

Kevin Ainsley - Options 360

**Strategies for Reducing the Use of Manual Physical Restraint in the Care of Adults with
Learning Disabilities**

Contents

Abstract

Background

Prevalence rates for challenging behaviours in adults with learning disabilities are high, ranging from 6.1% to 40% dependent upon setting. Challenging behaviour may threaten community placements.

Contemporary approaches to supporting people with learning disabilities focus on proactive strategies based on principles of positive behaviour support. Positive approaches seek to obviate the need for physical restraint. However such strategies prevail in managing aggressive violent and destructive behaviours. The use of reactive strategies carries inherent risks to service users and staff and raises ethical concerns. For these reasons it is important to identify strategies which are effective in minimising the use of restraint.

Objectives

- Perform a systematic review locating research identifying strategies for reducing *manual* physical restraint
- Assess studies in terms of methodological soundness and efficacy of reduction strategies
- Discuss implications for future practice and research

Search methods

Thirteen databases were searched. Grey literature and alternative sources were also searched. Studies were accepted if they included adults with learning difficulties and considered reduction strategies for manual restraint.

Main results

Six studies were included. Due to the methodological limitations of some studies and heterogeneity of interventions meta- analysis was not performed. Four studies identified organisational and individual approaches that may be effective in restraint reduction.

Conclusion

There is a paucity of research relating to the reduction of manual restraint in the care of adults with learning difficulties. There is a pressing need for research based on randomised controlled trials to assess the efficacy of restraint reduction strategies measured by standardised scales.

Introduction

Description of the condition

Intellectual Disabilities/Learning Disabilities

Intellectual or learning disabilities are defined as a condition of global cognitive delay that occurs during the prenatal, perinatal or postnatal development period. It is associated with a low cognitive ability as suggested for example a score below 70 on an intelligence quotient test. It is normally accompanied by deficits in areas of adaptive functioning such as education, occupation, self-direction, social relationships, self-care, using community resources and health and safety (Carnaby 2005:8)

Challenging Behaviour in people with learning disabilities

The term challenging behaviour refers to longstanding patterns of maladaptive behaviour in people with learning disabilities. Historical definitions of challenging behaviour have tended to take a pathological approach. Recently a more social perspective predominates. This articulates the view that it is the complex link between an individual and their environment which determine whether a behaviour is considered challenging or not (Emerson 1995).

Emerson's definition of challenging behaviour captures this dialectical relationship beautifully:

'...It refers to culturally abnormal behaviour(s) of such an intensity frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy or behaviour which is likely to seriously limit the use of or result in the person being denied access to ordinary community facilities" (Emerson 2011:4).

Prevalence Rates

Amongst children a study by Emerson and Hatton in 2007 reported rates of formally diagnosable conduct disorder of 21% among children with intellectual disabilities. A similar study in Australia recorded 24%. Studies of adult populations show a variable prevalence of all problem behaviours that ranges from 6.1% in the community to 40% for people in long-term hospital placements (Emerson 2011:16).

Types of Challenging Behaviour

Emerson (2011:18) identifies four broad categories of challenging behaviour:

- Physical aggression
- Self- injury
- Property destruction
- Other forms of challenging behaviour-this may include for example sexually inappropriate behaviour, offending type behaviour, ripping of clothes, eating non edible objects, bizarre rituals.

These factors are highly significant in that they lead to many detrimental consequences for people with learning disabilities, the people who support them, the settings they live in and the communities they are part of. Not least of these is that such behaviours are likely to increase the likelihood that the person exhibiting them will be subjected to restrictive physical restraint procedures as a measure to curtail them.

Definition of Restraint

Physical restraint has been defined as:

‘...any method of responding to challenging behaviour which involves some degree of direct physical force to limit or restrict movement of mobility.’ (Harris, J., Cornick, M., Jefferson, A., & Mills, R. 2008, cited in Allen, D. 2011:7).

Allen suggests that restraint can be:

- Personal (i.e. applied by one or more persons restricting the movement of another)
- Mechanical (i.e. achieved by the use of some sort of device or apparatus, such as splints or harnesses)
- Environmental (i.e. achieved by certain restrictions in the environment, such as locked doors)’
- Seclusion
- Rapid tranquilisation (Allen 2011:7)

Why it is important to do this review within the context of manual restraint

Manual physical restraint has been isolated from in this study for several important reasons.

- There is evidence that the use of restrictive practices is widespread
- There is evidence that manual restraint is more widely utilised than other forms of restrictive interventions
- There is strong evidence as to the detrimental effects of manual restraint
- Physical restraint may in some cases reinforce challenging behaviours
- There is very little research reported in the UK on restraint reduction

As noted earlier between 6.1% and 40% (dependent upon service setting) of people with learning disabilities exhibit behaviour that is difficult enough to present serious challenges to the carers and organisations supporting them (Qureshi & Alborz 1992; Kiernan & Qureshi 1993; and Emerson *et al.* 2000 cited in Emerson *et al.* 2000:197). Research indicates that some of the more serious forms of challenging behaviour include self-harm and aggression and are particularly prevalent in persons with learning disabilities (Matson, Dixon & Matson 2005 cited in Matson and Boisjoli 2009:111)

Emerson clearly identifies the risks associated with the manifestation of these behaviours:

‘The expression of these behaviours is associated with an increased risk of exposure to a range of negative outcomes. These include: physical injury to the person, other people with intellectual disabilities and care staff; social exclusion, isolation and neglect; abuse from caregivers; exposure to restrictive treatment and management practices; increased stress and strain among caregivers; and increased cost of service provision.’ Emerson *et al.* (2000:197)

There is evidence that the use of restrictive practices in settings supporting people with learning disabilities is widespread (Allen 2011). A National Adult Survey conducted in 2007 covering people with learning disabilities in England found that 53% used some kind of restraint. (Sturmey 2009 cited in Allen 2011:10).

Evidence of Detrimental Effects of Restraint

Risks to staff and service users

The health and welfare of both staff and service users are in jeopardy when physical restraint is deployed. Hill and Spreat (1987 cited in Murphy et al 2003:116) reported that during a period of one year there were 256 injuries to 456 staff as a consequence of applying restraint techniques in a residential home in the USA.

A 1998 USA study reported restraint related deaths over a ten-year period of 142 people with intellectual disabilities (Weiss 1998 cited in Williams 2010). The authors believed this figure to be conservative and that the actual number could be up-to 3 times higher.

Other negative effects -

Psychological impact

The psychological and emotional effects of physical restraint have been documented and the common themes are negative.

Potential reinforcing effects of physical restraint

Research has demonstrated that for some service users being manually restrained may function as positive or negative reinforcement and thus unintentionally maintain challenging behaviour (Favell *et al* 1978 and Foxx 1990 cited in Sturmey *et al* 2005).

Social validation

Several researchers have pointed out that there are issues of social validation in that some carers view restraint procedures negatively even when applied therapeutically and are therefore disinclined to use them. Consistency is key in effective behaviour support; therefore a reluctance to implement therapeutically determined manual restraint compromise the overall efficacy of individual behaviour support planning (Luiselli 2009:127)

Why is Physical Restraint Necessary?

Given that the research suggests that there are so many detrimental effects associated with physical restraint the question is raised as to its necessity. The main reasons indicated are;

Behaviours which present possible danger to service users or their caregivers tend to be the most common found amongst people with learning disabilities, for example physical aggression towards others, damage to property and self -injury (Colond & Weisler 1995, Emerson *et al.* 1988, Lowe & Felce, 1994, Toogood *et al.* 1994 cited in Allen *et al.* 1997:102).

Many challenging behaviours persist over long periods of time in and therefore present an ongoing risk (Allen *et al.* 1997:102).

Even with successful interventions it is rare for behaviours of concern to be completely replaced (Allen *et al.* 1997:102). Staff should therefore be in a position to keep service users and those around them safe from harm by responding in a planned manner where there is a foreseeable risk of behaviour deteriorating.

Staff and carers who support people with learning disabilities have a duty of care towards them. There may be occasions where to expedite their responsibility physical restraint must be used.

Employers have a duty of care toward their employees to, reduce the risk of any foreseeable harm to them, particularly in relation to staff supporting service users with a history of dangerous behaviours (DHSS 1988 cited in Allen *et al.* 1997:102).

Several credible studies have pointed out that challenging behaviour, and aggression in particular can lead to disruptions in the home, school and family and may jeopardise community placements. The ability of support services to respond to this challenge may be critical in avoiding (re-) admission to more institutional settings (Matson & Boisjoli 2009, Singh *et al.* 2006 and Allen *et al.* 1997, Stirling 1979).

There is also an ethical imperative and justification for including manual restraint as a last resort in planning for challenging behaviour.

However there is tension in this position as irrespective of the good intentions of the person applying the restraint, the service user may yet experience a degree of discomfort or pain. (Stirling 1997).

Summary

Whilst much of the research outlined above points to the serious deleterious effects of physical restraint other studies outline the necessity for them when supporting people who present dangerous or aggressive behaviour. Arguably planned physical restraint, in spite of the inherent dangers, could not be eliminated entirely from behaviour support plans. There are sound ethical, legal and practical imperatives for its retention, not least of which are the likelihood of increased injuries resulting from staff having to default to unplanned restraint and the jeopardising of community placements for people who present very challenging behaviour.

Whilst physical restraint may be necessary as an absolute last resort the evidence is largely that they have limited effects. As Allen points out:

‘Their only goal is to achieve safe, rapid and ethical control over serious risk behaviours; they only provide temporary control over difficult behaviour. They are not constructive and they are not concerned with helping services and users change challenging behaviour in the longer term.’ Allen (2009:143)

This would tend toward an accommodation which places an ethical responsibility upon the practitioner to always establish whether there are viable alternatives to physical restraint which have a greater regard to the service users autonomy and personhood and which

maintain their rights and confer respect and dignity (Tschudin 1994 cited in Stirling & McHugh 1997).

As noted earlier there has been very little research relating to restraint reduction in the UK. However research conducted in Norway and some States in the USA have yielded some positive indicators with regard to how reductions may be achieved. Therefore the following objectives have been established for this systematic review.

Objectives

- To perform a systematic review to locate research that identifies strategies for reduction in physical restraint of people with learning difficulties who present challenging behaviour
- To assess these studies in terms of their methodological soundness
- To assess the efficacy of the strategies identified within the studies
- To discuss the implications for future practice
- To discuss the implications for further research

Methods

Search terms

The systematic review question was broken down into 3 of the components of the PICOS paradigm, those being, 'participants/patients,' 'intervention' and 'outcome.'

The question under review was established.

The search terms;

Participants/patients- Learning Disability OR Intellectual Disability AND Intervention- Physical Restraint* OR Physical Intervention* OR Restrictive Physical Intervention* OR Restraint OR Reactive Strategies AND Outcome - Reduction Strategy OR Reduction Strategies OR Reduction Policy OR Reduction Policies OR Elimination OR Eliminating OR Policy OR Policies OR Training OR Monitoring OR Assessment* OR Review* OR Guidelines OR Guidance OR Physical Restraint Study OR Study

Were used to search the following databases

- Pubmed
- Psychinfo
- Lingusitic and Language Behaviour Abstracts
- International Bibliography of the Social Sciences
- PsycARTICLES
- ERIC
- MEDLINE
- Applied Social Sciences Index and Abstracts
- EMBASE
- Social Services Abstract
- British Nursing Index

- Sociological Abstracts
- Cochrane Database of Systematic Reviews

Inclusion Criteria and Exclusion Criteria

The initial searches conducted during the proposal stage of this dissertation tended toward the conclusion that there was a dearth of published literature in the field of restraint reduction, particularly in the UK (Allen *et al.* 2002). Therefore whilst wishing to balance specificity with sensitivity the criteria were kept fairly broad, in particular with reference to study type, on the basis that it was preferable to capture as much as possible of what little there was and that this could be filtered manually for the integrity of the methodology of study.

The database search generated 841 papers in total. A further 13 papers were added following a search of The System for Information on Grey Literature in Europe; a review of the notes from a presentation by David Allen and a hand search of bibliographies from several British Institute of Learning Disability books and the reference lists of research papers of interest. This added confidence that the search strategy employed had captured the majority of relevant published studies.

Duplicates were removed manually and a total of 676 papers remained. The abstracts of these papers were recovered and used to identify papers of interest. This resulted in 645 papers being excluded. The remaining 31 papers were printed for closer scrutiny to assess fidelity with the inclusion criteria. Twenty-five papers were excluded at this stage leaving a total of 6 papers for inclusion in the systematic review.

Meta Analysis

The methodological limitations of some of the papers and heterogeneity of interventions precluded the possibility of conducting a meta-analysis.

Results Section.

Papers selected for inclusion

1 David Allen, Lindsey McDonald, Colin Dunn and Tony Doyle (1997). Changing Care Staff Approaches to the Prevention and Management of Aggressive Behaviours in a Residential Treatment Unit for Persons with Mental Retardation and Challenging Behaviour. *Research in Developmental Disabilities*, Vol. 18 (2), 101-112, 1997.

2. Kim Sanders (2009). The effects of an Action Plan, Staff Training, Management Support and Monitoring on Restraint Use and Costs of Work-Related Injuries. *Journal of Applied Research in Intellectual Disabilities*, 22, 216-220.

3.Nirbhay N. Singh, Giulio E. Lancioni, Alan S.W. Winton, W. John Curtis, Robert G. Wahler, Mohamed Sabaawi, Judy Singh, Kristen McAleavey (2006). Mindful staff increase learning and reduce aggression in adults with developmental disabilities. *Research in Developmental Disabilities*, 27, 545-558

4.Nirbhay N. Singh, Giulio E. Lancioni, Alan S.W. Winton, Ashvind N.Singh, Angela D. Adkins Mindful Staff Can Reduce the use of Physical Restraints When Providing Care to Individuals with Intellectual Disabilities. *Journal of Applied Research in Intellectual Disabilities*, 22, 194-202.

5 Christopher Stirling & Albert McHugh (1996). Natural Therapeutic holding: a non-aversive alternative to the use of control and restraint in the management of violence for people with learning disabilities. *Journal of Advanced Nursing*, 26, 304-311.

6 Christopher Stirling & Albert McHugh (1997) Developing a non-aversive intervention strategy in the management of aggression and violence for people with learning disabilities using natural therapeutic holding. *Journal of Advanced Nursing* 27, 503-509.

Discussion and Conclusion

All six studies selected for inclusion in this review reported very positive outcomes.

The results of the two studies by Stirling and McHugh should be treated with extreme caution as they were of poor methodological quality. The authors make strong case for natural therapeutic holding as an alternative to control and restraint both in terms of its social validity and theoretical structure. Further research based on a sound properly controlled trial would be helpful in providing stronger empirical evidence with regard to the actual efficacy of natural therapeutic holding.

The Sanders study yielded extremely dramatic results but had inherent flaws to its design. This study too is worthy of replication under more controlled conditions. Follow up studies would be beneficial in establishing whether the effects of this multi component programme were lasting for both staff and service users.

The assessment methodology of the intervention which Allen and his colleagues devised was compromised somewhat by the pressing training needs of the staff team involved. Consequently the results in the main part achieved clinical rather statistical significance. However the impact of this study has been far reaching and the emphasis on proactive strategies has become custom and practice in a range of services for both children and adults.

The two studies by Singh and his colleagues were empirically sound in most respects. These studies were conducted relatively recently and demonstrated that 'mindfulness' can have a very positive effect on reducing physical restraints. Further research into isolating exactly what qualities actually define 'mindfulness' and which of those are actually having a positive effect on rates of restraint would greatly enhance training programmes aimed at teaching it to staff.

Limitations

In an attempt to reduce the effects of publication bias search terms were ran across numerous databases . Searches included journals from their first date of publication up-to December 2013. Additional searches were made for grey literature, conference papers and in the reference sections of papers already extracted. Only papers written in English were considered for this review and this clearly is a limitation, which will certainly introduce a degree of publication bias. This is most unfortunate given the paucity of research available in English.

Were this project to be repeated it would be beneficial to recruit a second reviewer. This would be particularly useful during the search phase of the review and would go some way towards militating against the bias introduced by my exercising my subjective personal preference when selecting papers. In this scenario I would use Cohen's Kappa. This would measure the degree of agreement between my colleague and me beyond that which might have occurred by chance.

Conclusions

Implications for future research

After several weeks of trial and error using different combinations of search terms the final search strategy generated 851 papers, 676 after duplicates were removed. Of these only six papers met the inclusion criteria, this clearly limits the value of the present review. During the process of screening several themes recurred.

Firstly my strategy indicated that there were very many more papers regarding children compared with papers regarding adults. The methodological standard of some of these

papers was excellent, for example Luiselli (2009), Liuselli & Dunn (2006). However I felt unable to include such papers as I think it would be unsound to assume that reduction strategies which are effective for children would necessarily be effective for adults.

Secondly there were very many more papers that analysed strategies for reducing challenging behaviours per se than papers that then attempted to link the impact that this might have had on the use of restrictive practices, for example Harris (1996) and Matson and Boisjoli (2008). It could be argued that common sense would dictate that reductions in challenging behaviour would see a parallel reduction in restrictive interventions. However this lacks the empirical stringency necessary to infer causal relationships.

Thirdly very few studies examined strategies for reduction of manual physical restraint specifically, for example Colton (2010) who provides a very comprehensive organisational framework for restraint reduction but only collates evidence that supports an effect on mechanical physical restraint. Similarly, Williams & Grossett (2011) who pursued strategies for reduction in mechanical restraint and Weber *et al.* (2010) who considered strategies for reduction in chemical, mechanical and seclusion restraint but not manual physical restraint.

It would be wrong to assume that simply because a particular strategy demonstrated effective reduction in one restraint modality that it will have the same effect on others at the same time. The contrary might actually be true, for example a staff team may reduce the overall use of mechanical restraint but the consequence may be that they then default to using manual physical restraint as a substitute. The point is if the research does not account and control for such contingencies we can never know with any degree of certainty.

There is a general paucity of research in this specific area (reduction in the use of manual restraint), for this particular segment of the population (adults with learning disabilities).

Furthermore the limitations pertaining to the methodology of some of the research that has been carried indicates a need for more research with an increased emphasis on randomised controlled trials to assess the efficacy of restraint reduction strategies measured by standardised scales.

Implications for future practice.

Setting aside the papers by Stirling and McHugh on the basis of their methodological limitations and accepting that the strategies utilised by Sanders warrant further validation there are positive potential implications for future practice that can be drawn from the remaining papers. Most of these strategies are in keeping with the principals of positive behavioural support

The strategies identified in these studies as being beneficial in facilitating reductions in manual physical restraint may be divided into two categories, individual and organisational.

Organisational approaches (Allen et al. 1997, Sanders, 2009).

Staff training, specifically:

- Understanding aggressive incidents: an introduction to the nature of aggressive incidents based on the time intensity model.
- Primary prevention: instruction in modifying or removing known environmental or individual setting conditions or triggers associated with the production of challenging behaviour.
- Secondary prevention: instruction in responding safely to early indicators that behaviour is moving away from baseline via verbal and non – verbal defusion/distraction techniques

- Reactive strategies: instruction in safe, efficient, effective responses to critical incidents (including self-defensive strategies and minimal physical restraint procedures).
- Post incident support for clients and caregivers: training to sensitise caregivers to the emotional consequences of aggressive incidents. (Allen *et al.* 1997:104).
- ‘Extraordinary blocking techniques’: using cushions pillows and beanbags to support a client in crisis and to protect staff (Sanders 2009:217).

Staff engagement in decision making

A key tenet of the four-component approach implemented by Sanders is staff engagement in consultation and decision-making. Prior to implementation of new initiatives designed to reduce physical restraint staff should be canvassed for their opinions and perspectives. This should be utilised by senior managers to shape policy and guidelines.

Increased physical presence by the management team

Having managers maintain a visible presence in the service setting and making them more available through on call systems may have a positive effect on restraint reduction strategies.

A formal system for processing each restraint.

Having systems in place to ensure that a debrief takes place following each restraint seems to help in reducing restrictive practices. These should involve the people

concerned, including the client. The primary focus should be on learning from the experience with the intention of reducing the likelihood of the situation occurring again and identifying where additional supports are required.

Monitoring physical restraint.

Having senior managers regularly review all incident reports involving physical restraints is indicated in the Sanders study as facilitating the goal of restraint reduction.

Individual approaches (Singh et al 2006 & 2009).

The introduction of mindfulness practice by staff can have beneficial effects on the emotional, social and psychological disposition the staff toward service users.

Furthermore this may be implicated in reductions in rates of restraint which have been seen to follow the implementation of mindfulness training and practice.

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