



City Research Online

City St George's, University of London

Citation: Bowers, L., Alexander, J., Simpson, A., Ryan, C. & Carr-Walker, P. (2007). Student psychiatric nurses' approval of containment measures: Relationship to perception of aggression and attitudes to personality disorder. *International Journal of Nursing Studies*, 44(3), pp. 349-356. doi: 10.1016/j.ijnurstu.2005.03.002

This is the accepted version of the paper.

This version of the publication may differ from the final published version. To cite this item please consult the publisher's version.

Permanent repository link: <https://city-ref-test.eprints-hosting.org/id/eprint/7318/>

Link to published version: <https://doi.org/10.1016/j.ijnurstu.2005.03.002>

Copyright and Reuse: Copyright and Moral Rights remain with the author(s) and/or copyright holders. Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge, unless otherwise indicated, provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way. For full details of reuse please refer to [City Research Online policy](#).

Bowers, L., Alexander, J., **Simpson, A.**, Ryan, C. and Carr-Walker, P. (2007) Student psychiatric nurses' approval of containment measures: relationship to perception of aggression and attitudes to personality disorder. *International Journal of Nursing Studies* 44(3), 349-356.

Student psychiatric nurses' approval of containment measures: relationship to perception of aggression and attitudes to personality disorder

Len Bowers RMN PhD
Professor of Psychiatric Nursing

Jane Alexander RMN BA(Hons) MA
Lecturer

Alan Simpson RMN BA(Hons) PGDip
Research Fellow

Carl Ryan RMN Cert Ed BA(Hons)
PhD Student

Paola Carr-Walker MPsych(Foren)
Research Assistant

Address for correspondence (and address of all authors):

Dr Len Bowers
Professor of Psychiatric Nursing
St Bartholomew School of Nursing and Midwifery
City University
Philpot Street
London E1 2EA

Tel: 020 7040 5824
Fax: 020 7040 5811
E Mail: L.Bowers@city.ac.uk

Student psychiatric nurses' approval of containment measures, perception of aggression and attitude to personality disorder

ABSTRACT

Difficult and challenging behaviour by inpatients is a feature of acute psychiatric ward life. Different methods are used to contain these behaviours, and there is international variation in which are approved of or used. Previous research suggests that staff attitudes to patients may affect their willingness to use, or choice of, method. The aim of this study was to explore the relationship between approval of containment measures, perception of aggression and attitude to personality disorder. A survey of student psychiatric nurses was conducted, and using three attitudinal questionnaires related to aggression and containment. An association was found between positive attitude to patients and the approval of containment methods that involved nurses being in personal contact with patients. There was evidence that students' attitudes to patients deteriorated over time. The results highlighted the importance of (and linkage between) staffs' feelings of anger and fear towards patients, and their preparedness to use containment measures..

Keywords: Aggression; psychiatry; containment; seclusion; restraint; personality disorder.

1. Introduction

People admitted to acute psychiatric wards are sometimes in a condition of severe psychological disturbance and distress. They may be severely suicidal, possibly having recently made a serious suicide attempt; or they may be aggressive, irritable, or even actually violent. Their distress and disturbance may be exacerbated by lack of insight, or by acute psychotic symptoms such as delusions and hallucinations, or by the fact that they may have been brought into hospital against their will under mental health legislation. The treatment and management of people who are in these states of mind can be very difficult. There may be concerns that they may harm themselves or others on the ward, or that they will abscond from care and do so. These are real dangers. Recent studies have shown that absconding rates can be as high as 2.7 per 100 bed days on some wards (Bowers et al 2003a), and that 4% of those absconds result in some form of harm to self or others (Bowers et al 1999a). Aggressive incidents on acute wards are not frequent, but nor are they rare, with studies reporting rates of 0.1 – 9.0 (mean 2.3) incidents per 100 bed days, with 10 – 20% of these resulting in pain, bruises or welts, and 1 – 5% resulting in some more serious injury that requires medical treatment (Nijman et al, 2004). Even if no injury ensues, staff may suffer symptoms of Post Traumatic Stress Disorder (Whittington and Wykes 1992) or have to take time off work (Carmel and Hunter 1989).

In cases of imminent or actual violence, when de-escalation fails, the psychiatric team use a variety of containment measures to ensure that patients are kept safe from harm. These range from the provision of extra sedating medication through to measures like

seclusion. Table 1 lists and defines the spectrum of containment measures used across Europe. Not all of these measures are used in every country. Net Beds, for instance, are used in some eastern European countries (these have recently been withdrawn from use in some countries, notably Slovenia and, under pressure from Amnesty International, the Czech Republic). Mechanical Restraint is used throughout Europe, but not in the UK or Republic of Ireland. Open Area Seclusion appears to only be used in Norway. Intermittent and Constant Observation are only just being introduced to psychiatric practice in Denmark. In addition to this variability, there is anecdotal evidence that all these containment methods are differentially evaluated in different countries (Bowers et al 1999b, Bowers et al 2003b). This variability indicates that containment measure use is likely to be driven by psychosocial factors, rather than by the objective behaviour of patient. So far, although individual methods have been studied in some detail (e.g. seclusion, special observation), we have little information about how professionals choose which methods for what circumstances, or what guides their choice. This paper reports on a study that investigated links between nurses' perception of aggression, attitude to personality disorder, and evaluation of containment methods.

Jansen et al (1997) hypothesised that one of the reasons for variance in aggression rates between wards and localities was due to professional staffs' different criteria for counting an incident as aggressive. In order to investigate this, they created the Perception of Aggression Scale (POAS), in which each item is a different definition of aggression that can be variously endorsed or rejected by respondents. This scale has been subject to rigorous psychometric evaluation, and shown to have a strong two factor structure: aggression is unacceptable, and aggression is normal. The former

appears to represent a negative moral judgement of aggression, and the latter an understanding that aggression is an element of normal human behaviour that can be healthy. It seems plausible that both factors will be related in some way to evaluations of containment methods by nurses, with perhaps nurses who express more understanding of aggressive behaviour being less willing to use strongly coercive containment methods. A previous study has shown a gender difference in POAS scores in nursing students, with female students more likely to consider aggression unacceptable (Muro et al 2002). That same study showed no relationship between personality disorder in the nursing students and POAS scores.

Attitudes to personality disorder have been explored in depth, and results of both a questionnaire survey and a large number of interviews have been reported (Bowers 2002). He argues that nurses with a positive attitude to personality disorder are more able to manage their own emotional reactions to patients and their behaviour, particularly violent behaviour, manipulation and rule breaking. Evidence is assembled that such psychiatric professionals are more able to defuse tense situations and turn conflict into therapeutic opportunity. Those with a less positive attitude, however, were shown to think of containment methods like seclusion more in terms of punishment or 'consequences' for difficult behaviour, and to hanker for tighter, stricter rules for patients. Attitude to personality disorder was measured in that study with the Attitude to Personality Disorder Questionnaire (APDQ), a scale with a robust five-factor structure: enjoyment, security, acceptance, purpose, and enthusiasm. In a subsequent study, high scores on the APDQ were shown to be associated with lower stress, lower burnout, better job performance, improved perception of managers and lower sickness rates (Bowers et al, 2003c). Changes in APDQ scores were linked to

organisational and individual events and experiences (Bowers et al, 2003c). Based on this previous evidence of a link between APDQ scores and cognition about containment (and practice around violence prevention), and as there is a link between personality disorder and the disturbed behaviour of inpatients (Hildebrand et al 2004), it seemed likely that there would be some relationship between APDQ and evaluation of containment methods. Personality disordered patients are highly challenging, elicit negative feelings and responses from staff (Morgan and Priest, 1991), are considered by nurses to be difficult to manage (Breeze and Repper, 1998), exhibit behaviours likely to harm themselves or others (World Health Organisation 1989), and are thus likely to be subject to containment measures.

2. Methods

2.1 Aim

To explore the associations between judgements about the relative merits of different containment methods used by psychiatric nurses, perceptions of aggression, and attitudes to personality disorder.

2.2 Design

A questionnaire survey was conducted.

2.3 Sample

All student psychiatric nurses attending lectures, between June and September 2002, at one UK University, for a three-year training programme leading to registration as qualified psychiatric nurses. This included groups of students at every stage of the training process and exposure to practice, from new starters through to those nearing final qualification.

2.4 Data collection

2.4.1 Instruments

A new questionnaire was devised, naming and defining each method of containment (Attitude to Containment Measures Questionnaire, ACMQ), and asking respondents to rate that method for acceptability, efficacy, safety for staff, safety for patients, dignified for patients and preparedness of the respondent to use that method (Bowers et al, 2004). Ratings were via a five point Likert scale, ranging from 'strongly disagree' to 'strongly agree'. The methods referred to in the questionnaire were those described in Table 1, in the order presented in Table 1. The presentation of familiar methods (from a UK point of view) were alternated with less familiar methods, and more severe methods alternated with less severe (in the opinion of the researchers) so as to reduce any tendency towards 'response set'. To accompany the questionnaire a set of two images for each containment method were produced, showing the equipment (e.g. syringe, leather straps, empty room, etc.) and its use. Faces of those pictured were pixelated to prevent any possible communication of emotion, positive or negative. The gender of all models of the patient subject to containment were male, to control for gender influence upon subjects' ratings. These pictures were

incorporated into the questionnaire in smaller black and white versions, and were displayed on a screen via overhead projector, in full colour versions, so that subjects could view them whilst ratings were made. For each containment method, ratings of overall approval are obtained by summing an individual's ratings of its acceptability, efficacy, etc. Overall ratings of containment as a whole (i.e. all methods together) are obtained by summing all scores for efficacy to produce an efficacy score, all for acceptability to produce an acceptability score, etc. Face validity of the scale is good, and it proved acceptable to users. The 11 containment methods and their definitions were checked with an expert group (The European Violence in Psychiatry Research Group) and refined, assuring content validity. The same items and definitions were used in a retrospective study of patients, and found to match with official records, providing evidence for criterion-related validity (Bowers et al 2003d). The Cronbach alpha for the scale was 0.93 in this study.

The Perception of Aggression Scale (Jansen et al 1997, Abderhalden et al 2002, Whittington & Higgins 2002) was used in a recently produced 10 item two-factor version. Each item provides a definition of aggression to which respondents are asked to rate their degree of endorsement, from 'strongly agree' to 'strongly disagree', via a five point Likert scale. Two scores are calculated, one for each factor (aggression is unacceptable, and aggression is normal). Extensive reliability and modelling of the POAS has taken place with large samples of nurses. Cronbach alpha's of the two factors are reported as 0.69 and 0.67, and retest reliabilities of 0.77 and 0.76 (Needham et al, 2004). The Cronbach alpha for these two subscales in the current study were 0.70 and 0.73 respectively.

The Attitude to Personality Disorder Questionnaire (APDQ) contains 37 affective statements about Personality Disorder patients, and respondents are asked to report the frequency of their feelings on a six point Likert scale ranging from 'never' to 'always'. This scale has five factors: enjoyment (positive feelings towards patients), security (feelings of safety and lack of anxiety), acceptance (absence of anger, irritation and alienation from patients), purpose (a sense of meaningfulness in working with patients), and enthusiasm (a sense of energy). Separate factor scores are produced, plus a total attitude score which equally weights each factor. A Cronbach alpha of 0.94 for the total score has been reported, and test-retest reliabilities for the total and subscale scores range from 0.72 – 0.85. The scale has been shown to relate in predicted ways to general health, work performance, burnout and perception of managers (Bowers 2002, 2003c), supporting its validity. The Cronbach alpha of the scale was 0.93 in this study.

2.4.2 Procedure

One lecture hour was booked with each group of students attending the University between June and September 2002. On entering each class, the researcher read out a standard explanation of the purpose and procedure of the research. Questionnaires were then distributed, and following the completion of demographic items, each containment method was presented in turn by the reading of the definition for the method, and the presentation of the images via overhead projector. The order of presentation was the same for all groups. As part of the same questionnaire pack, subjects were then asked to complete the POAS and the APDQ.

2.5 Ethical considerations

The Senate Ethics Committee of City University approved the study, and permission to approach students for participation in research was given by the Dean of the School.. Students were free to decline to participate, without consequence for them, at any stage of the data collection. Following data collection time was allowed for discussion with the researcher to resolve any strong feelings that had been aroused. Information on local services' use (or not) of these containment methods was then provided.

2.6 Data analysis

An exploration of the associations between the scores of the three questionnaires was conducted by assessing their degree of correlation. Ten of the ACMQ variables were significantly non-normal by the Kolmogorov-Smirnov test (the most approved methods had scores skewed in the direction of greater approval, and the least in the direction of greater disapproval), and could not be substantially improved by any transformation. In addition, five out of the eight factor scores of the POAS and APDQ were not normally distributed (POAS factor 1 and APDQ factor 1 were positively skewed, APDQ factors 3, 4 and 5 were negatively skewed), as assessed by Kolgorov-Smirnov tests. Spearman's test (a non-parametric alternative to Pearson correlations) was therefore used to identify significant correlations between scores.

The data were then examined to see if there were any trends over the training period (i.e. did any scores increase or decrease with duration of training). One-way ANOVA

with polynomial trend analysis was used to explore scores on the POAS and APDQ. Levene's test for homogeneity of variance was satisfactory for all variables, but as just over half were not normally distributed, Kruskal-Wallis non-parametric tests were also performed as a more conservative check upon the findings

3. Results

A total of 114 students from nine cohorts participated in the study. The modal age group was under 30 years, and 61% were female. The pattern of recruitment to training at this University meant that 72% of the subjects were of a Black African ethnic background, 13% white European, and 15% from a range of six other ethnic backgrounds. There were no significant differences in APDQ or POAS scores by age group, ethnicity, or gender.

3.1 Perceptions of aggression and containment

Students who rated aggression as unacceptable (POAS factor 1) also approved of Time Out ($r_s = 0.23$, $p = 0.015$) and they assessed containment methods as safer for staff ($r_s = 0.18$, $p = 0.051$). However students who rated aggression as normal (POAS factor 2) were less likely to approve of Psychiatric Intensive Care ($r_s = -0.25$, $p = 0.007$) and more likely to approve of Net Beds ($r_s = 0.19$, $p = 0.046$).

3.2 Attitude to personality disorder and containment

Those students who expressed a greater overall positive attitude (APDQ total score) were very much more likely to approve of Intermittent Observation ($r_s = 0.28$, $p = 0.003$). Students who rated their enjoyment of working with people with personality disorder (APDQ factor 1) expressed greater approval of Physical Restraint ($r_s = 0.2$, $p = 0.043$), Intermittent Observation ($r_s = 0.37$, $p < 0.001$), Continuous Observation ($r_s = 0.32$, $p = 0.001$), and Open Area Seclusion ($r_s = 0.22$, $p = 0.025$). They also considered containment overall more acceptable ($r_s = 0.2$, $p = 0.038$), safer for staff ($r_s = 0.31$, $p = 0.001$), safety for patients ($r_s = 0.23$, $p = 0.019$) and rated themselves as more prepared to use containment methods ($r_s = 0.24$, $p = 0.016$).

Students who felt more secure and less anxious in working with personality disordered patients (APDQ factor 2) were more likely to approve of Continuous Observation ($r_s = 0.2$, $p = 0.045$), and consider containment safer for patients ($r_s = 0.2$, $p = 0.047$). Approval of Intermittent Observation was associated with students' acceptance and lack of anger towards patients with a personality disorder (APDQ factor 3; $r_s = 0.22$, $p = 0.025$), and associated with a greater sense of purpose in working with them (APDQ factor 4, $r_s = 0.36$, $p < 0.001$). Students who rated themselves as more energetic and enthusiastic in working with personality disordered patients (APDQ factor 5) were less likely to approve of Time Out ($r_s = -0.25$, $p = 0.01$).

3.3 Perceptions of aggression and attitude to personality disorder

Students who considered aggression to be unacceptable (POAS factor 1) were less likely to have a positive overall attitude to personality disorder (APDQ total score; r_s

= - 0.19, $p = 0.046$) and less likely to be accepting of personality disordered patients (APDQ factor 3; $r_s = - 0.2$, $p = 0.042$).

A full correlation matrix provided in Table 2.

3.4 Trends over the training period

Examination of APDQ and POAS factor scores by cohort using one-way ANOVA revealed significant differences over the duration of training for students' enjoyment in working with personality disordered people (APDQ factor 1; $F = 3.34$, $df = 8$, 97 , $p = 0.002$; Kruskal-Wallis chi square = 20.76, $df = 8$, $p = 0.008$). Further polynomial analysis revealed a significant linear trend towards reduced enjoyment scores with increasing duration of training ($F = 6.61$, $df = 1$, 104 , $p = 0.012$). This trend can be clearly seen in the means plot provided in Chart 1. No other scores showed significant differences between cohorts or trends over training duration.

4. Discussion

Relationships were found between all three scales, and for one scale a linear trend over duration of training was discovered. However, as with any correlational study, these results are susceptible to a number of different interpretations. Nevertheless, they raise important questions, and suggest new avenues for enquiry.

The positive link found between attitude to personality disorder and approval of containment was unexpected. The researchers had anticipated that the reverse would be the case, given the evidence for an association between a punitive ideology and negative attitude to personality disorder. However when these associations are inspected more closely, it can be seen that this positive association is accounted for by strong correlations between APDQ enjoyment and intermittent and continuous observation, and to a lesser degree by correlations with open area seclusion and physical restraint. Perhaps what these containment methods have in common is interpersonal contact with the patient, whereas none of the other methods (e.g. seclusion, time out, mechanical restraint) imply that. Therefore these correlations may be flowing out of a therapeutic concept of containment, one where the self is wielded in a relationship with the person needing to be contained in order to promote calm and safety. Should this be the case, this represents a challenge to those criticising the use of special observation (Cutcliffe & Barker 2002, Bowles & Dodds 2001), as they may be campaigning for the eradication of what nurses who enjoy working with difficult patients see as a therapeutic resource.

The association between high APDQ security and a consideration of containment methods as safe for patients is interesting. It would be more logical if this correlation was between APDQ security and consideration of containment methods as safe for staff. This link between feelings of personal vulnerability with patients and assessment of containment methods as unsafe for patients (to phrase the correlation the other way round) may be because of anxiety about complaints or untoward incidents, which are a feature of our culture of defensive psychiatry. Alternatively, the two variables may be linked via staff's personality, for it is known that low APDQ

security is associated with high neuroticism (Bowers et al 2003c). Unpacking these associations in future research will be important, as anxiety may impair the ability to deal with crises, result in an overly rapid deployment of containment measures, and itself be a result of previous violent incidents in which the staff member has been a victim (Ray and Subich 1998).

The moralistic judgment and rejection of violence as represented by POAS factor 1 (aggression is unacceptable) was, worryingly, positively related to judgments of containment measures as being safe for staff, perhaps indicating a willingness to use them based upon angry feelings towards patients. This factor of the POAS was also inversely related to APDQ total score and APDQ acceptance. The APDQ acceptance factor is itself based upon items sensitive to the expression of angry feelings about patients and their behaviour. The nexus of relationships around containment use and anger is as worthy of detailed further investigation as that around anxiety. Some have argued that containment measures are sometimes used, not to promote safety, but to quell patients whose behaviour irritates the staff (Vorselman 2003). These results indicate the need for further study of a qualitative nature about staff thoughts about and feelings towards containment measures.

Robust evidence exists from other studies (Bowers 2002, Bowers et al 2003c) that positive APDQ scores are not only linked to better outcomes for staff (e.g. stress, burnout and sickness), but that they indicate a higher degree of moral commitment, better skills at self management of emotional responses to patients, greater psychological understanding of patient behaviour, better team working, greater psychosocial skills, and a realisation of the importance of an effective and ethical

social structure for patients. The finding that APDQ enjoyment declined with duration of training was disappointing, and may indicate that mental health nurse training, and its associated exposure to the widespread culture of negativity towards personality disordered patients (Gallop et al, 1989, Morgan and Priest 1991), are damaging. Our previous studies provide differing evidence. The most recent evidence shows that brief introductory courses have a positive impact (Miller and Davenport 1996, Bowers et al 2003), however our previous interviews of nurses suggested a more ambiguous situation, with some training being positive, and some the opposite (Bowers 2002).

5. Conclusions and limitations

The findings reported here should be treated with a degree of caution. The sample was drawn from one University and may not be generally representative. APDQ and POAS responses were required from student nurses at all stages of their training, including those in the first year. Although first year students are likely to have had established views of some kind about aggression, they may not have had any firm idea or concept of personality disorder, making their responses on the APDQ somewhat speculative. The data was not entirely consonant with the assumptions required for ANOVA and polynomial trend analysis, although nonparametric analysis was strongly confirmatory of the ANOVA findings. In addition, to explore the data a large number of correlation tests were utilised, and this is likely to have increased the risk of type 1 error.

Nevertheless, the overall pattern of associations makes some sense, and raises important questions for future research. Unpicking the relationships between nurses' feelings towards patients, particularly those of anger and fear, and their use of containment methods, may enable us to devise ways to assist nurses to reduce their reliance upon containment and coercion. Understanding how those feelings are generated and managed over the course of nurse education has the capacity to inform the ways in which we train students in the prevention and management of violence and other challenging behaviours. These are important issues for further research.

6. References

Abderhalden C., Needham I., Friedli T.K., Poelmans J. & Dassen T. (2002) Perception of aggression among psychiatric nurses in Switzerland. *Acta Psychiatrica Scandinavica* 106, 110–117

Bowers, L. (2002) *Dangerous and Severe Personality Disorder: Role and Responsibilities of the Psychiatric Team*. London: Routledge.

Bowers, L., Alexander, J. and Gaskell, C. (2003a) A Controlled Trial Of An Intervention To Reduce Absconding From Acute Psychiatric Wards. *Journal of Psychiatric and Mental Health Nursing* 10:410–416

Bowers, L., Callaghan, P., Nijman, H., Paton, J., Carr-Walker, P., Allan, T., Simpson, J. (2003c) The Right People for the Job: choosing staff that will adjust positively and

productively to working in the new personality disorder (PD) services. Report to the Home Office. London: City University.

Bowers, L., Jarrett, M. Clark, N., Kiyimba, F. & McFarlane, L. (1999a) 3. Absconding: outcome and risk. *Journal of Psychiatric and Mental Health Nursing* 6(3)213-218

Bowers, L., Nijman, H. and Alexander, J. (2003b) Managing violence in psychiatry: a European perspective. *Rivista Sperimentale di Freniatria* CXXVII, N.2, pp 143-154

Bowers, L., Simpson, A. and Alexander, J. (2003d) Patient-staff conflict: results of a survey on acute psychiatric wards. *Social Psychiatry and Psychiatric Epidemiology* 38:402-408

Bowers, L., Simpson, A., Alexander, J., Ryan, C. and Carr-Walker, P. (2004) Cultures of psychiatry and the professional socialization process: the case of containment methods for disturbed patients. *Nurse Education Today* 24:435-442

Bowers, L., Whittington, R., Almvik, R., Bergman, B. Oud, N. & Savio, M. (1999b) A European perspective on psychiatric nursing and violent incidents: management, education and service organisation. *International Journal of Nursing Studies* 36:217-222

Bowles & Dodds (2001) Dismantling formal observation and refocusing nursing activity in acute inpatient psychiatry *Journal of Psychiatric and Mental Health Nursing* 8:173-188

Breeze, J. A. and Repper, J. (1998) Struggling for control: the care experiences of 'difficult' patients in mental health services. *Journal of Advanced Nursing* 28(6)1301-1311

Carmel H and Hunter M. (1989) Staff injuries from inpatient violence. *Hospital and Community Psychiatry* 40(1): 41-46

Cutcliffe & Barker (2002) Considering the care of the suicidal client and the case for 'engagement and inspiring hope' or 'observations' *Journal of Psychiatric and Mental Health Nursing* 9:611-62

Gallop, R., Lancee, W. J., Garfinkle, P. (1989) How nursing staff respond to the label 'Borderline Personality Disorder'. *Hospital and Community Psychiatry* 40:815-819

Hildebrand M, de Ruiter C & Nijman HLI. (2004) PCL-R psychopathy predicts disruptive behaviour among male offenders in a Dutch forensic psychiatric hospital. *Journal of Interpersonal Violence*, 19, 13-29.

Jansen, G., Dassen, T., and Moorer, P. (1997) The Perception of Aggression. *Scandinavian Journal of Caring Science* 11: 51-55

Miller, S. A. & Davenport N. C. (1996) Increasing staff knowledge of and improving attitudes toward patients with borderline personality disorder. *Psychiatric Services* 47(5)533-535.

Morgan, H.G. and Priest, P. (1991) Suicidal and Other Unexpected Deaths Among Psychiatric In-Patients. *British Journal of Psychiatry* 158:368-374

Muro C, Tomas C, Moreno L, Rubio V. (2002) Perception of aggression, personality disorders and psychiatric morbidity in nursing students *Acta Psychiatrica Scandinavica* 106 (Suppl. 412): 118–120.

Needham (2004) The perception of aggression by nurses: psychometric scale testing and derivation of a short instrument. *Journal of Psychiatric and Mental Health Nursing* 11:36-42

Nijman, H., Palmstierna, T., Almvik, R. and Stolker, J. (2004) Fifteen years of research with the Staff Observation Aggression Scale: A review. *Acta Psychiatrica Scandinavica* 108:1-10

Ray. L. M. Subich C. L. (1998) Staff assaults and injuries in a psychiatric hospital as a function of three attitudinal variables. *Issues in Mental Health Nursing* 19(3): 277-89

Vorselman, A. (2003) Seclusion, Fixation and Medication: The application of coercive measures in adult psychiatry internationally compared. Final thesis: Public

Administration and Public Policy - European Studies, University of Twente, the Netherlands.

Whittington R, and Wykes T. (1992) Staff strain and social support in a psychiatric hospital following assault by a patient. *Journal of Advanced Nursing* 17: 480-486

Whittington R. & Higgins L. (2002) More than zero tolerance? Burnout and tolerance for patient aggression amongst mental health nurses in China and the UK. *Acta Psychiatrica Scandinavica* 106, 37–40

World Health Organisation, (1989) Tenth Revision of the International Classification of Diseases, Chapter V (F), Mental and Behavioural Disorders (Including Disorders of Psychological Development). Geneva: WHO

Table 1: Definitions of Containment Methods

1	PRN medication	Medication given at the nurses' discretion in addition to regular doses, by any route, and accepted voluntarily.
2	Physical restraint	Physically holding the patient, preventing movement.
3	Intermittent observation	An increased level of observation, of greater intensity than that which any patient generally receives, coupled with allocation of responsibility to an individual nurse or other worker. Periodic checks at intervals.
4	Seclusion	Isolated in a locked room.
5	Time out	Patient asked to stay in room or area for period of time, without the door being locked.
6	IM medication	Intramuscular injection of sedating drugs given without consent.
7	PICU	Transfer to a specialist locked ward for disturbed patients.
8	Mechanical restraint	The use of restraining straps, belts or other equipment to restrict movement.
9	Constant observation	An increased level of observation, of greater intensity than that which any patient generally receives, coupled with allocation of responsibility to an individual nurse or other worker. Constant: within eyesight or arms reach of the observing worker at all times.
10	Net bed	Patient placed in a net bed enclosed by locked nets, which he or she is unable to leave.
11	Open area seclusion	Isolated in a locked area, accompanied by nurses.

Chart 1: Means plot of APDQ enjoyment scores by cohort start date

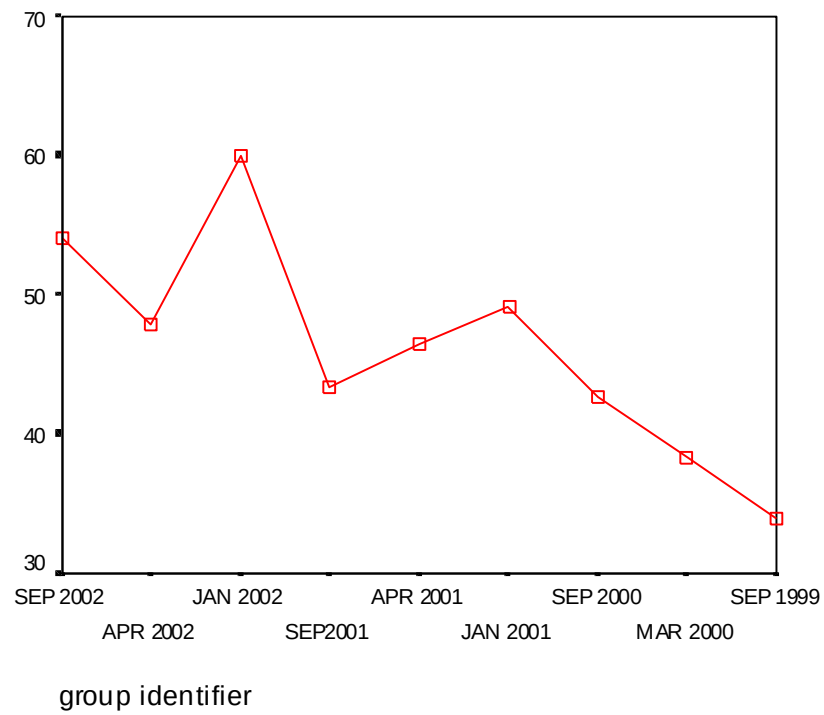


Table 2 Spearman Correlation Matrix of APDQ, POAS and ACMQ

	APDQ Total	APDQ Enjoyment	APDQ Security	APDQ Acceptance	APDQ Purpose	APDQ Enthusiasm	POAS Unacceptable	POAS Understanding
PRN approval	0.09	0.13	0.15	0.10	0.00	0.02	-0.09	0.02
Physical restraint approval	0.08	0.20*	0.07	0.01	0.08	-0.02	-0.03	0.06
Intermittent observation approval	0.29**	0.37**	0.18	0.22*	0.36**	0.07	-0.15	0.18
Seclusion approval	0.05	0.03	0.03	0.00	0.07	0.08	-0.05	-0.08
Time out approval	-0.03	0.05	-0.05	-0.02	0.11	-0.25**	-0.23*	0.00
Compulsory IM approval	0.11	0.13	0.14	0.12	0.11	-0.04	-0.09	0.13
PICU approval	0.08	0.07	0.08	-0.06	0.12	0.02	-0.07	0.25**
Mechanical restraint approval	-0.02	0.06	-0.01	0.05	-0.07	-0.12	-0.09	-0.16
Continuous observation approval	0.19*	0.32**	0.20*	0.13	0.17	-0.05	-0.17	0.07
Net bed approval	0.05	0.05	0.06	0.08	-0.01	0.01	0.04	-0.19*
Open area seclusion approval	0.14	0.22*	0.14	0.14	0.17	-0.05	0.05	-0.01
Efficacy total	0.03	0.13	0.10	0.01	0.02	-0.14	-0.12	-0.03
Acceptability total	0.15	0.20*	0.15	0.08	0.15	0.01	-0.12	0.14
Dignified total	0.19*	0.17	0.15	0.13	0.16	0.07	-0.08	0.11
Safe for staff total	0.12	0.31**	0.08	0.13	0.13	-0.12	-0.19*	-0.08
Safe for patients total	0.18	0.23*	0.20*	0.13	0.17	0.00	-0.07	-0.04
Prepared to use total	0.13	0.23*	0.15	0.12	0.15	-0.06	-0.04	-0.03
APDQ Total							0.19	-0.08
APDQ Enjoyment							0.11	-0.10
APDQ Security							0.18	-0.06
APDQ Acceptance							0.20	-0.12
APDQ Purpose							0.10	0.01
APDQ Enthusiasm							0.20	-0.08
POAS Unacceptable	0.19*	0.11	0.18	0.20*	0.10	0.20		
POAS Understanding	-0.08	-0.10	-0.06	-0.12	0.01	-0.08		

* Correlation is significant at the .05 level (2-tailed).

** Correlation is significant at the .01 level (2-tailed).