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'Your baby's life depends on those first 1000 days': community health workers' perspectives of the first 1000 days of life

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ABSTRACT

Community health workers possess valuable insight into the experiences of South Africa's children and caregivers. However, their knowledge is often overlooked in efforts to understand local realities, inform interventions, and develop relevant policies. This study aimed to explore community health workers' perspectives of the first 1000 days of life, the critical period of development between conception and two years of age. Semi-structured interviews were conducted with 15 community health workers working with mothers and infants in Khayelitsha, Cape Town. A thematic analysis suggests that the community health workers view the first 1000 days as fundamental and foundational for children's development. Furthermore, the community health workers identified key needs for mothers/caregivers and infants within the first 1000 days. The findings provide contextual grounding for the importance of the first 1000 days within South African communities.

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Community health worker; home visitor; early childhood development; first 1000 days of life; Khayelitsha; South Africa

Community health workers (CHWs) are essential to the provision of health care services in South Africa (Cooper et al., 2009; Mitchell, DeLange, Moletsane, Buthelezi, & Stuart, 2005; Suri, Gan, & Carpenter, 2008). In 2004, the South African government introduced the term 'community health worker' to refer to lay health workers providing social and health-related support to people within their communities (Schneider, Hlophe, & Van Rensburg, 2008). A body of evidence verifies the efficacy of services and interventions provided by CHWs, from HIV/AIDS-focused interventions to interventions aimed at supporting mothers and infants (Le Roux et al., 2010; Mitchell et al., 2005; Schneider et al., 2008; Tomlinson, 2013). Through their work, CHWs acquire on the ground experience as to the practical realities, customs, challenges, and strengths of the communities in which they work. Suri et al. (2008) writes that 'as the primary link between the formal health care sector (clinics, physicians, and nurses) and the household level in South Africa, CHWs provide a critical perspective on barriers that exist in health care delivery' (p. S505).

One area in which CHWs can provide support is to mothers and infants within the first 1000 days of life, which is the period between conception and two years of age. The first 1000 days of a child's life are the most profound and consequential for their future development (Bellieni, 2016; Shung-King, Lake, Sanders, & Hendricks, 2019; Thurow, 2016). The term the 'first 1000 days' first gained momentum when the *Lancet* published its series on Maternal and Child Undernutrition in 2008, recommending that nutrition interventions be focused on the period during pregnancy and the first two years of a child's life (Pentecost & Ross, 2019). Growth and development occur more rapidly during gestation and infancy than any other period over the life span, making the first 1000 days a particularly vulnerable time for effects of malnutrition (Martorell, 2017). Maternal and

infant nutrition within the first 1000 days has been shown to be linked with infants' later physical growth, muscle mass development, brain development, cognitive functioning, socio-emotional adjustment, risk-taking behaviour, earning capacity, and a multitude of health-related concerns (Biesalski, Black, & Koletzko, 2016; Cusick & Georgieff, 2016; Martorell, 2017; Scharfe & Black, 2019; Schwarzenberg & Georgieff, 2018; Silver et al., 2018; Wrottesley, Lamper, & Pisa, 2015).

While the first 1000 days research began with a focus on early nutrition, researchers have come to recognize the significance of a multitude of factors within this period. Cognitive stimulation during the first 1000 days has been linked to language development, mental disorders, mathematical and problem solving capacity, and earning capacity (Einziger, Zilberman-Hayun, Atzaba-Poria, Auerbach, & Berger, 2019; Fagan, 2017; Vallotton, Mastergeorge, Foster, Decker, & Ayoub, 2016). Maternal sensitivity during the first 1000 days has been shown to affect infants' later emotional regulation, capacity for wealth creation, behavioural problems, health, and cognitive development (Firk, Konrad, Herpertz-Dahlmann, Scharke, & Dahmen, 2018; Nichols, Jaekel, Bartmann, & Wolke, 2019; Thomas et al., 2017; Wright, Hill, Sharp, & Pickles, 2018; Zhou, Cao, & Leerkes, 2017). The care infants receive within the first 1000 days of their lives either enable or curtail their capacity as they grow into children, adolescents, and adults.

The importance of the first 1000 days initiative is becoming increasingly recognized in South Africa (Pentecost & Ross, 2019; UNICEF, 2017). The National Integrated Early Childhood Development Policy provides national policy-level support for the initiative (Republic of South Africa, 2015). Yet, despite the South African Government's policy initiative, there are a vast number of social and environmental factors faced by South African which impair healthy development in the first 1000 days, including poverty, crime, violence, an inadequate public education system, and the HIV/AIDS epidemic, among others (Donald, 2013; Tomlinson, 2013). Donald (2013) identifies five major biological risk factors for loss of developmental potential among South African children in the first 1000 days: malnutrition (particularly stunting and anaemia), HIV infection and exposure, alcohol exposure, methamphetamine exposure, and traumatic brain injury. These factors are likely to contribute to school drop-out and unemployment later in life (Donald, 2013). As such, while the South African government places emphasis on the importance of the first 1000 days of life, the social hardships faced by many South Africans inhibit the development of the country's youngest members, and predisposes them to negative developmental outcomes.

While there is a large body of research related to the first 1000 days initiative, most studies have been conducted outside South Africa, and within Western scientific frameworks (Wrottesley et al., 2015). Evidence from the South African Birth to Twenty Cohort study does provide some empirical grounding for the importance of nutrition during the first 1000 days in the South African milieu (Casale & Desmond, 2015). The study, which sampled children born in 1990 in South Africa, found that children who were stunted at age 2 but had recovered at age 5 still performed worse on cognitive tests than their counterparts who had never been stunted (Casale & Desmond, 2015). Their findings suggest that proper nutrition within the first 1000 days is essential, as inadequate nutrition can negatively affect cognitive function (Casale & Desmond, 2015).

Yet, while scientific evidence indicates that empirical research related to the first 1000 days is applicable within the South African context, several authors argue that the research does not align with traditional African beliefs (Nsamenang, 2007). For example, Okwany (2016) suggests that, to be responsive and respectful, early childhood development narratives in Africa must build upon and support local beliefs, and that Africa's early childhood development policies are built on the back of 'extrapolated evidence' from Western theories (p. 2). However, this argument overlooks the valuable contribution of African researchers towards knowledge about early childhood, and the first 1000 days in particular (Richter, Tomlinson, Watt, Hunt, & Lindland, 2019). Despite the potentially profound consequences of this debate, little is known about common understandings of early childhood and the first 1000 days in South Africa (Richter et al., 2019).

One of the few studies exploring perceptions of the first 1000 days in South Africa was conducted in Khayelitsha, Cape Town (Worthman, Tomlinson, & Rotheram-Borus, 2016). The authors note that,

given the compelling evidence in support of the first 1000 days initiative, 'related initiatives may assume that rationale for this orientation and the agency of parents during this period is self-evident and widely shared among parents and communities' (Worthman et al., 2016, p. 1). The authors explored this assumption among 38 Khayelitsha residents by asking the question: 'At what age or stage can a parent or caregiver have the most influence on a child's development?' (Worthman et al., 2016, p. 1). Using a formal cultural consensus analysis, it was determined that the period during which parenting has the greatest impact on a child's development is adolescence, around 12 years of age (Worthman et al., 2016). Reasons articulated for this view included the protection of developmental potential, and protection against dangerous context-specific risks (early pregnancy, substance abuse, violence, and gangs) that emerge during adolescence (Worthman et al., 2016). These risks were considered to present greater threats to development than risks during pregnancy and early childhood, which were seen as more manageable by comparison (Worthman et al., 2016).

As CHWs hold a unique position - they are trained using international frameworks yet live and work within local South African communities and belief-systems - they are uniquely suited to understanding the relevance of the first 1000 days in South African contexts. Moreover, given CHWs' intimate interaction with children and caregivers through their day-to-day work, CHWs possess valuable knowledge about lived experiences within the first 1000 days. Thus, this study aimed to explore CHWs' perspectives of the first 1000 days of life.

Methods and materials

Research design

This study utilized an exploratory qualitative research design. Qualitative research encompasses a wide range of methodologies which primarily incorporate unstructured data and non-numerical analysis methods (Creswell & Poth, 2018). Qualitative research methods generate rigorous, in-depth research while still permitting flexibility and acknowledging the influence of subjectivity and context (Madill & Gough, 2008). Thus, as the research aim is to explore the personal perceptions and subjective experiences of CHWs, a qualitative research design is well-suited.

Participants and setting

Participants included 15 CHWs working at Philani, a Khayelitsha based NGO which works to support pregnant women, new mothers, and children in underprivileged communities. The CHWs working at Philani are known as Mentor Mothers. Their interventions are primarily delivered through home visiting programmes. The CHWs, or Mentor Mothers, receive training through a six week maternal, child health, and nutrition course. The course comprises the following modules: counselling and communication; negotiating entry; HIV and TB; reproductive health, STIs, and family planning; antenatal care; labour and delivery; mother and baby care; infant feeding, including the importance of breastfeeding, positioning and attachment to breast, assessing a breastfeed, breast conditions, expression, safe formula feeding, and feeding difficulties; child health; postnatal depression; abuse, neglect and violence; and self-care.

All participants were black African, isiXhosa women between the ages 32 and 47 years. They had between one and five years working experience, and all but one had children of their own. They all lived and worked in Khayelitsha, which is a large informal settlement located outside of Cape Town. Khayelitsha is a vibrant and densely populated community plagued by high levels of poverty, unemployment, and poor service provision (Nyatsanza et al., 2016). Townships such as Khayelitsha were established under apartheid law to house Black African populations, and have since burgeoned to accommodate rapidly urbanizing populations (Worthman et al., 2016). Khayelitsha has a population of almost 400 000 which is almost entirely Black African (99%) (Statistics South Africa, 2013).

Data collection

Ethics approval was obtained from the Biomedical Research Ethics Committee (Reference number: BM19/4/16) at the University of the Western Cape, and permission to conduct the research was obtained from Philani's Board of Executives. Prior to data collection, participants were informed about the nature of the study, confidentiality and anonymity procedures, their right to withdraw at any time, and voluntary participation. An isiXhosa translator was made available to participants upon request; six participants chose to have a translator present and nine participants did not. Data was collected using semi-structured individual interviews, a flexible interview structure which is ideal for the exploratory and qualitative nature of this research (Creswell & Poth, 2018). All interviews were audio-recorded with the permission of participants.

Data analysis

The data was analysed using Braun and Clarke's (2012) thematic analysis method, which they describe as 'a method for identifying, analysing, and reporting patterns (themes) within data' (2012, p. 63). The interviews were transcribed, translated into English where necessary, and coded. The codes were grouped into themes, which were then revised, named, and reported. Member checking was conducted with the participants to strengthen the validity of the findings.

Results and discussion

Two key themes emerged from the data; namely: the first 1000 days of life are fundamental, and the key needs within the first 1000 days of life.

Theme 1: the first 1000 days of life are fundamental

To the CHWs, the first 1000 days were viewed as fundamental and foundational to the rest of a child's life. The participating CHWs were knowledgeable about early childhood development, and in particular about the first 1000 days of life. Almost all CHWs were familiar with the term the first 1000 days, and many provided accurate, in-depth definitions. Illustratively, Lelethu¹ noted,

First 1000 days, it started when you conceive, when you conceive, neh. And then you pregnant that nine month, then give birth, the child is turning 1 and 2. You are counting that as the first 1000 days, neh. But for us, first 1000 days it is very important.

This knowledgeability reflects the extensive and up-to-date training the CHWs receive at Philani. It also reflects the commitment of the CHWs to understanding and learning more about early childhood development so that they are better able to support the mothers and infants in their care.

Beyond their knowledgeability about the first 1000 days of life, the CHWs consistently emphasized their importance. The first 1000 days were viewed as fundamental and foundational to the rest of a child's development. Reflecting this view, Thandiwe² stated, *'That's very critical 1000 days of your baby's life. So your baby's life depends on those first 1000 days.'* The importance of the first 1000 days was ascribed to the delicate development that occurs during this period. In particular, the CHWs highlighted the significance of rapid brain development within the first 1000 days. Lelethu (see note 1) stated that the first 1000 days were important *'because the brain of the child, it's moving fast, it's learning fast, on that period, see, from conceive to two years.'*

Experiences and environment during the first 1000 days were seen as highly consequential for all areas of development, both in the short and long term. A quote from Nosipho³ illustrates this, describing the detrimental, long-term effects of consuming harmful substances during pregnancy:

And also, some of the things that you [the mother] used to do; you need to limit, such as alcohol. You should not drink while you are pregnant. Secondly, you should not smoke during the pregnancy because it's one of the

things that affect the baby. You find that you are giving birth and the baby's lungs are blocked due to the cigarettes that you were smoking, and then you find that your baby is very hyper because of the alcohol you were drinking. So those are the most important things that you shouldn't do.

Children's physical, cognitive, and socio-emotional development were seen to be significantly affected by infant experiences during the first 1000 days.

The fundamental and foundational nature of the first 1000 days, as articulated by the CHWs, is well supported by a substantial body of literature (Bellieni, 2016; Cusick & Georgieff, 2015; Martorell, 2017; Pentecost & Ross, 2019; Thurow, 2016). Aligned with many of the CHWs' statements, the brain develops most rapidly, and has the highest level of plasticity, during the last trimester of pregnancy and the first two years of life (Cusick & Georgieff, 2015). Moreover, the CHWs articulation of the profound and substantial impact of the first 1000 days on a multitude of developmental domains across the life time is empirically supported, as a plethora of research shows that infant experiences during the first 1000 days affect cognitive, physical, psychological, and socio-emotional development (Bellieni, 2016; Cusick & Georgieff, 2016; Martorell, 2017; Rochat et al., 2016; Silver et al., 2018; Thomas et al., 2017; Thurow, 2016; Valenzuela, 1997).

Many of the CHWs conveyed extensive and contemporary scientific knowledge about the first 1000 days of life. This finding exhibits the comprehensive and informed training the CHWs receive at Philani. It also highlights the complexity of attempting to understand local, contextual perspectives in present-day South Africa, where so many perspectives are now informed by international science and culture. However, the overlap between local and international knowledge, conveyed in the CHWs' narratives, reflects their current realities, where there is no longer a clear line between the two.

The CHWs' narratives provide supporting evidence that local and international knowledge sources regarding the first 1000 days can coexist compatibly. This finding somewhat contradicts the research conducted by Worthman et al. (2016), which found that caregivers in Khayelitsha believed the age at which they could most influence a child's development was around 12 years old. While the CHWs knowledge regarding the first 1000 days may have been obtained through training, the CHWs had experienced the relevance of this knowledge in their contexts through their day-to-day work. They bear first-hand witness to the substantial developmental impact of the first 1000 days. Their insight provides contextual grounding for the first 1000 days within the CHWs' experience working in Khayelitsha, and perhaps in other communities like it.

Theme 2: key needs within the first 1000 days of life

The CHWs identified the critical needs of foetuses, infants, and mothers within the first 1000 days of life in Khayelitsha. These needs are interrelated and are often dependant on one another. First and foremost, optimal development was viewed as requiring that pregnant women, new mothers, and infants have their basic needs met. As Nonkqubela⁴ expressed, *'First of all, when the mum is pregnant, you must make sure you have all the needs of the baby. They must have their food, shelter, and clothing.'* In addition to food, shelter, and clothing, CHWs also stressed the need for safety, warmth, and a hygienic environment.

Closely related to the importance of meeting basic needs was the need for mothers and infants to be healthy. To CHWs, maternal and infant health during the first 1000 days begins during pregnancy, where the mother's nutrition in particular is critical. As stated by Busisiwe,⁵ *'The client [mother] is supposed to eat nice food and veg and fruit. You drink juice or "drinksy" [sic] or whatever. Eat healthy food.'* Similarly, CHWs asserted that it was important for pregnant mothers to avoid harmful substances such as alcohol, cigarettes, and drugs. The need for health during the first 1000 days extends beyond pregnancy and continues after birth. Asive⁶ highlighted some important health-related concerns, stating that it was important for her, as a CHW, to

make sure that she [the mother] goes to immunization and is up to date. Everything is important. His/her [the infant's] health is important. Everything, even if, for example the baby is sick, she [the mother] must take him/her to the clinic immediately.

Healthy infant development is supported by healthy nutrition. All CHWs highlighted the value of breastfeeding for providing nourishing nutrition during the first 1000 days, as well as a host of other benefits. Illustrating this, Nomsa⁷ stated that *'breastfeeding the baby is important in the sense that a baby must grow – to develop the baby's brain, develops his/her sense of self and it decreases money for the baby, and you as a parent.'* As highlighted in this statement, breastfeeding was seen to support physical, cognitive, and psychological development, as well as being economical. Several CHWs also spoke of breastmilk's capacity to deliver infants' *'first immunisation'* (Lelethu see note 1).

Exclusive breastfeeding for the first six months is a fundamental tenet of Philani's training, a view that was echoed by the CHWs. Many had witnessed first-hand the comparative effectiveness of mixed or formula feeding and observed noticeable differences in infant development. Thandiwe⁸ highlighted the difference between breastfed and formula-fed children, stating,

If you take a child that has been breastfed, and you take a child that is formula-fed, you can see the difference very easily. And it's very nice to breastfeed because you bond with the child. And your child cannot ... can never get sick. If your child got flu, we gonna [sic] tell you, give that baby breast milk, you see.

To the CHWs, breastfeeding is a central need for mothers and infants during the first 1000 days as it provides healthy nutrition, supports development and health, and facilitates bonding, all in a natural and cost-effective manner.

In addition to nutrition, CHWs also highlighted cognitive stimulation and emotional care as important needs during the first 1000 days. Cognitive stimulation could be facilitated through talking, singing, reading, play, or, as Vuyokazi⁹ stated, *'Speaking to them [infants], giving them new words, learning colours, learning everything.'* Moreover, providing love, care, and a nurturing environment to infants, both before and after birth, was viewed as fundamental and foundational. Nonceba¹⁰ epitomizes this understanding in her statement: *'What makes it [the first 1000 days] important is because if the child doesn't get the love, if you don't bond with your baby on that first 1000 days then there's no love for the child.'*

The factors highlighted by the CHWs as contextual needs for mothers and infants within the first 1000 days align with relevant literature. The CHWs highlight the requirement for mothers and infants to have their basic needs met, which is supported by several pieces of research (Bradley & Putnick, 2013; Evans, Saltzman, & Cooperman, 2001). The need for quality nutrition and exclusive breastfeeding within the first 1000 days, as underscored by the CHWs, is likewise substantiated by a body of literature (Bellieni, 2016; Cusick & Georgieff, 2015; Martorell, 2017; Pentecost & Ross, 2019; Thurow, 2016). Indeed, it was nutrition-related literature which launched the first 1000 days movement. As Schwarzenberg and Georgieff (2018) found, *'failure to provide adequate macronutrients or key micronutrients at critical periods in brain development [during the first 1000 days] can have lifelong effects on a child'* (p. 3). This pertains to both maternal and infant nutrition (Schwarzenberg & Georgieff, 2018).

Similarly, exclusive breastfeeding for 6 months has been associated with a host of positive developmental outcomes (Bigelow et al., 2014; Thurow, 2016; Turck et al., 2013). In a meta-analysis, Turck et al. (2013) found exclusive breastfeeding for at least 3 months to be associated with lower rates and severity of diarrhoea, otitis media, and respiratory infection. Exclusive breastfeeding for at least 6 months was found to be associated with lower incidence of allergic disease (Turck et al., 2013). In general, breastfeeding was found to be associated with lower incidence of obesity, hypertension and high cholesterol, as well as slightly higher performance on cognitive tests (Turck et al., 2013). The CHWs' narratives provide contextual support for this literature, many having witnessed first-hand the harmful effects of mixed-feeding practices or poor nutrition.

The CHWs emphasized the need for early cognitive stimulation and play during the first 1000 days, a need which is again substantiated by a sizeable body of literature (Brockmeyer Cates et al., 2012; Cook, Roggman, & Boyce, 2011; Firk et al., 2018). Early cognitive stimulation is associated with improved math, reading, and language abilities in later childhood, and is associated with

improved memory and protection against cognitive decline throughout life (Brockmeyer Cates et al., 2012; Cook et al., 2011).

Likewise, the need for love and care within the first 1000 days is empirically supported (Deans, 2018; Nichols et al., 2019; Wright et al., 2018). Maternal love and care, as described by the CHWs, is closely associated with the scholastic concept of maternal sensitivity, which describes a mother's capacity to recognize and interpret her infant's behaviour, and to respond appropriately in a time-sensitive manner. In a meta-analysis, Deans (2018) found maternal sensitivity to be associated with children's language acquisition, cognitive development, obesity, sleep, behavioural problems, social competence, emotionality, and temperament.

The CHWs' comprehensive knowledge of maternal and infant needs within the first 1000 days demonstrates their knowledgeability and training. Moreover, it indicates the relevance of international research in Khayelitsha.

The CHWs' narratives highlight the most important needs within their context. For example, the importance of meeting basic needs in the first 1000 days is likely more salient in the relatively resource-poor environment of Khayelitsha than it would be in resource-rich contexts. Similarly, the inexpensive nature of breastmilk is likely more significant in Khayelitsha than other contexts, given the high rates of poverty. The low-cost methods described for providing cognitive stimulation and care reflect the circumstantial constraints the CHWs and other Khayelitsha constituents face while raising children, as well as their resourcefulness.

Conclusion and recommendations

This study used a qualitative approach to explore CHWs' perspectives of the first 1000 days of life. The findings suggest that CHWs perceive the first 1000 days as fundamental and foundational to a child's development. The CHWs are local experts; their insights and experiences provide grounding for international first 1000 days research in Khayelitsha, and perhaps other similar South African communities. The first 1000 days are a defining period in the development of children, and thus warrant social, monetary, and policy-level support.

The most pertinent areas in which to provide such support were indicated by the CHWs. Naturally, infants and their mothers or caregivers cannot thrive without basic necessities such as food, shelter, and hygiene. It is also imperative that pregnant women and infants have access to quality health care. Exclusive breastfeeding for the first six months should be promoted and supported. Finally, sound infant development within the first 1000 days requires cognitive stimulation, play, love, and care. Interventions aimed at empowering mothers or caregivers to provide these to their infants are essential.

Notes

1. 34 years old, 4 years working as a CHW, 3 children, isiXhosa translator present.
2. 37 years old, 2 years working as a CHW, no children, isiXhosa translator present.
3. 34 years old, 2 years working as a CHW, 2 children, isiXhosa translator present.
4. 44 years old, 1 year working as a CHW, 6 children, isiXhosa translator not present.
5. 43 years old, 2 years working as a CHW, 1 child, isiXhosa translator not present.
6. 47 years old, 4 years working as a CHW, 3 children, isiXhosa translator present.
7. 32 years old, 5 years working as a CHW, 1 child, isiXhosa translator not present.
8. 37 years old, 2 years working as a CHW, no children, isiXhosa translator not present.
9. 36 years old, 3 years working as a CHW, 3 children, isiXhosa translator not present.
10. 42 years old, 4 years working as a CHW, 4 children, isiXhosa translator not present.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Notes on contributors

Ella Bust is a Psychology Research intern at the Early Learning Resource Unit in South Africa. She researches subjects related to early childhood, including development, education, parenting, and intervention programmes. She recently completed her Master's in Research Psychology at the University of the Western Cape, where her focus was mother-infant bonding, the first 1000 days of life, and community health workers. She is passionate about improving the lives of young children and their caregivers.

Dr Athena Pedro is also a Research Psychologist and an Academic in the Department of Psychology at the University of the Western Cape. She was appointed as a Lecturer in August 2012. For the past seven years she has taken a special interest in working with children presenting with special needs, specifically children with learning difficulties and developmental delay. She is particularly involved with the development of remedial programmes as well as presenting psycho-educational workshops for parents of special needs children as well as preschool educators working with preschool children. Much of her focus has been on providing support for parents and educators who are from impoverished communities. She also provides training workshops to capacitate facilitators to work with primary school learners so that these facilitators can be an additional support that offers more direct guidance and facilitate learning within a classroom context or within a home schooling environment. Dr Pedro is also involved with various research projects within the field of Early Childhood Development and Education. She has also established both international and national (local) collaboration partnerships with colleagues in the ECD sector. She has published numerous manuscripts in peer accredited journals and 1 book chapter. She has graduated 27 postgraduate students and currently supervises 14 postgraduate students. She regularly attends academic conferences where she is often invited to present her research findings. She was also awarded the 'Best Presentation Award' in Italy (2018). Dr Pedro has also been awarded with several scholarships and grants such as the National Research Foundation Prestigious Award (1999-2000/2001-2003/2008-2009), the VLIR scholarship (2008-2009) as well as Thuthuka Funding 2017-2019 and 2020-2022. She graduated with a B.A. (Psychology) and Honours degree in Psychology with a Cum-laude qualification. Dr Pedro's passion and interest lies within the upliftment of communities by capacitating community stakeholders like parents, caregivers and teachers who are primary socialization agents. She believes that this approach not only create direct positive impact at grassroots level but also ensures sustainable change within communities as community members/ stakeholders take ownership themselves. Thus empowering community members to be the change they want to see. Dr Pedro also strives to instil within students a sense of personal desire and commitment to embrace their indigenous knowledge/heritage, gain understanding of a context of vulnerable communities and how they overcome daily adversities. She ardently motivate developing scholars to become deliberate social agents who strive for social justice and community upliftment.

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