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BMC Health Services Research (2025) 25:118
https://doi.org/10.1186/s12913-025-12297-5

BMC Health Services Research

RESEARCH

Open Access

Understanding the unique role of community-based para-professionals delivering early childhood development in low-resource contexts: a Delphi study

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Abstract

Background Community-based para-professionals are trained or untrained professionals who assist in the delivery of health-related care in communities where they live. The role of community-based para-professionals in supporting early childhood development (ECD) supports has attracted increased attention recently, particularly in the context of severe constraints in the global health workforce. However, these practitioners face challenges associated with low status and poor working conditions. In response, the study reported here aimed to gather expert views on essential knowledge, skills and competencies for this workforce, to contribute to strengthened recognition of their unique role in supporting ECD.

Objectives The objective of the study reported here was to contribute to evidence that provides insight into essential training needs of professionals and para-professionals providing ECD services to families and children in low-income contexts. This paper focuses specifically on findings related to training needs of community-based para-professionals.

Method A Delphi study was conducted to reach consensus among 14 global experts around essential training needs of ECD workers delivering nurturing care in low-resource contexts. Three rounds of open-ended and rating scale data were collected.

Results Strong consensus was found among experts around a unique set of Skills; Knowledge and Dispositions that should be supported through training for community-based para-professionals. A key feature threaded across these three training components was strong emphasis on effective communication and relationship-building with families and communities, to ensure that early childhood development programmes are culturally-responsive and authentic. This supports previous work that has highlighted the important 'bridging' role of community-based workers, particularly in communities at risk of marginalization.

Conclusion The findings provide a basis for supporting and strengthening this important workforce, through advocacy around (i) their unique contributions in supporting contextually-sensitive, responsive ECD, (ii) training approaches and strategies that support and build on these contributions, and (iii) mechanisms to support stronger

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recognition through career pathways and training needs that are shared with other ECD cadre groups (including health and education professionals).

Keywords Training, Para-professionals, Community-based workers, Early childhood development, Public health, Low-resource contexts, LMIC

Introduction

The important role of community-based para-professionals (also known as community-based workers or health workers) in supporting provision of primary health care to children and families, particularly in low- and middle-income settings, has become widely recognised. However, severe gaps in availability and visibility of practitioners within this unique workforce pose significant threats to providing equitable care, particularly for mothers and young children. According to World Health Organization (WHO) predictions, the global shortfall in health-related practitioners amounts to 18 million [1]. Mothers and young children in low- and middle-income (LMIC) countries are likely to be most affected, as this is where workforce challenges are most prominent. These workforce shortages pose significant challenges for meeting the Sustainable Development Goal (SDG) 3 goal to "ensure healthy lives and promote well-being for all" by the year 2030, particularly Targets 3.1 and 3.2, which focus specifically on improving the health status of mothers and young children [2]. Given these challenges, this paper sets out to contribute to current efforts to raise the status of community-based para-professionals, by examining the competencies required for them to deliver programmes for women and children in resource-constrained contexts.

The work of community-based para-professionals is essential for achieving equitable delivery of early childhood development (ECD) supports. As a 2016 WHO report points out "Extending services to all socioeconomic groups of the population and ensuring equity for poor and marginalized populations will require maintaining a diverse and sustainable mix of skills, as well as maximizing the potential of community-based and mid-level health workers" ([1], p.3). The same report advocates specifically for a stronger focus on community-based para-professionals to meet the health needs of communities, particularly those in rural, remote and under-served areas. A multi-country review of lessons from implementation of the WHO / UNICEF's Integrated Management of Childhood Illness (IMCI) bears further testament to the crucial role of community-based para-professionals, such as Community Health Workers (CHW), in supporting delivery of childhood and family interventions to promote positive early childhood health. Of the 90 countries that contributed to the review, about 70% reported high levels of dependency on community-based practitioners for delivery of basic maternal and child health care [3].

There is an irony in the status of community-based para-professionals in that, although their role in supporting ECD is increasingly recognised, they are in many ways an 'invisible' workforce, with little data available about their work or its impact [4]. Although Community Health Workers were first classified by the International Labour Organisation (ILO) in 2008, widespread adoption of the classification has been slow, resulting in a lack of data regarding the role and impacts associated with their work [4]. The lack of visibility may also be partly due to the variety of tasks and titles that have been assigned to this workforce. Community-based para-professionals supporting delivery of ECD across diverse contexts carry out a range of tasks and are assigned a wide range of occupational titles. Some of these include Anganwadi Workers [5], Lady Health Workers [6], Traditional Birth Attendants [7], and Accredited Social Health Activists [8], among other classifications. The core component of work that binds these various workforce groups is that they support formalised services in connecting with community members, often in marginalised contexts, engaging mothers in pre, neo and natal care; promoting early stimulation for infants and toddlers in home settings, and supporting education practitioners in pre-school settings. However, the inherently varied nature of roles has resulted in inconsistent categorisation and a lack of visibility for community-based para-professionals. This situation has, in turn, resulted in low status and poor working conditions. The IMCI review referenced above reports that as many as 29 countries out of the 90 surveyed provide no monetary incentives/payments, and seven countries reported no incentives for community-based para-professionals contributing to delivery of early childhood care services [3]. Similar problems associated with low pay, limited opportunities for accredited training and low status are reported in recent work on the role of this increasingly important workforce group [9, 10].

The lack of training opportunities available to cadres working in community settings results in lower levels of qualification than is available for their counterparts working in more established, formalised areas of health systems (clinics and hospitals). This leads to lower status, lower pay (in many cases, pay in kind or voluntary employment), and an undefined career path. This, in

turn, compounds the shortage of trained, committed cadres [11, 12].

Key contributions and challenges for community-based workers in Early Childhood Development (ECD) contexts

It is important to note that para-professional community-based workers are key to supporting early childhood care not only in terms of filling workforce gaps, but also in terms of increasing effectiveness of programme delivery through specific skills and competencies. Community-based health workers have been found to support the establishment of trustful, productive relationships, which results in greater engagement among programme beneficiaries, [13–16]. As McConachie and colleagues [16] point out, these relationships are particularly important in supporting delivery of interventions for children with disabilities. Similarly, in situations where cadres are working with families affected by conflict, an emphasis on relationship-building is crucial [17]. Community health workers in Indonesia have been found to be instrumental in reviving non-functioning local early child health centres that had folded due to low community engagement and a lack of follow-up by District Health Officers [18, 19]. Evidence that nonclinical personnel working outside facility settings can deliver effective early childhood health interventions is also reported in Pakistan [15]. Traditional Birth Attendants and Community Health Workers in rural parts of Ethiopia and Pakistan are acknowledged for the community-wide respect accorded to them [13, 20, 21].

The close, personal connection between community-based para-professionals and the children and families with whom they work is mirrored in the work of another cadre whose work is grounded in sensitivity, responsivity and empathy. "Peer workers" are increasingly employed in mental and physical health care, on the basis of their personal experience of physical and mental health conditions [22]. As de Souza [23] has pointed out, these workforce groups are instrumental not only in enabling delivery of supports, but also in building social capital and empowering the communities where they work. With increased recognition, peer support workers are being provided with opportunities for training and certification [23–25]. Progress in advancing the status of this workforce could be drawn upon to inform and advocate for the value of education and credentialing of para-professionals.

While the benefits of engaging community-based workers in health-related programmes for young children are widely reported, these cadres operate largely outside formal systems, resulting in confusion about roles and responsibilities among programme implementers and often exacerbated by disconnect between different funding agencies and service providers [15, 26–28]. Tomlinson [29] highlights several status-related and sustainability challenges associated with child and maternal health programmes that depend on community-based workers. As he points out, many programmes rolled out by government or development agencies to support early childhood are (i) vertical in nature (they target specific issues, such as HIV OR maternal well-being OR infant nutrition or child development, with little integration across programmes); (ii) they have limited 'reach', because they target specific regions and communities, and (iii) they have finite funding, threatening sustainability. These training programmes also tend to prioritise preparing community health workers with technical skills for execution and completion of specific programme activities, rather than a broader set of transferrable skills and competencies. As Elzinga [30] points out, the risk of this approach is that workforce growth and planning broadly become disjointed and inconsistent, impacting negatively on sustainability and quality of the community-based health practitioner workforce. Risks associated with overburdening community-based workers whose roles are not clearly articulated, as well as challenges associated with remuneration and on-going support, have also resulted in high attrition rates [31, 32].

These challenges underscore the timely focus on efforts to strengthen systems of training for community-based workers, supporting urgent calls for up-grading and up-scaling their role in supporting early childhood health and well-being. Despite increasing calls for formal recognition of community-based workers from a range of contexts [1, 33], there is little evidence available to inform the development of more established training programmes for this workforce. A small number of studies that have focused on documenting community-based health programmes have contributed important insights into the unique role of community-based health workers. For example, a systematic review of community-based health programmes conducted by Scott and colleagues (10) found that positive outcomes are supported by strong community embeddedness (facilitated by community health workers). In terms of training, the review also highlighted that continuous supervision and support results in more effective outcomes than one-off training. However, there is a need for evidence to support the development of training and career pathways for this workforce, through insight into key the specific skills, knowledge and competencies required for community-based delivery of early childhood development (ECD) supports. The aim of this article is to contribute to knowledge on these three components of training.

The findings reported here draw on data from a broader Delphi study of expert consensus around training needs

of three different workforce groups involved in delivery of ECD (health professionals, education professionals and community-based practitioners) [34]. This article focuses specifically on results of the Delphi study related to training needs identified for community-based workers / para-professionals in the areas of Knowledge, Skills and Dispositions [34].

Methodology

The study and its protocols were reviewed and approved by the Bishop Grosseteste University Research Ethics Committee, which serves as the institutional ethics in research review board (Ref: 39/17). All panel members completed an online consent form before participating in this study. The broader study involved three rounds of data collection, in line with standard Delphi methods [35] carried out via online surveys.

Expert panel

Selection of the expert panel was guided by a set of key requirements reflecting the purpose of the study:

- The need to ensure representation of expertise from across the world regions (all participating experts have experience of working with high-level international non-government organisations to implement early childhood programmes);
- The need to ensure representation of expertise based on involvement in shaping policy at national, regional and global levels (experience within the expert group spanned leadership of policy development and implementation at international, national, regional and local levels), and
- The need to ensure representation of expertise in direct delivery / implementation of training to ECD workers (the expert group included participants actively involved in delivery of training to ECD practitioners in low- and middle-income contexts).

Out of 22 experts invited to participate in this study, 14 agreed to participate. In line with the broader study, expertise spanned early childhood health, community-based programmes and education. Members of the panel who agreed to have their identity disclosed are listed in the Acknowledgements section. These experts brought combined experience of working throughout the world regions, including China; Central, South and South East Asia and the Pacific; Central; Eastern and Southern Africa, and South America. The panel consisted of five global leads for Early Childhood Development (involved in policy, funding, regional and international coordination of training for ECD practitioners); four prominent academics / professors in the field, with work spanning research and project work across the African continent, South America, South Asia and South East Asia (comprising backgrounds in maternal and child health, early childhood development and early childhood education); four Early Childhood Development specialists leading capacity building work at local, national and regional levels across the world regions, and one programme cycle specialist, leading global programme management and implementation.

As evidenced, the panel held combined expertise and experience in shaping global and national policies around ECD training; funding and coordinating training through governments and major NGOs; working on the ground in developing, implementing and evaluating ECD training programmes (spanning early childhood development, community health, social protection and early childhood education); acting in an advisory capacity on training Boards, and building competencies of training teams, including 'master trainers' and mentors.

Delphi surveys

The Round One survey was designed to collect initial, qualitative insights among panel members, on key training needs of ECD practitioners [34]. Following a comprehensive review of literature on the nature of early childhood programmes in 'low-resource' contexts, and key staff involved in delivery of these programmes, 19 open-ended questions on various aspects of training were developed [34]. Panel members were requested, where applicable, to tailor their responses according to three separate categories of ECD practitioner identified through the literature review: (i) Non-certified para-professional; (ii) certified health professional, and (iii) certified education professional (please see Appendix B for detail). Content analysis of Round One responses was conducted independently and then collaboratively by two members of the research team to generate closed statements for consensus rating in Round Two. Draft statements / items were subject to consultation and conformation across the research team, which included experts in maternal and child health and early learning. A total of 212 items were confirmed and organised around 6 key areas of training: Essential skills; Essential Knowledge; Dispositions; Training methods and materials; Assessing impact of training, and Scale-up of training. As shown in the set of questions presented in Appendix A, the category 'dispositions' was not identified in Round One, but was constructed to reflect responses to a question about essential qualifications and 'characteristics' of ECD professionals. The expert panel's open-ended responses pointed to consensus around a set of values-based capacities to act in ways that show respect and care for children and families. The link to action, as opposed

simply to a behaviour, reflects Sockett's [36] conceptualisation of dispositions as intentional precursors to action. Dispositions therefore incorporate values, self-awareness, and the capacity to act in ethical ways.

In this article, we focus on results that reflect experts' consensus around essential training needs in Essential Skills, Essential Knowledge and Dispositions for non-certified para-professionals. This is in line with our goal of articulating key, unique roles and responsibilities that define the work of community-based practitioners delivering ECD in low-resource contexts.

For Round Two, panel members were asked to rate each of the 212 items according to an 8-point scale ranging from 0 'not important' to 7 'essential'. Ratings of the 212 items were then analysed using a priori criteria to assess consensus (please see below for further details). Items not reaching 'consensus' or 'strong consensus' were dropped and 151 items were included in Round Three. All 14 panel members completed survey Rounds One and Two. Two panel members were unable to complete Round Three.

Data analysis: measuring consensus

For Rounds Two and Three, frequency data and descriptive statistics were collated. Levels of consensus per item were assessed via measurement of the percentage of respondents who rated the item as: 'essential' (7 – top importance measure); 'essential – 7' or '6' (top two importance measures), or 'essential – 7', '6' or '5' (top 3 importance measures). Items were categorised as having reached 'strong consensus' if > 90% of experts rated them in the top 2 levels of importance (rated as 6 or 7), OR > 80% of experts rated using the top 2 responses (rated as 6 or 7) AND 100% of experts used the top 3 levels of importance (rated as 5, 6 or 7). Items were categorised as achieving 'consensus' if > 80% of experts rated them in the top 2 levels of importance (rated as 6 or 7), OR 90% in the top 3 (rated as 5, 6 or 7). Any items not reaching these criteria were deemed not to have achieved consensus and were labelled 'low consensus'. Similar techniques are reported by von der Gracht in a review of consensus measurement in Delphi studies [37].

Round Two analyses included review of 'low consensus' items, in order to ensure that lack of consensus was not due to clarity of statements, or concern about their meaning. In most cases, these items were removed from the Round Three survey. However, in some cases where feedback from panel members indicated a lack of clarity, or concern about the item, minor edits were made to enhance clarity. This method of making minor revisions to items in response to Expert feedback, is reported by van Vliet et al. [38] in a Delphi study that focused on the need to ensure feasibility of items that are identified in the final round as having reached consensus. A total of 61 items not having reached consensus, were removed for preparation of the Round Three survey, reducing the number of items from 212 to 151.

For Round Three, an individualised copy of Round Two responses was sent to each panel member. Each panel member received an excel spreadsheet including overall consensus levels achieved for each item achieved across the panel, as well as a copy of the panel member's own Round Two ratings. Panel members were asked to consider their Round Two responses and provide a final set of ratings on Round Three items as confirmation of consensus.

Consensus on Round Three items was measured using the same criteria used for Round Two. The extent of change in responses between Round Two and Three was also assessed. In order to ascertain whether any of these differences were notable in terms of variations in response patterns, a series of t tests were conducted on items presented in both rounds. The sole item with a significant change from Round 2 to 3 was for the item 'Patient' (listed as a Disposition), which decreased from rounds 2 to 3: $T(10) = 2.63$, $p < 0.025$. As such responses were deemed to be stable across both Rounds of analysis.

Results

In this section, we present experts' views on training needs for supporting Knowledge, Skills and Dispositions among community-based workers, as expressed across Rounds One, Two and Three of data collection. We begin with a summary of the open-ended responses collected in Round One, followed by ratings collected in Round Two, and the final consensus measurements conducted in Round Three. By documenting the process of reduction in items and consensus building, we highlight key aspects of the perceived work of community-based staff, as well as essential training needs.

Essential knowledge for community-based workers / para-professionals in ECD

Round one

Open-ended responses to initial questions asked about essential knowledge of non-certified para-professionals involved in the delivery of early childhood development centred around the importance of knowledge about holistic early childhood development and 'multi-sectoral' approaches. These reflect global consensus on effective intervention approaches that are advocated by the Nurturing Care Framework developed by the World Health Organisation and partners [39]. The Framework emphasises work across sectors to promote community-based approaches that incorporate a focus on child and maternal health and well-being, through a combination

of nutrition, health, early learning and early stimulation through positive parent–child interactions [40].

Key knowledge domains highlighted as key for non-certified para-professionals included:

- Essential ingredients of parent child interaction, including responsive care.
- Holistic child development understanding: child development (understanding developmental benchmarks, by age).
- Importance of early nutrition.
- Knowledge of the science of Early Childhood Development (ECD).
- Pre-literacy and pre-numeracy, ways to promote socio-emotional skills of young children, appropriate pedagogy and classroom management for young children.
- Multi-sectoral approaches to policy implementation.

Knowledge and insights related to strategies for adapting early childhood programmes to suit local contexts were also emphasised, as was knowledge on how to work across sectors to support multi-sectoral approaches to programme delivery, and knowledge to support monitoring of child and family outcomes. These were expressed as follows:

- Knowledge to translate practice in different settings, strong understanding of local curriculum to be used and ways to keep evolving and improving it for children's levels and abilities as well as to local cultural contexts.
- Understanding of multi-sectoral approaches to policy formulation.
- Basic running and management of programs, coordination and engaging with parents/community leaders/organizations.

It is worth noting that, in response to a question on criteria for entry into the workforce, experts agreed that there should not be 'one size fits all' requirements, but minimum employment requirements should be responsive to programmes and contexts. As one expert explained 'certification is critical but, in my view, must be relevant to the context in which the ECD practitioners will be operating, (and) must offer a ladder of professional development/training that is accessible/affordable, up to date and relevant'.

Consensus measurement—Round Two and Three

Table 1 summarises the mean scores on ratings provided by the experts on essential knowledge for community-based para-professionals across Rounds Two and Round Three. Items attracting the highest levels of consensus included knowing about early stimulation and responsive caregiving, awareness of WASH (Water, Sanitation & Health) guidelines, and supporting primary caregivers in providing responsive care. On the other hand, programme administration received the lowest rating.

Table 1 Round Two and Round Three responses: Non-certified Para-professionals trained in ECD need to know about

	Items	Round Two		Round Three	
		M	SD	M	SD
1	**The importance of early stimulation and responsive caregiver-infant / child interactions[a]**	**6.77**	**.60**	**6.55**	**0.93**
2	WASH (Water, Sanitation & Health) guidelines	6.54	.78	5.00	1.67
3	**How to support and guide mothers and primary caregivers in providing early stimulation and warm, responsive caregiving**	**6.50**	**.67**	**6.64**	**0.50**
4	How children learn / child-centred learning approaches	6.38	.96	5.82	1.47
5	Parenting and early stimulation for supporting early learning and development	6.31	1.11	6.18	0.87
6	How to appropriately support children and families from diverse backgrounds	6.00	.82	5.18	1.47
7	Provision of first aid	6.00	1.00	5.64	1.12
8	Principles of inclusive practice	5.92	.86	5.00	1.67
9	*Understanding of local networks and resources available to parents and families[b]*	*5.85*	*1.46*		
10	*Local networks and resources that support children and families*	*5.85*	*1.14*		
11	*How to observe children, to support parents in recognising developmental changes in their children*	*5.69*	*1.38*		
12	*How to identify and support pre-literacy and pre-numeracy skills*	*5.69*	*1.11*		
13	*How to establish effective working relationships*	*5.62*	*.96*		
14	*Basic running / administration of programmes*	*5.08*	*1.50*		

[a] Items presented in bold achieved 'strong consensus'

[b] Items presented in italics were either removed from Round Three due to low consensus, or revised due to lack of clarity

Essential skills for community-based workers / para-professionals in ECD

Round one

In response to the initial, open-ended question about essential skills, experts listed the following as key for community-based para-professionals:

- Skills in structuring activities and facilitating opportunities that promote children's development, supported by sufficient knowledge of child-centred approaches.
- Skills in planning and conducting programmes that are contextually and culturally sensitive and engage children.
- Setting up quality environments and producing materials with limited resources.
- Communication skills, ability to support parents (or grandparents) on basic child development practices.
- Listening, observation, reflection, communication, sensitivity and responsiveness, problem solving, motivation, identification of priorities.

Experts also referred to the importance of on-going supports provided by programmes, to support development of these skills. As one expert suggested, 'It is important for community health workers to be supported by programme management, to have autonomy to make decisions in response to family/child need'. The majority of experts emphasised the importance of cultural sensitivity as a key skill for community-based workers. However, one expert also noted that this should include the ability to work with communities in changing early childhood customs and practices that might be harmful to children. Again, this highlights the unique role of community-based workers in establishing relationships with caregivers and community members that facilitate trusting, reciprocal interactions and sustained positive changes in practice.

Consensus measurement—Round Two and Three

Table 2 summarises the mean scores on ratings provided by the experts on essential skills for community-based workers in Rounds Two and Three. The three items that reached the highest levels of consensus reflect, again, emphasis on delivery of contextualised approaches to supporting early stimulation in the home, supported through skills in connecting with families and communities as critical skills for para-professionals working in communities to support ECD. These reflect recognition that, as community-based workers tend to live in the communities where they work, they share cultural customs and values. In this way, they are better placed to offer support to families and children than 'outsider' practitioners. This familiarity with local customs and culture is particularly important in ethnic and linguistic minority communities, where people attach value to traditions and therefore respond well to familiar members of the community [27].

Essential 'dispositions' for community-based workers / para-professionals in ECD

Round one

A notable finding of this study is reflected in experts' consensus around the importance of a key set of dispositions that are essential for all practitioners involved in ECD, regardless of status or professional role. These dispositions were identified in response to an open-ended question in Round One about 'broad characteristics' required of ECD workers. In the first round of open-ended data, the following 'characteristics' were identified by experts as important for all practitioners involved in ECD delivery (health, education and community-based para-professionals). As outlined in the Introduction section, we conceptualise these as 'dispositions' rather than characteristics, to reflect the combined role of values, intentions and actions that they exhibit:

Table 2 Round Two responses: Non-certified Para-professionals trained in ECD need to be able to

	Items	Round Two		Round Three	
		M	SD	M	SD
1	Make use of available resources to model / set up language-rich, stimulating environment for young children	6.38	.87	6.00	1.18
2	Connect with parents, families and communities	6.23	1.01	5.91	0.83
3	Modify practice for individual children's needs	6.08	1.04	5.64	1.29
4	*Work with local community members and value their views*[a]	*5.83*	*1.03*		
5	*Sensitively and effectively influence perceptions or customs that are counter to child rights*	*5.69*	*1.65*		
6	*Make simple toys and learning materials for children, with caregivers*	*5.62*	*1.45*		
7	*Adapt new programme materials and content to existing programmes*	*4.58*	*2.35*		

[a] Items presented in italics were either removed from Round Three due to low consensus, or revised due to lack of clarity

- Responsiveness to children, consistency, warmth, patience, creativity, energy.
- Ability to work with children, ability to connect with parents and other community stakeholders.
- Sensitivity to local contexts, local language and the level of the target group (as a key part of relationship building).
- Empathy and a willingness and ability to understand and work with different perspectives and needs of a range of stakeholders such as parents, ECD practitioners, children, community leaders, policy makers at all levels.
- A sense of long-term aims and desired impacts and an ability to articulate these clearly.
- Patience, a sense of humour and persistence in resolving conflicts/tensions/problems in the face of challenges and barriers.
- Interest in children's well-being; respect for children's views and interests; awareness of diversity and difference; ability to communicate effectively with peers and within organisations; ability to reach out to parents/carers and to value their views.
- Sensitivity/respect for local knowledge and cultural traditions.
- One expert described the importance of training that nurtures these characteristics, or dispositions: 'Learning is social. Building teams of trainers that care about and trust each other is as important as training for content. People need to take risks, experience the power of making a difference with their lives. Inspiration generation, lighting the candles been given to us are time-worthy. You have to care about what you are doing to make a difference and those incentives must be considered'.

Table 3 summarises mean scores on the list of Dispositions rated by experts across Rounds Two and Three. Treating children with respect received the highest mean rating across both Rounds, while having a sense of humour received the lowest mean rating. Other items which received high ratings included being empathetic and caring for children [34].

Table 3 Round two and round three responses: All para-professionals and professionals working in ECD should be supported in developing the following dispositions

		Round Two		Round Three	
	Items	**M**	**SD**	**M**	**SD**
1	**Treats children with respect**[a]	**6.93**	**.27**	**6.91**	**0.30**
2	**Shows empathy and understanding of children**	**6.79**	**.43**	**6.82**	**0.40**
3	**Caring**	**6.79**	**.43**	**6.73**	**0.47**
5	**Open to feedback and others' ideas**	**6.57**	**.65**	**6.45**	**0.52**
4	**Respectful of diverse groups**	**6.50**	**.85**	**6.36**	**0.67**
6	**Elicits trust and respect from community**	**6.29**	**.73**	**6.27**	**0.79**
7	Patient	6.36	1.01	6.00	0.77
8	Knowledgeable and sensitive to local context	6.29	1.07	5.91	0.83
9	Sensitive to needs of target group	6.14	1.66	5.73	1.49
10	Curious and eager to learn / motivated	6.07	1.14	5.73	1.49
11	Open to innovation (Revised after Round 2 to: *Open to possibilities for changing / enhancing practice to better suit the needs of children and families*)[b]	5.86	1.17	5.60	1.43
12	*Interested in children, their learning and well-being (demonstrated through previous experience, voluntary or formal)*	*6.14*	*1.17*		
13	*Hard-working and energetic*	*6.14*	*.86*		
14	*Persistent (in overcoming barriers)*	*6.14*	*.86*		
15	*Flexible and creative*	*6.08*	*.95*		
16	*Respectful of parents' views and aspirations*	*6.29*	*1.14*		
17	*Well-organised*	*5.79*	*1.25*		
18	*Confident*	*5.64*	*1.50*		
19	*Has a sense of humour*	*4.86*	*1.70*		

[a] Items presented in bold achieved 'strong consensus'

[b] Items presented in italics were either removed from Round Three due to low consensus, or revised due to lack of clarity

Discussion

With regard to essential Knowledge, strong consensus among experts was reached for items around delivery of early stimulation and nutrition (parenting programmes). Experts also agreed that community-based para-professionals require specific knowledge around how to work with and support mothers in providing nurturing care for their children. This involves interacting with children at home through games and songs. Community-based workers also, therefore, need to have knowledge of child-centred learning. In addition, knowledge about aspects of health care, including basic WASH practices, how to provide safe, clean water and how to practice good hygiene to prevent communicable disease, were viewed as important.

The relationship aspect of community-based work is reflected in agreement that community-based workers need to know how to work with children and families from diverse backgrounds, ensuring that interventions are responsive and inclusive. This finding reflects findings related to community-based practitioners in the US, where it has been reported that community organisations and universities training community-based workers need to incorporate a focus on providing targeted intervention services to people living in deprived communities [41–43]. The finding lends support for developing a curriculum that equips community-based health workers with necessary skills to engage people from diverse cultural backgrounds. The range of training needs to support essential knowledge indicated here reflects the important role of community-based para-professionals in working at community level, across sectors, to support children's holistic development and well-being.

With regard to essential Skills, there was strong consensus around the importance of capacity to use available resources to enrich children's early environments. Once again, studies conducted in the US emphasise competencies noted by community health workers and their trainers include the importance of familiarity with the community, organisation and resources availability [44]. This reflects widespread recognition that caregivers in "low-resource" communities may not have access to custom-made early stimulation / learning resources for children, and that part of the skill set required involves identifying community-based resources that can be used and developed for supporting early stimulation. Consensus around the importance of skills to facilitate responsive, sensitive work with community members and adapting new programmes to reflect local contexts is also consistent with the emphasis on community-based para-professionals' role in connecting programmes to communities, and vice versa, outlined in the introduction section.

Findings related to essential Dispositions are applied across the three workforce groups (community-based para-professionals, health and education) that were included in the original study. There was strong consensus among experts around the importance of key dispositions to support respectful, sensitive and responsive work with communities across *all* workforce groups working with children and communities. In previous US studies, Nielsen et al. [45] and Ern et al. [46] reported that participating in training or certification programmes among community-based workers have positive impact on their attitudes towards work, understanding their role, needs of the community, recognised and being respected by other health professionals. As well as highlighting the importance of these 'soft skills' in programme delivery, these dispositions also provide insight into shared qualities that underpin the work of all ECD practitioners, including community-based workers. For community-based para-professionals, these findings align closely with the kinds of knowledge and skills that are perceived as essential by the expert panel. The strong focus on respect, sensitivity and relationship-building highlighted in this domain reflect the localised, culturally-situated work of community-based practitioners that is characterised in the knowledge and skills domains. Developing positive dispositions that support people-centred, respectful work is key to effective practice, particularly in communities where families and children may experience marginalization [27].

In summary, the findings provide insight into a coherent set of knowledge, skills and dispositions that are perceived as essential in the training of community-based para-professionals involved in supporting delivery of early childhood development (ECD) programmes. Consensus among the expert panel around key knowledge needed by para-professionals supports recent studies that have highlighted the important role of these workers in delivering integrated maternal health and early childhood nurturing care, for example via parenting programmes that emphasise early stimulation, early nutrition and basic hygiene (WASH) [41, 43, 44, 47, 48]. In terms of unique skills, community-based para-professionals require support through training to develop the capacity to work creatively at the community level with limited resources to enrich children's environments. They also require skills to connect with families and communities and to respond to unique needs among children in their own contexts. Once again, these findings are significant in that they reflect suggestions in the literature that have previously lacked empirical research on the role of community-based para-professionals.

Conclusion

The role of community-based para-professionals in supporting more equitable access to essential health and well-being supports for young children in low-resource contexts is increasingly acknowledged as critical, particularly in the face of severe global workforce constraints [1]. Achieving recognition of, and building capacity within, this workforce requires strengthened systems of training based on evidence of the unique role and responsibilities of community-based para-professionals. The results from this small scale but rigorous Delphi study contribute to addressing these issues and highlight policy implications for future development of training for community-based para-professionals who provide essential supports for delivery of early childhood development programmes in 'low-resource' contexts.

First, these findings highlight the essential role of community-based para-professionals in establishing connections with families and caregivers that are likely to facilitate greater acceptance of key messages associated with early childhood health and well-being, particularly in under-served communities. Training programmes should incorporate an overt, specific focus on skills and competencies required to facilitate (i) effective communication with families and caregivers, and (ii) responsive approaches to programme delivery that consider and incorporate existing community resources, values and practices. This could support efforts to raise the status of community-based para-professionals by highlighting these skills as reflecting their unique role in delivering early childhood development programmes. Experts in this study agreed that training programmes for community-based para-professionals should include an emphasis on developing cultural awareness and competence. This supports previous work that has highlighted the importance of culturally-grounded competencies for responsive work in communities and families at risk of marginalization [14, 49].

Second, the holistic nature of work that characterises community-based supports in ECD is reflected in these findings. Community-based workers play a unique role in supporting the range of health, early stimulation and early learning needs that are increasingly recognised as crucial for ensuring that young children receive nurturing care at home [31] and subsequent well-being for young children. Connecting this role to global policies and programmes that emphasise holistic, intersectoral approaches in providing nurturing care to children [35] could raise the profile and status of this workforce within the field of ECD.

Overall, the findings reported here indicate consensus around a key set of training needs for community-based workers in ECD that serves as a starting point for defining their unique role in connecting with families and communities to support integrated, culturally grounded, responsive approaches in delivering early childhood development. This mediating role is of particular importance in under-served communities where there may be resistance to external influences. In some communities, key traditions and practices have existed for considerable periods of time. Incorporating these productively in ECD programmes through trusted community-based agents is more likely to result in sustained impact than formalised services.

This study is limited by its nature: as one of the panel participants pointed out during data collection, the Delphi process requires a 'narrowing' process that results in elements that some participants view as essential being dropped in order for consensus to be reached. This may be particularly true where the range of participants is relatively broad, as was the case for this study. In order to represent views from across community-based, health and education interventions, the scope of the study was broad and caution should be expressed in terms of concluding that the findings reported here provide a comprehensive account of training needs for community-based para-professionals. However, the findings are generalisable in that they provide a basis for drawing attention to the unique skills and knowledge required for this workforce. It is also important to acknowledge that the findings presented in this paper comprise a sub-section of findings from a broader study of essential training needs for three different workforce groups. This could be seen as a limitation. However, findings of the broader study are available via an open access publication [34]. Our purpose in presenting the data on community-based para-professionals in a separate paper is to draw specific attention to this unique, often under-represented workforce group, through a deeper focus on both the qualitative and quantitative responses from our panel of experts.

The findings support contemporary work that argues for greater recognition of community-based para-professionals. Rather than being viewed as a largely informal workforce that can fill workforce gaps in under-served communities, community-based para-professionals should be more widely recognised as a workforce in their own right, with a unique set of knowledge and skills. Equipped with requisite knowledge and skills that form the basis of a recognised workforce, community-based practitioners have the potential to achieve transformative impacts not only in the communities that they serve but in the broader field of ECD.

Abbreviations

ECD Early childhood development
CHW Community Health Workers

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12913-025-12297-5.

Supplementary Material 1.

Supplementary Material 2.

Acknowledgements
The authors would like to thank all the experts who contributed to this study.

Authors' contributions
ECP and MPO contributed to the conception of the study. ECP and MPO collected the data. ECP and MPO analysed and interpreted the data. ECP and MPO contributed to the writing, and all authors read and approved the final manuscript.

Funding
The research reported here was supported by funding provided by the UK Government. Foreign, Commonwealth and Development Office (formerly Department of International Development).

Data availability
The datasets used and/or analysed during the current study available from the first author on reasonable request.

Declarations

Ethics approval and consent to participate
All methods were carried out in accordance with relevant guidelines and regulations. Committee for Human Research and Publication at Bishop Grosseteste University Research Ethics Committee, which serves as the institutional ethics in research review board (REC 29/17). All participants signed an informed consent form before participating in this study.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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Received: 22 September 2023 Accepted: 17 January 2025
Published online: 22 January 2025

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