithms to ensure services are appropriate in response to client needs (Heyns & Roestenburg, 2019). Participants believed that no structural changes to the algorithmic protocol itself were needed as it already presented a more effective way of working and incorporating clinical information about children in the course of their daily care practice.

Was the ECO-AIP suitable for CYCCs in under-resourced rural contexts? Some research confirms that most children in rural areas live in conditions that are not conducive to normal development (Bilquis, 2012; Mkabile & Swartz, 2020; Visser, Nel, Bronkhorst, Brown, Ezendam, Mackenzie, Venter, 2016; Werner, 2005;). In addition, it seems that expert services are deficient or not readily available in rural contexts, and this study found, for example, that children in this context had to wait for months, if not years, to see an expert such as an occupational therapist, a paediatrician, or speech therapist. The participants consequently felt that the ECO-AIP was especially useful in rural areas because it assisted the staff 1) to identify possible delays and 2) to intervene appropriately despite having to wait long periods for expert services to come. Previously, staff just had to wait and "*be stuck*" (P28, FG4) with the child, sometimes hardly implementing goal-orientated stimulation activities until expert assessments provided further direction. This study confirms that relatively simple interventions by caregivers such as stimulation activities could already make a huge difference to children. Bilquis (2012: 353) explains: "regarding the importance of home stimulation, and identification of developmental delays and low-cost stimulatory play materials helped the children overcome the developmental delays and reach the normal developmental level."

Although the designed protocol addressed pertinent knowledge limitations and service shortages in rural areas, causing it to be somewhat over-detailed, participants felt that the protocol's benefits were equally applicable to rural and better developed urban contexts.

Further development of the ECO-AIP should focus on adding more specialised knowledge components in specific fields such as sensory development and stimulation activities. These would help participants better inform specialists on these matters.

Furthermore, participants expressed a need for standardised and validated scales to improve the accuracy of assessments. Participants noted the value of the protocol for the consistency of their work with children and expressed the need for tools that could further this.

There was a common outcry for the protocol to be adapted and expanded to communities. Participants felt they could use the acquired knowledge to initiate community interventions when mothers are in the pre-natal stage of pregnancy. DDDs induced by poverty are already evident pre-birth, as indicated by Werner (2005). This emphasises that an adapted protocol's focus should start with prenatal preparations. Expectant mothers should receive information on danger signs during pregnancy. They should realise the importance of prenatal medical care, possible birth complications, symptoms of DDD in babies, and correct ways to stimulate babies after birth (Heyns, 2020b). Participants wanted community leadership and structures to gain knowledge about developmental delays as several cultural myths about disabilities

in children could be addressed before birth, since “those living in rural areas, those who are poor, and those with limited access to information, education, and healthcare, are disproportionately affected by the incidence of disability” (Neille & Penn, 2015: 2). Parents and other caregivers in these contexts should be informed and trained in child development issues and early identification of DDDs as a preventative measure (Bilquis, 2012; Collins *et al.*, 2017). Thus, future research should adapt the ECO-AIP to a parenting programme for caregivers of children in rural communities as a natural development to address cultural beliefs, indigenising otherwise complex technical knowledge to a level of contextual relevance in targeted communities. Such adaptation is at the nexus of culture and practice, where practice is “influenced by local factors such as cultures, beliefs, and social milieu” (Ugiagbe, 2015: 791). Therefore, a revised ECO-AIP should consider nuances associated with both isiZulu and isiXhosa contexts, consistent with what Mogorosi (2018) observed. Besides translating information and study material into a functional local language (another prominent theme in this study), supplementing the materials with culture-specific examples would help transport the material to local communities.

CONCLUSIONS

This research questioned whether introducing a new operational protocol and clinical assessment regime would influence the identification and support of DDDs and improve the overall developmental health of children with DDDs in a rural CYCC. The researchers conclude that the short answer is yes, but not without adjusting the protocol in a few ways, namely to simplify the training manuals’ content and translate it into indigenous languages and incorporating myths about the cultural meanings of disability.

This research found that the protocol effectively improves children’s developmental health in rural CYCCs in South Africa. The protocol appears useful for the general stimulation of children as it contains general age-appropriate guidelines for child development.

The continuous, circular assessment that should take place during the child’s stay in the CYCC would ensure that staff remains updated with the child’s development or setbacks and that adjustment of interventions according to the individual child’s needs would support the ecosystemic approach of Bronfenbrenner (1979) as mentioned earlier in this article.

Future research should focus on 1) measuring the effects of adapting the ECO-AIP for implementation in community education programmes, 2) testing assessment scales in the new way of conducting assessments, and 3) creating sub-programmes that rural CYCC staff can use to address specific developmental problems while the child awaits services by experts.

The ECO-AIP holds considerable value for out-of-home care services in South Africa. This programme’s knowledge and skills acquired empowered social workers, CYCWs and other CYCC staff to perform their duties with more insight and commitment. It furthermore contributed to greater awareness and the need to share the acquired information with communities. The joint training and application of a standard protocol such as the ECO-AIP contributed to more effective, team-based collaborative work with children and promoted ongoing learning and skill refinement.

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