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Staff views on supporting evidence based practice for children with Autism Spectrum Disorder

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Abstract

Purpose: A variety of empirically supported interventions are available for children with Autism Spectrum Disorder (ASD), but previous research suggests that their selection and use within an evidence-based practice (EBP) framework in clinical settings is challenging. To date, research has primarily focused on identifying individual, organisational, and contextual barriers to EBP rather than identifying collaborative solutions to these barriers through consultation with staff. The aim of our study was to explore staff views on supporting EBP in their work with children with ASD.

Materials and methods: We conducted five focus groups involving 29 professional (e.g., speech pathologists, teachers), paraprofessional (e.g., childcare workers), and managerial staff to explore their views. Audio recordings were transcribed verbatim and analysed using thematic analysis.

Results: Two central themes, comprising six categories, emerged to account for the participants' views. *Initiative and Effort* accounted for the range of creative strategies staff had developed to support their engagement in EBP. They also expressed the need for *A better way* involving organisational-wide support such this engagement, including peer-to-peer mentoring.

Conclusions: The findings suggest that an organisational-wide model to support engagement in EBP, with peer-to-peer mentoring at its foundation, may provide a desirable, ecologically valid, and acceptable model.

Keywords: Evidence based practice (EBP), autism, early intervention, treatment, mentoring

Introduction

A key challenge facing early intervention service providers is the selection and implementation of empirically supported interventions with fidelity. Within an evidence-based practice (EBP) decision-making framework [1, 2], clinicians and educators must select from the range of interventions, taking into account the best available research, their own knowledge, experience and professional judgement, and the preferences and priorities of fully informed clients and caregivers. Previous studies [e.g., 3, 4, 5] have revealed strong individual and organisational support for EBP amongst professionals working with children with ASD, but also a range of barriers that negatively impact their engagement. Presumably, these barriers in turn negatively impact the intervention quality and fidelity, and must be addressed in order to ensure optimal outcomes for each child with ASD.

Commonly identified barriers to clinicians and educators engaging in EBP include inadequate staff training, insufficient access to research evidence, a lack of time, unsupportive organisational culture, negative personal attitudes, and geographical isolation [3, 6, 7, 8, 9, 10]. Compounding the challenge for clinicians and educators is the fact that interventions developed and tested in highly controlled research settings are often difficult to translate into everyday community settings due to time, resource, training, and service delivery constraints [11, 12, 13]. Recently, Stahmer et al., [14] highlighted the fact that training educators to implement empirically supported interventions with students with ASD with moderate procedural fidelity takes extensive training, ongoing coaching, and time.

Despite the complex nature of the challenge, to date efforts to address the barriers to EBP have focused primarily on the development of resources aimed at improving staff access to research evidence through research reviews [e.g. 15, 16], searchable databases of critically appraised research studies [e.g. 17], and clinical guidelines [e.g. 18, 19]. Yet while these strategies are essential to providing clinicians and educators with up to date information, they

alone are unlikely to be effective in addressing the range of barriers to EBP that clinicians and educators encounter.

A common approach for supporting clinicians and educators to engage in EBP is through the provision of continuing professional development activities including staff seminars, workshops, and self-study modules. There is, however, evidence to suggest that these approaches aimed at transforming practice are generally ineffective [20, 21]. Furthermore, there is a growing body of evidence to suggest that clinicians and educators tend to rely on one another for information and advice more so than external sources of information. Nail-Chiwetalu and Bernstein Ratner [22], for example, surveyed 208 speech pathologists in the United States regarding their information seeking abilities and needs. The authors reported that participants tended to consult colleagues rather than peer-reviewed journals when making clinical decisions. More recently, Paynter et al., [23] surveyed 72 staff working in community-based comprehensive early intervention programs in Australia regarding their knowledge of empirically supported interventions. They found that staff regularly used information from colleagues to inform their clinical decision-making and rated this information as *very trustworthy*. This effect was particularly pronounced for staff with less training and fewer qualifications (e.g., child care workers versus speech pathologists), suggesting that strategies to support engagement in EBP must account for different levels of knowledge, skills, and experience across staff groups.

The fact that clinicians and educators look to each other for information and advice, rather than to research evidence, could be seen as a barrier to engaging EBP, but also a potential facilitator. Indeed, Briere, Simonsen, Sugai, and Myers [24] used Structured Consultations - a process involving the transfer of skills from one professional to another through self-monitoring, consultation meetings and performance feedback - to effectively transfer skills from experienced teachers to newly graduated teachers in a school setting. The

change in performance (in this case the teachers' use of specific praise to students) was maintained over time, even as observations by the experienced teachers were scaled back in the follow-up condition. Despite ample evidence for the effectiveness of performance feedback (e.g., structured consultations) in increasing the treatment fidelity in the delivery of academic and behavioural interventions in education settings [25], to our knowledge only one study [26] has examined the use of performance feedback with educational staff in special education elementary classrooms, and there have been no published attempts to implement this peer-mentoring approach in an early intervention setting for children with ASD. Nor are we aware of any research in which staff views on such an approach, designed to formalise and leverage existing informal peer-support and mentoring networks, have been explored.

Given the complex challenges associated with supporting staff to engage in EBP, and the limitations of traditional training methods, there is a need to develop more effective strategies which take into account the clinical realities faced by clinicians and educators working with children with ASD (e.g., time and resource constraints) and harness their information seeking preferences. Furthermore, given the well-established research-practice gap in the field of ASD [27], there is a need for strategies to be delivered in a way that ensures they are acceptable to clinicians, feasible, and socially and ecologically valid. With these requirements in mind, our approach in this study was to talk with staff at all levels of a large community-based comprehensive early intervention service for children with ASD in order to explore their experiences of attempting to engage in EBP. Our specific aim was to explore their views on supporting their engagement in EBP in their work with children with ASD

Materials and Methods

Ethics approval for the study was granted by the [name withheld for review] Human Ethics Committee (Ref No. AHS/22/15/HREC).

Design

We used a qualitative design comprising a series of focus groups and thematic analysis to explore staff views on supporting their engagement in EBP in their work with children with ASD. Thematic analysis was selected due to its capacity to yield an abstract, as opposed to descriptive, account of participants' views and experiences, thus integrating information and ideas across participants and settings [28]. Furthermore, thematic analysis was selected over alternative methods that focus on quantifying participant statements (e.g., content analysis), so that all views and experiences were given equal consideration during analysis. We considered this approach to be critical given its capacity to capture novel ideas – particularly with regards to proposed solutions – that may not have been considered by the majority of participants.

Participants and Setting

The participants were 29 staff who worked across eight of nine sites in a community-based early intervention service provider in [location withheld for review]. Ages of participants ranged from 22 to 59 years ($M = 34.07$ years, $SD = 11.08$ years). As noted in table 1, the participants included 10 centre managers, 3 speech pathologists, 7 behaviour therapists, 2 occupational therapists, 5 teachers, and 2 learning facilitators (childcare workers), representing the key professional/paraprofessional, and managerial groups in the organisation. All participants had a minimum 3 months experience working within the organisation at the time of the study.

The service provides a group-based manualised comprehensive early intervention program to approximately 250 children per annum. Children attend the program for up to 5 days per week with the intervention program provided between 09:00 and 14:30 each day, and supervised childcare provided between 07:00-09:00 and 14:30-17:00 to assist working caregivers. All sites were guided by an internal manual outlining the curriculum and

programs provided. The comprehensive strategies outlined in the manual were drawn from recent reviews [e.g., 29] and included the use of Picture Exchange Communication System (PECS), reinforcement, and visual supports.

At the time of the study, each centre was led by a centre manager supervising up to 24 staff. With no mandated education or training requirements in place for this position, Centre managers held qualifications predominantly in childcare. A centralised therapy co-ordinator team (speech pathology, occupational therapy, and behaviour analyst staff) had recently been appointed, and in addition to the operations manager, were responsible for supporting centres in program implementation. Further, the therapy co-ordinator team along with centre managers were responsible assisted staff in the development and implementation of individualised plans (e.g., functional behaviour assessment) and provided staff with feedback after observations. Staff training was provided for new permanent staff, and involved a one-day induction coupled with a training program delivered at the annual staff conference (two-days). Centre based trainings were also provided (up to four days per year). At the time of the study, no systematic training or requirements outside professional registration requirements were in place. Of the approximately 130 staff employed across the nine sites at the time of the study, the majority were permanent (full-time or part-time).<Insert table 1 about here>

Procedure

All permanent staff were invited via email (distributed by Centre managers) to participate in focus groups, and returned consent via email. Given the exact number of permanent staff was not ascertained at the time of distribution, only a conservative response rate of approximately 22% can be calculated (i.e., calculation underestimates response rate as assumes that all 130 staff were permanent which was not the case). Participants who were asked to complete the focus group outside of work hours were offered a \$30 gift voucher as compensation for their time. Participants were also asked to complete a short demographic

survey. Focus groups were conducted over a period of six weeks. The first focus group (managers) was conducted during the organisation's scheduled monthly managers meeting and was facilitated by the first and second author respectively. The managers were interviewed separately to other staff in an attempt to ensure that both managers and other staff felt comfortable to express their views freely. The remaining four focus groups (professionals and paraprofessionals) were conducted via teleconference and were facilitated by the second author. Teleconferences were selected over face-to-face focus groups for all remaining participants, given logistical constraints with participants spread across multiple sites and the need to conduct these groups outside of work hours. Furthermore, while differences exist between face-to-face and telephone focus groups, there is evidence that the two formats can yield similar results [30,31]. Participants were asked to indicate their availability to participate in the tele-conference, and the remaining four focus groups varied in numbers and role of participants. The first focus group ($n = 4$) combined paraprofessionals, teachers and behaviour therapists, the second group ($n = 5$) combined teachers, speech, behaviour and occupational therapists and the third group ($n = 6$) combined teachers, paraprofessionals, speech and behaviour therapists). Finally, a fourth focus group was conducted ($n = 4$) with individuals who at the time of the study had been recently appointed to therapy coordinator (speech, behaviour and occupational therapist) positions within the organisation.

Each focus group lasted approximately 60 minutes. At the commencement of each group, the facilitator reminded participants of the information contained in the Participant Information Sheet (distributed during recruitment), with regards to the purpose of the group meeting, how the session would be conducted, and a reminder to participants that they were free to withdraw from the group and study at any time without question. Participants were encouraged to say as little or as much as they liked during the focus group. During each focus

group, a semi-structured interview guide (available upon request) was used to encourage the participants to describe and comment on (a) their current engagement in EBP in their centres; (b) barriers to implementing interventions with fidelity; (c) strategies that had been used, or that they would consider using, to support implementation of empirically supported interventions with fidelity; (d) the potential benefits and limitations of a structured consultation peer-mentoring model and how this would look in their setting; and (e) any other issues that they feel were pertinent to the project. The focus groups were audio-recorded and transcribed verbatim ahead of analysis. Once analysis of transcripts was finalised, a plain language summary of the results was provided all participants.

Given that participants were asked to share information about themselves and their workplace, the following strategies were used to ensure confidentiality during the study and when reporting the findings. First, at the start of each focus group, participants were reminded of the confidential nature of the research and their responsibility to not repeat the views and experiences expressed by others outside the group. Second, during transcription, pseudonyms were allocated and used in all subsequent stages of analysis and in reporting the findings. Third, to avoid colleagues within the organisation inadvertently identifying and/or linking participants with their pseudonyms based on years of experience and profession, Table 1 presents summary, as opposed to individual, data only. Finally, data (participants' quotes) and findings will only be made available to the organisation via peer-reviewed publication.

Analysis

Focus groups transcripts were analysed using thematic analysis as outlined by Braun and Clarke [28]. This method involves repeated cycles of analysis across six stages using the constant comparative method [32] leading to an abstract account of participants' experiences, and constitutes a rigorous qualitative method in its own right [28]. The six stages include:

“(1) familiarizing yourself with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report” [28, p. 87].

During the first stage of analysis, the first and second authors read all of the transcripts, and coded the first two transcripts together. This involved reviewing the transcripts, line by line, to identify initial codes relating to discrete ideas, events, and phenomena in the data. A comment, for example, where a participant spoke of the barriers she faced in accessing resources was coded as *organisational issues*. The second author then completed line by line coding of the remaining transcripts. Similar and related codes were grouped together to form sub-themes. To illustrate, the sub-theme of ‘mentoring’ emerged to account participants’ experiences of peer-to-peer sharing of knowledge and skills. Finally, related sub-themes were grouped, resulting in the emergence of two themes. Consistent with Braun and Clarke [28, p. 82], themes were defined as the abstraction of a set of related ideas that “...capture something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set.”

The first author reviewed the codes, sub-themes, and themes identified by the second author, to identify any disagreements in interpretation. Discussions were held to resolve any differences in interpretation, and codes were amended accordingly. Key aspects of Chiovitti and Piran’s [33] guidelines for ensuring credibility in qualitative research were adhered to including (a) specifying the research aims and settings in which it was carried out, (b) identifying the basis on which participants for the study were selected, (c) using the participants’ own words, where possible, in labelling codes and themes, (d) describing how the literature relates to the themes identified, and (e) identifying the views, perspectives, and experiences the authors brought to the study. Regarding the latter, the authors are all experienced researchers and clinicians in the field of ASD, with professional backgrounds

spanning speech-language pathology, psychology, and occupational therapy. The third author was employed as Research Manager at the organisation at the time of the study, while the remaining authors were research collaborators. All authors believe that children with ASD should have access to evidence-based interventions, and that the views and perspectives of staff should be at the centre of efforts to support their engagement in EBP.

Results

Two central themes emerged during analysis to account for participants' views on supporting their engagement in EBP, including their use of empirically supported interventions. The first theme *Initiative and Effort* captured the wide range of strategies staff had developed and been provided with in an effort to engage in EBP. The second theme, *A Better Way*, accounted for participants' desire for organisation-wide strategies with direct applicability for supporting staff in their use of empirically supported interventions with fidelity when working *on the floor* [a colloquialism used by staff meaning "in the classroom"] with children. These two central themes, along with six associated sub-themes are illustrated in figure 1 and presented below using participants' own words. Staff members' professional roles are indicated but, as noted above, pseudonyms have been used to protect participants' privacy.

<Insert Figure 1 about here>

Theme 1: Initiative and Effort

In sharing their views and experiences, participants expressed commitment to engaging in EBP and shared a variety of examples of ways in which they had worked individually and collectively to do so. The initiatives accumulated around two core sub-themes – *the organisation* and *on the floor* – suggesting that support for EBP was evident at all levels of the organisation, but somewhat disconnected. The nature and outcomes of these initiatives, including challenges staff faced, are presented with reference to the two sub-themes.

The organisation. Staff at all levels spoke of a culture of supporting and promoting evidence-based practice within the organisation, and initiatives that had been implemented at the organisational level to support staff to engage in EBP. The most commonly discussed strategy was staff training, with an emphasis on the need to ensure new staff were provided with training to ensure they had sufficient knowledge, skills, and experience to work effectively within the evidence-based framework. This included training to support new casual staff members who often arrived at the centre with little to no training. Julia (teacher), for example, noted that due to finite time and resources, the orientation process for some casually-employed staff involved only a brief tour and the completion of required paperwork (e.g., signing contract, code of conduct) ahead of commencing work, with the understanding that training would be provided in the classroom.

Because the induction involves, here's the fridge, here's a classroom, here's where you park your car, and 10 seconds of, whoa, looking at it, and being overwhelmed, and then you just get a phone call at 6am, do you know what I mean?

However, the need to support new staff was not restricted to those employed on a casual basis. Brianna (speech pathologist), for instance, suggested that many of the allied health professionals employed at the centre received very little training specifically on working with children with ASD as part of their university studies.

... our therapists generally speaking are fairly new to the working field; they've just come out of university and they only have the stock standard practice they've been taught in university. Whereas it's a very unique field that we're working in.

In response to these identified needs, participants reported that the organisation had instituted a range of staff training initiatives, as May (behaviour therapist) expressed.

“Well I think everyone can agree that we've had more training this year than we have had before.”

At the centre level, formalised training was provided through a series of induction videos. However, as Bonnie (manager) stated, staff use of these videos was often constrained by time and they were not provided consistently to all staff.

It's again one of those things where, whenever you have enough time in the first few weeks let's quickly log on and do this... Another obstacle that I face now [is that] quite a lot of the staff have been there a long time. We've got some people that have been there 7-8 years, 6 years, 5 years, 4 years. First of all, they never had these inductions...

At the organisational level, staff reported that the focus was on providing centralised training with the view to ensuring consistent use of empirically supported interventions across the centres. This included manualisation of the program and training staff in its use, provision of PD events, and staff conferences. Nancy (learning facilitator) described her experience at a recent PD event as helpful in keeping abreast of changes in practices that were occurring.

Well there was the teacher and learning facilitators day, which had training on errorless teaching and how to implement more effectively, and then teachers had one again on Friday... and that was to go through it a little bit more in detail, so that we are able to then try and assist our staff on the floor to be able to implement all of the new changes that we're doing at the moment

Although there was consistent acknowledgement of the initiatives that had been taken to provide training, a number of barriers to its effectiveness were identified. For example, at the centre level, efforts to support training through meetings were compromised by the fact that learning facilitators were often not available to attend meetings. In one centre, staff were attending meetings in their own unpaid time, which was arguably unsustainable and simply not possible for many staff.

“And our meetings [are] at a time where they actually finish their shift. So sometimes they stay late out of their own personal time, often they have to go...” (Nancy, learning facilitator)

At the organisational level, geographical distance and the challenge of meeting the needs of individual staff across centres were reported to be two key challenges. For example, Andy (manager) noted that despite efforts, accessing training in regional areas was difficult.

... that needs to be replicated across all centres ... we're not getting the response that we need to.

At the same time, travelling to training in the city presented different problems associated with travel time and fatigue, as Peta (teacher) explained.

...travelling from regional you've got your flight down and everything, it's a long day. To ensure that you're absorbing everything that's, you've been trained on that day and taking it back to try and implement it, sometimes it's just a bit overwhelming.

On the floor. In considering the benefits and challenges associated with the training that had been provided, participants frequently reflected on the difficulties they encountered when attempting to apply the knowledge and skills learned to everyday clinical practice. The sentiment expressed - of disconnection between off-site professional development activities and the realities of implementing empirically supported interventions with fidelity in the classroom - gave rise to this second sub-theme. Imogen (behaviour therapist), for example, noted that sometimes strategies learned in training were difficult to implement in classroom settings, forcing staff to improvise and adapt practices.

“It looked very pretty on the theory, but when we tried to apply it, it was really hard, we had to modify, so, it was like... we had to modify because it wasn't applicable for our centre.”

Similarly, Sarah (manager) reported that the information provided during training was often overwhelming and that staff had difficulty applying it in the classroom.

When you're faced with the presenter standing and talking in a language [using professional jargon] you don't necessarily understand, and certainly a few of my staff have said, yeah well it was great to hear it but now what? But what am I supposed to do with it all. Cause I don't even understand it all.

In response to the need for more effective strategies, participants reported that they had adopted alternatives. A common strategy, endorsed by the organisation, was for staff to return to the curriculum or the Australian Guidelines for Good Practice [34] when in need of support.

"Well we reference back to the curriculum... and that's how our learning centres are set up." (Peta, teacher)

"...we know what strategies and practices are listed in the best practice guidelines."
(Nancy, learning facilitator)

Furthermore, a small number of participants noted that observing colleagues working in other settings helped to develop their knowledge and skills relating to the selection and implementation of empirically supported interventions.

"Some staff are in the same room for a long period of time so they don't get to see what happens in the other rooms. So they get to say, oh that's a great idea, maybe we can do this as well." (Rebecca, manager)

These approaches – particularly taking time to observe staff in other settings – were uncommon, with participants frequently citing resource and time constraints that limited their capacity to engage in such learning activities. In response to time pressures and other challenges to communication (e.g., incompatible staff rosters), Peta (teacher) explained that

in her centre, staff had attempted use email to share knowledge in an effort to ensure a more consistent approach to intervention delivery.

“One of the things that we’ve started to do more of is send out group emails, so that the communication about different things, strategies that are being used... we’re making sure everybody’s getting that information.”

However, Nancy (learning facilitator) suggested that some staff, particularly paraprofessionals, rarely had sufficient opportunities to read their email during work hours, meaning that information was unlikely to be shared equally amongst the group.

“I have to say that learning facilitators infrequently get time to check their emails... so unless they’re coming in prior to their shift starting, then they’re not accessing those emails.”

In contrast to seeking information from others, several participants discussed the importance of reflecting on their own knowledge, skills, and practices in the classroom. For instance, Tanya (teacher) expressed that she often engaged in self-reflection, acknowledging that there were gaps in her knowledge.

Sometimes I do something, and I’m like, is that the way I should have done it, do you know what I mean? You do questions yourself a lot, well, I reflect a lot on my practice, and yeah, sometimes I take a step back and go, well, I’m not an expert in that field.

While staff who attended the focus groups reported being willing and able to reflect on their own practice, it is possible that others may not be willing/able/confident to do so. As Tanya noted, individual motivation can contribute to their desire to seek help.

If the person’s really wanting to be better and do better they will be more observant and they will ask questions and learn more from that person, but if they don’t have the

motivation, they're just coming here to work and get paid, and whatever, they don't care...

Taken together, the participants' views and experiences presented in Theme 1 suggest that, while there was reportedly commitment to supporting EBP at both the organisational and individual levels, there appeared to be no consistent manner in which to do this across centres within the organisation. Accordingly, we asked participants to reflect on what could be done to support their initiatives to work together to support EBP, including their knowledge and use of empirically supported interventions with fidelity. These reflections were captured in the second theme.

Theme 2: A Better Way

Throughout the discussions, participants at all levels of the organisation offered suggestions for better supporting EBP. These suggestions resulted in the emergence of four core sub-themes: (a) *show me in real life*, (b) *mentoring*, (c) *acknowledging the difference*, and (d) *open communication*, as illustrated in Figure 1. In presenting their ideas, a consistent sentiment was the need for an integrated approach involving commitment, resourcing, and support at all levels of the organisation, from individual staff on the floor to central office, from brand new staff with no experience to highly experienced senior staff. These sub-themes are presented below.

Show me, in real life. A consistent message that emerged in discussions was the importance of, and need for, practical, hands-on modelling of strategies in real time in the classroom, coupled with observations and feedback on staff performance. Bonnie (manager), for example, shared her recent experience in which staff training had been provided in the classroom, rather than in a traditional workshop/seminar format.

And Erica (manager) actually, in terms of managing children's behaviour on the floor, did it on the floor. And when they saw Erica do it, they also started doing it. So that

osmosis really worked. That really worked much more than all the reading and all the lectures...

Similarly, Tanya (teacher) spoke of the benefits she had received from observing colleagues on the floor as part of her initial training.

The best thing that I did... was I went to [another centre] for the week... I got to shadow all the teachers, and see what they do, and how they did it, look at their classrooms, ask them as many questions as I could, and that prepared me then for coming in here.

Rhiannon (manager) suggested that she often found in-classroom training to be more efficient than traditional models.

“If somebody comes into the centre and they work [with a child presenting with particular challenges], then the people who deal with the child can learn far quicker by watching that professional dealing with those situations, how to do it.”

Laura, a centre manager, went further to suggest that the provision of appropriate training would likely have additional flow-on affects for staff morale and retention.

“We need a change so that every staff member is trained appropriately, then I think it’s the same thing once they are trained they feel more confident and comfortable in the role, and I think you will keep staff longer.”

While providing the right type of training was found to be important amongst staff, Amanda (behaviour therapist) noted it is also important to ensure that once staff are trained in a particular approach, that their performance is monitored to ensure fidelity.

“If somebody then could follow up with coming out to the centre and saying, all right, what did you learn, how are you trying to apply it, how can I help you apply it.”

A number of staff expressed a similar sentiment, with Kathryn (occupational therapist) suggesting that performance could be monitored at different time points, to identify any gaps in knowledge and provide any additional training.

“... follow up six weeks of their competency, testing of some description, and ongoing training, at different levels.”

Adrienne (behaviour therapist) also suggested that it would be beneficial to monitor staff performance with the view to providing additional support as required.

“I think if they were to observe that we are following through with strategies. If we knew that someone was going to check us, that we were doing it, and support you if you weren't doing it correctly.”

In presenting their views, a commonly expressed sentiment was the value of receiving advice and feedback from colleagues in the same work setting. These comments gave rise to the second sub-theme.

Mentoring. Bonnie (manager) stated clearly her preference for mentoring over other forms of training.

“I think mentoring type [is the best form of training], sitting alongside someone else and showing them I think is the best, is the best training in my opinion.”

Indeed, in one centre there had been an informal attempt to increase peer to peer mentoring.

We're actually going to be having staff going into different rooms. So rooms that they don't work in... The idea isn't the person going into the room, to find to highlight what the person is doing wrong... that person that's being observed can say hey, look I'm running the circle time, I'm having a lot of difficulty can you give me some ideas? (Rebecca, manager)

While these statements appeared to demonstrate support for the process of mentoring, no formalised approaches had been implemented and practices were inconsistent across

centres. Therefore, staff were asked to express their views regarding what mentoring might look like, and how they could see it working in their settings.

It would involve having an observation, and then having a feedback session. And then also maybe just a sit down with someone more senior and you discuss how we, you're feeling about everything in the classroom and how you could need a bit more help (Nancy, learning facilitator)

Nancy then elaborated on this, highlighting the importance of having someone act as a sounding board and providing immediate feedback.

“So if you were given time at a later date to ask them questions or for them to give you specific feedback on things that they observed that need work or you can improve on, that would be helpful.”

Others suggested that mentoring should happen on the floor, in the teaching moment, as Tanya (teacher) explained:

And I might try to pull them aside, talk to them one-on-one, or I might say to my staff, in particular, all right, next time you're going to do it and I'm going to stand behind you and just tell you what you need to do in that situation, because a lot of the time you don't learn it unless you actually do it

In discussing how a mentoring approach might look in their setting, two further issues were raised: the need to acknowledge and value the differences in the team and the importance of good communication.

Acknowledging differences. Throughout the discussions, the need to acknowledge and value the diversity of knowledge, skills, and experiences of individuals within the centre teams became evident.

And I've said to the staff we've all got skills and expertise, it doesn't matter if you've got two degrees or a PhD. You know, if you've been in this industry a long time you

might have more skills than our new grads that are coming out so you could potentially be the person doing the, you know doing the observing (Rebecca, manager)

I was saying to one of our facilitators on the floor, look I might be able to help with behaviour strategies because I'm the behaviour therapist and the teaching side of it cause I'm a teacher as well. But also, with the childcare, you know specific procedures that we need to do you could teach me... And actually acknowledging that and going hey, I can offer you something and you can offer me something back (Erica, manager)

Melissa (occupational therapist) and Erica identified that multiple opportunities should be provided for learning, as not all people learn in the same way.

"And the learning style of the staff, too, they might not be a visual learner, they might need to talk, written down, or explained out to them."

"Not everybody learns from watching, people learn in different ways. So making sure we're catering for those people, and noticing ok, they haven't quite got it when I've given them to the training. I need to show this person..." (Erica, manager)

Ultimately, by acknowledging and embracing these differences the teams would be stronger ...all the therapists need to receive the same training and the same information to be able to work together and to put the program together. You know it's not anymore who is more and less important, everybody has a role in this in our program (Yvonne, centre manager)

Open communication. The importance of effective communication was a prominent discussion point across the different groups. Participants noted that open communication within their teams was vital to engaging in EBP, including the use of the same empirically supported interventions across professionals and multidisciplinary collaboration. According

to Nancy (learning facilitator), a key step to achieving open communication was individual staff members being able to identify when they required help:

There's always someone that has more knowledge than you in some area, and there's always room to improve on everything that you're doing, so why not go to those people who have an expertise in whatever field it may be, and ask for some assistance.

Similarly, Erica (manager) identified the need to create an environment in which people feel comfortable approaching one another for support:

"It's then making sure that they have that understanding and feel like they can approach you about that."

Several staff also highlighted that for those acting as mentors, appropriate communication of feedback was critical to ensuring a positive and productive experience and outcome for all involved.

And learning how to criticise as well, is a biggie, because I think a lot of people emphasise on the negative and the way you say it as well, people tend to take it badly, but it's also the person who's communicating, too." (Imogen, behaviour therapist)

...look at in the manner in which this feedback is given, because if it comes in you know, you're not doing this, you're not doing that, it's going to be taken too personally. We need to get that feedback in a way that makes us really want to try harder, because at the end of the day, it's the children that we're there for. (Peta, teacher)

Discussion

The aim of our study was to explore staff views on supporting EBP in their work with children with ASD within a community-based comprehensive early intervention program.

The analyses revealed that staff support the need for EBP, as illustrated by numerous

examples of strategies that staff had developed in an attempt to ensure they delivered empirically supported interventions to the children with whom they worked. Staff also proposed a range of additional strategies that may better facilitate their engagement in EBP, and presented thoughtful insights regarding the potential benefits and limitations of a peer-mentoring based approach aimed at doing so.

Through the focus groups, it became evident that staff at all levels had been working to ensure that they engaged in EBP in their individual roles and across setting more broadly. Formal staff training (e.g. professional development, seminars) featured prominently during the focus group discussions. Although participants appeared to hold such training in high regard, they highlighted the challenges staff face in implementing knowledge and skills taught in training in classroom settings. To illustrate, intervention strategies were often adapted to suit the specific environment (e.g., number of staff, resources) in each centre, and while this is commonplace in clinical practice [11], these adaptations may have unknown impacts on intervention effectiveness. A key finding was the emphasis clinicians placed on the importance of learning *on the floor*, highlighting the need to address the apparent research-practice gap reported by participants in this study and consistently in the broader research literature [11, 13].

In discussing strategies to support EBP, four key attributes (reflected in the categories presented in the results) emerged. First, participants who worked directly with children called for strategies that would involve hands-on training, in situ, within the classroom. This would avoid the challenge associated with translating knowledge and skills learned in traditional formal training settings to clinical practice. Second, participants spoke of the value of learning from their peers, through observation and feedback. Third, and relatedly, the participants spoke of the need to, and value of, acknowledging the individual differences that each person brings to the team. Managers, in particular, noted that irrespective of

qualifications, individual staff members each brought valuable knowledge, skills, and experiences to the classroom floor that would be valuable to other staff members. Finally, across all participant groups, there was consensus that effective open communication is essential to any strategy in which staff are to share, support, and learn from one another.

The fact that participants emphasised the importance of learning from colleagues is not surprising, given the findings from previous studies [e.g., 35] indicating that colleagues are a commonly used, and trusted, source of information. However, an important additional insight gained through the qualitative analysis of the nature of this relationship, was that staff not only sought information (e.g., knowledge of interventions) from colleagues, but also practical demonstrations of the application of this knowledge in the classroom, taking into account the personal and environmental factors in the setting. This finding highlights the essential role that the sharing of clinical experience and professional judgement has within the evidence-based practice framework [1, 2], and thus its importance in supporting the dissemination and use of empirically supported interventions with fidelity amongst staff in early intervention settings.

In order to explore the ways in which staff could potentially support one another to engage in EBP, we provided an example of the Structured Consultations model [24] and invited participants to share their views. Staff at all levels expressed in-principle support for such an approach, with several suggesting that it would be consistent with existing informal peer-mentoring arrangements. To this end, in examining the participants' comments, there were clear examples of initiatives in which one staff member had observed others and asked questions to seek further information, but not overt examples of situations in which staff provided structured feedback to other on their performance in administering interventions with fidelity. While not suggesting that this had not previously occurred in the centres, the findings indicate the potential value of instituting a formal approach for staff mentoring (e.g.,

Structured Consultations) to ensure that all critical components of the model, including performance feedback, are utilised. The results of this study suggest that such an approach may be both ecologically valid and acceptable to staff working in early intervention programs for children with ASD.

Limitations and Future Directions

Given that qualitative research makes no claims about generalisation, caution is required when considering the implications of the findings for other populations of staff working in early intervention programs for children with ASD. Further, our sample utilised a relatively small proportion of permanent staff in the organisation who expressed their views and opinions at one time point. Nevertheless the results highlight that staff in at least one large service provider identified and attempted to address the barriers to engaging in EBP, but have identified the need for further improvements. It is also important to note that due to the nature of the methods use, we were unable to determine the fidelity with which interventions were being implemented. Future research would benefit from the inclusion of observational methods. Two important questions to be addressed through further research are (a) whether the barriers experienced by participants in this study are common across other early intervention services and (b) whether the strategies proposed by staff in this study may be effective in addressing the barriers, both in the current setting and in other services?

It is important to note that our analyses were based on information collected from staff at all levels of the organisation. Our goal here was to identify themes from across these groups, and to illustrate individual viewpoints through personal quotes from staff at each level. We did not set out to compare and contrast staff views at different levels, or between different groups (e.g., speech pathologists versus teachers), but there would likely be merit in doing so in studies evaluating attempts to implement the strategies proposed. For instance, it

would be important to examine the views of the recipients of the mentoring separately from those who provide the mentoring to ensure that each group is comfortable with the model.

Our use of a combination of a face to face focus group (centre managers) and teleconference focus groups (all other participants) due to logistics constraints, may have resulted in some participants feeling more or less comfortable sharing their views and experiences, depending on their preferred (if any) mode of interaction. However, there are purported advantages and disadvantages to both modalities [36], and presumably participants would not have volunteered to participate if they were uncomfortable with the interview format.

Finally, due to the voluntary nature of the research, it is possible that those who participated had greater interest in the issue of supporting engagement in EBP for personal (e.g., personal values) or professional (e.g., managerial responsibility) reasons. Future studies aimed at evaluating the effectiveness of strategies to support EBP, such as those we have proposed, should examine the possible influence of individual interest and motivation on the uptake and use of such strategies.

Conclusion

Staff who are responsible for delivering early intervention programs to children with ASD have access to a range of evidence-based interventions and a growing body of tools to support their engagement in EBP. The findings of this study shed light on the views and experiences of professional, paraprofessional, and managerial staff working in a large community-based early intervention service provider. The results suggest that simply providing access to high quality research evidence and traditional training methods are unlikely to be sufficient in supporting EBP. Instead, the results highlight the need for ‘on the floor’ clinically-relevant training and support, that leverages the natural tendency for staff to seek advice and support from their colleagues. Such an approach in no way negates the need

for existing sources of research evidence, as well as targeted professional development activities to inject new knowledge and skills into the service setting. Instead, such an approach may provide the means by which the knowledge and skills can be effectively disseminated between staff, in a sustainable and ecologically valid manner in order to support the use of evidence-based intervention practices with fidelity.

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Table 1. Participant demographics

	Number (Percentage)
<i>Age Bracket</i>	
21-30	18 (62.1)
Over 30	11 (37.9)
<i>Role</i>	
Centre Manager	10 (34.5)
Speech Pathologist	3 (10.3)
Occupational Therapist	2 (6.9)
Behaviour Therapist	7 (24.1)
Teacher	5 (17.2)
Paraprofessional (learning facilitator)	2 (6.9)
<i>Highest Academic Qualification (any field)</i>	
Vocational training diploma	2 (6.9)
Bachelor degree	11 (37.9)
Postgraduate degree	10 (34.5)
Other (e.g. advanced diploma)	6 (20.7)
<i>Disability specific training</i>	
No	24 (82.7)
Yes (e.g. bachelor of special education)	5 (17.2)

Figure 1. Thematic map presenting themes and sub-themes.