# Evidence Matters: Organisation-wide interventions to reduce the use of restrictive practices and/or behaviours of concern in children or adults who have an intellectual or neurodevelopmental disorder

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## Why did we do the review?

Neurodevelopmental disabilities (NDD) are disabilities that begin during early childhood and usually continue into and throughout adulthood. NDD include intellectual disability (ID), autism spectrum disorder (ASD), specific learning disorders, attention-deficit hyperactivity disorder (ADHD), and some language disorders. People with NDD are more like to display behaviours of concern (BoC). BoC could include behaviours that are:

* Aggressive,
* Destructive,
* Self-injury,
* Disruptive,
* Repetitive,
* Irritating.

BoC are also called challenging behaviours or problem behaviours. Restrictive practices (RP) are often used to manage BoC. Person-centred interventions are often important in reducing BoC or the use of RPs. However, without a broader organisation-wide approach the effectiveness of these interventions may be limited. Factors that can affect the implementation of interventions to reduce BoC and RPs, can be organisational culture, size, and the role of context. Context includes factors such as staff attitudes towards BoC and the use of RPs, as well as how often BoC occur within an organisation.

Social and organisational contexts have an effect on managing BoC and the use of RPs. Creating working environments that supports staff often leads to better quality of support services and relationships between patients and providers. This may reduce BoC and the use of RPs.

Staff attributes that can lead to BoC include:

* Imbalance of power;
* Lack of understanding,
* Not listening to patients and carers, and
* Disconnection from carers.

Organisational culture can increase the likelihood of RPs being used when workplace culture supports the use of these practices.

We wanted to find out what information there was on organisation-wide interventions, and to combine the available data and find out which organisation-wide interventions may be effective in reducing BoC or the use of RPs.

## How did we do the review?

Two researchers searched 19 different databases to find studies that looked at strategies for staff to improve their management of BoC. Any study that involved organisation-wide strategies to reduce BoC and the use of RPs were included. This includes any strategy aimed at service organisations or direct care staff to reduce BoC and the use of RPs.

Some of the categories for organisation-wide interventions we looked at include:

* Working with consumers/patients and their families;
* Debriefing and reviewing with staff, the person with ID/NDD or both;
* Using data to inform practice;
* Workforce education and training;
* Mentoring and professional supervision;
* Specialist service.

We wanted to conduct a meta-analysis with the data from studies that were Randomised Controlled Trials (RCTs). A meta-analysis is when all the data from multiple trials is combined, which gives us more data compared to results from single studies. However, we could not do meta-analysis, as there was no common outcome data between the studies. Instead, we looked at and reported the results from each study individually.

## What did we find?

15 studies were included in the review, involving a total of 1010 people with NDD and 690 staff. 13 of the studies looked at workforce education and training. The other two studies involved a multi-component intervention and a specialist services intervention.

Specialist services are where specialists such as speech pathologists or OTs work directly with staff or caregivers. Multicomponent interventions are when two or more different interventions are used. Workforce education and training involves staff learning and implementing preventative, rather than reactive strategies to BoC, reducing the likelihood that RPs will be used. Eight of the studies involved a workforce education and training strategy with the most common being Positive Behaviour Support (PBS) staff training and Mindfulness-Based Positive Behaviour Support (MBPBS) staff training.

Some of the workforce education and training interventions (i.e. MBPBS training, and PBS training) showed a reduction in aggression, the use of chemical and physical restraints, peer and staff injuries, and improved quality of life following the intervention. Some of the reductions were substantial and show promise as interventions that may result in significant reductions in BoC and RPs.

We have gathered the information from the studies looking at intervention types, the number of participants and numbers of studies conducted.

### PBS

Four studies involving a total of 344 people with disability and 153 direct staff/caregivers/managers of disability services compared PBS staff training to no staff training. One study was an RCT and three studies were non-RCTs. The studies involved PBS training sessions with staff, ranging from eight three-hour sessions to ten days of training.

One study involving 244 people with mild to severe level ID, showed there was no reduction in irritability in the short, medium or long-term (up to 18 months) and an improvement in quality of life.

One study involving 11 people with moderate to profound ID and 27 direct care staff showed a reduction in irritability and an improvement in quality of life. There was no reduction in use of chemical or physical restraint.

There were two studies involving 17 people with disability (diagnoses not reported) and 54 caregivers and 72 people mild ID or moderate ID and72 managers of disability services. One study showed a reduction in chemical restraint and no reduction in other BoC. The other study showed reductions in BoC and no improvements in quality of life.

### MBPBS

Five studies involving a total of 169 people with disability and 265 caregivers/support workers/support staff compared MBPBS to another strategy or no strategy. Two studies were RCTs and three studies were non-RCTs. The studies involved up to seven eight-hour days of staff training, as well as on-the-job practice using PBS within a mindfulness approach. A mindfulness approach includes meditation, and being mindful of and viewing behaviours, communication, and reinforcement from a mindful perspective.

There were two studies involving 80 people with disability (mild ID 55; moderate ID 25) and 123 caregivers and 48 people with severe or profound ID and 77 support workers. There was a reduction in aggression, reduced use of chemical, physical, mechanical restraints, reduced peer and staff injuries and a reduction in costs associated with extra staffing.

Three studies involving 20 people with mild to profound ID and 23 support staff; 3 people with moderate ID and 9 support staff; and 18 people with ID and 33 support staff. There was a reduction in the use of chemical and physical or mechanical restraints and a reduction in peer and staff injuries.

### Empathy-Based Staff Training

Two studies (one RCT, one non-RCT) involving 150 people with disability and 254 manager/care staff. Empathy-based staff training involved training staff in viewing BoC from the perspective of the person with disability, thereby adopting a more proactive approach to BoC.

One study involving 111 people with ID, or ASD and 236 staff showed no reductions in aggression, other BoC, or the use of RPs.

One study with 39 people with mild ID and 18 direct care staff showed no reduction in BoC or use of RPs.

### Environment-Based Staff Training

One study (RCT) involving 200 people with mild to severe ID compared an environment-based staff training to training as usual. The strategy involved training staff in how environmental factors can influence the likelihood of BoC, and training staff to identify and address these factors. There was no reduction in aggression.

### Communication-Based Staff Training

There was one study involving 3 people with ID and 18 staff completed as a non-RCT. The strategy involved training staff in understanding and recognising that BoC often communicate an unmet need, and how staff can interact more effectively with people with BoC. There was no reduction in BoC.

### Specialist Behaviour Team

One study involving 63 people with mild or moderate ID completed as a RCT. The strategy involved a specialist behaviour team such as speech pathologists, psychologists, or OTs that worked directly with staff or caregivers to create and implement behaviour support plans. There was no reduction in irritability and there were overall increased costs to the organisation.

### Multi-component Intervention

There was one study involving 81 people with ID completed as a RCT. This multi-component strategy involved several components including workforce education and training, environmental and communication strategies, and working with consumers/patients and their families.

There was a reduction in BoC in the 12 and 18-month follow up. There was no improvement in quality of life.

Only seven of the studies were of higher quality (RCTs) and the other eight were non-randomised studies. Most of the studies were short-term (less than 6 months) and involved adults with a mild or moderate ID. This means there is very limited identified evidence on which to base conclusions.

RCTs are studies with two or more groups where one group receives training (or other organisation-wide strategy) and the other group receives a different strategy or they do not receive any strategies. RCTs are better quality because participants are allocated to the groups ‘randomly’ and usually participants and researchers do not know who is and is not receiving each treatment. Because of this, the results are usually more accurate. Non-RCTs are considered lower quality because people are not randomised, and the researchers likely know which group people are part of and this can influence the results.

## What do the findings mean for future research?

There is a need for high quality research on:

* organisation-wide interventions, such as:
	+ Environmental factors,
	+ Policies and guidelines,
	+ Mentoring and professional supervision,
	+ Use of data to inform practice, or
	+ Working with consumers and their families.

The long-term effectiveness of workforce education and training with participants; children, adolescents and adult who have other NDD than ID; and organisational factors that can enhance implementation of evidence-based interventions.

## What do the findings mean for practice?

This review showed that MBPBS, PBS, and a multi-component intervention reduced behaviours of concern, the use of restrictive practices and/or peer or staff injuries. It appears that none of the other interventions were effective, although at this stage the evidence is limited.

Multiple factors, such as context, staff attitudes, and financial resources, can influence implementation and outcomes. Factors that have been found to improve uptake of interventions include a supportive work environment, a whole-of-organisation commitment to reduce RPs, implementation of policies and goals to reduce RPs, and a workplace culture that only uses RPs as a ‘last resort’.

Organisation-wide interventions should be considered as part of a strategy to reduce BoC and/or the use of RPs in settings that provide services for people with disability.