



OHSSIG PROJECT REPORT

Impact of training in the management of aggression on incidence and severity of reported incidents.

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INTRODUCTION

Violence in the workplace has become a major problem in health care settings (1,2) with a variety of factors contributing to this including employee, organisational and patient factors. Health and safety legislation requires staff to receive information, instruction and training in relation to significant hazards. Training in management of aggression is a requirement for employers where a risk of violence exists. Within NHS Argyll and Clyde two different methods of training are provided. This provides an opportunity to investigate the benefit of training and specific training methods. Though it is assumed that training is of use, a review of interventions in the workplace identified a need for more rigorous research (3). Some studies have identified a benefit from training in terms of reduction in accident rates (4,5). Other studies have identified an increase in knowledge but no changes in safety or confidence (6). As such it is important to ensure that training provided is of benefit. This study not only investigated the incidence of reported injuries but also investigated the attitude of staff following training to identify any benefit in confidence and anxiety when dealing with incidents.

METHODS

The training records for management of aggression from all three NHS Trusts that now form NHS Argyll and Clyde were collated.

Incidents were thought to be recorded on an IR1 record system by each Trust that recorded rates of incident reporting and severity of outcome. Incidents recorded in April 2000 to March 2003 were used.

The rate of incident reporting and severity of injury were linked to the training records to identify a rate for those who have received training and rates for those who have been trained by each method. The rate of incident and severity of outcome for those who have not received training from April 1999 to March 2001 was calculated.

A survey of staff was undertaken to investigate the effect of training on anxiety and confidence by means of a questionnaire. The questionnaire utilised questions in the NHS Scotland Staff Survey with additional questions added to investigate attitudes following training and perception of benefit from training. The questionnaire was piloted in another NHS area for content validity before use within this project.

The proposal and key aims associated with this study are listed below.

AIMS AND OBJECTIVES

- 1) To identify all those trained in management of aggression within NHS Argyll and Clyde over a 2-year period (April 1999 – March 2001).
- 2) To identify all incidents reported to employers on incident reports (IR1) involving aggression and violence (April 2000 – March 2002).
- 3) To compare the incidence and severity of injury in trained and untrained staff.
- 4) To survey those staff who have received training to investigate the effect of training on anxiety and confidence by means of a questionnaire.
- 5) To recommend any changes to training packages to facilitate a safer workplace.

OUTLINE OF PROJECT MILESTONES

- 1) Training records for all 3 NHS Trusts were reviewed to identify those who have received management of aggression training since April 1999.
- 2) The Health and Safety/ Risk departments reviewed reported incidents for two consecutive years and identify all reported incidents of violence and aggression involving staff.
- 3) The training records identified individuals who were trained and the rate of reported incidents was summarised for this sub-group of the workforce. The other reported incidents were summarised and a rate of reported incidents in the untrained workforce calculated for comparison.
- 4) A cross-sectional questionnaire survey was undertaken on those who have been trained since April 1999 (Questionnaire – Appendix 1).
- 5) Those who were trained were invited to complete the questionnaire, which only had a code number to link to the staff list, which was used to send reminders to those who do not respond within 4 weeks to the initial questionnaire. The data file linking the trained staff and respondents was destroyed after the questionnaires had been returned following the initial and reminder requests to staff.

- 6) The questionnaires were returned to the Clinical Development Centre, Dykebar Hospital, who transferred the responses to a database without any personal identifying data.
- 7) This database was provided to the study team to interrogate and summarise the findings.

STATISTICAL METHODS

- 1) Rates of incidents of violence and aggression were calculated for those who received training and the rest of the Trust workforces.
- 2) Differences in rates were analysed to detect any significance using Confidence Interval Analysis and SPSS for Windows.
- 3) The responses to the questionnaire were summarised using descriptive statistics.
- 4) Differences in response were analysed for type of training and length of training using SPSS for Windows.
- 5) The responses were also used to describe staff suggestions for items for inclusion in training.

RESULTS

In the 2-year period April 1999 to March 2001 training records were identified for 350 staff. These staff were located in the Argyll and Clyde Acute Hospitals NHS Trust (100), Lomond and Argyll Primary Care NHS Trust (LAPCT) (243) and Renfrewshire and Inverclyde Primary Care NHS Trust (RENVER) (7).

Additional staff in later years were identified and added to this number to increase the total number of staff who had undergone training that were surveyed using the questionnaire. 724 staff were sent questionnaires.

Due to the small number trained in RENVER in the two year period there was no benefit in linking the training records to incident data. In addition, there were difficulties experienced in extracting data from a previously used incident recording database in the Acute Trust which meant that linkage could not be undertaken for the 100 trained staff. This resulted in linkage between training records and incidents of violence and aggression being undertaken for the LAPCT trained staff and compared to the untrained staff.

There were 572 questionnaires returned (79% response rate). Complete responses were provided for 378 questionnaires (66% of those returned). These 378 questionnaires were included in the analysis of attitudes following training.

Linkage between Training and Rates of Injury (LAPCT).

The total number of employees in LAPCT was 1800. 243 were trained with 1557 untrained in the two-year period. There were 164 incidents of verbal abuse and 247 of physical abuse recorded for the two years under study. 44 verbal abuse incidents occurred involving trained staff and 74 physical abuse incidents recorded among trained staff.

The annual rates of reported verbal and physical incidents for all, trained and untrained staff is provided in Table 1. The difference in rates between trained and untrained staff and 95% confidence intervals are also included in Table 1. Trained staff had a higher rate of reporting of verbal and physical incidents compared to untrained staff. Prior to having been trained the trained staff only reported 14 physical incidents and 16 verbal incidents (1999 to 2001) suggesting a change in behaviour following training.

Absence following incidents occurred in 5 cases. The total absence was 13 days. 2 episodes of 1 day each occurred in trained staff. 3 episodes (7,3 and 1 day) occurred in untrained staff.

Questionnaire Responses.

There were 378 questionnaires completed with responses in the section on the perceived benefit of training. This response rate was similar by Trust and major occupational groups. An age –gender breakdown is provided in Table 2 for 378 who provided this information. The employer and staff group are summarised in Table 3. It is of note that only 6 medical/ dental staff were trained in the two years. 91% of those trained in LAPCT and the Acute Trust has one or less days training. 97% of RENVER trained staff were trained for 2 or more days (Table 4). There were differences in numbers trained by department – for example, only 16 A&E staff were trained where risk of physical assault is high compared to 56 community staff where lone working occurs but the rate of physical assault is low (Table 5).

Training resulted in injury in 9 cases (2.4%) (Table 6). More than half of those injured were on a RENVER training course despite only 10% of those surveyed attending such training. None of these injuries in RENVER trained staff resulted in time away from the course and are thought to have been minor.

55% of staff who had attended training indicated that it had changed their reporting behaviour (Table 7). This may account for the increase in reporting noted from the linkage part of this project. An increased awareness of violence and aggression was also identified from the responses (Table 8).

The training appeared to have a positive impact in reducing anxiety dealing with violence and aggression in 67% of respondents (Table 9) and improved staff confidence in 81% of respondents (Table 10). It also resulted in improved breakaway and restraint techniques in 75% of staff trained (Table 11) but 12% considered that after training they were more likely to cause injury to patients (Table 12).

FURTHER TRAINING NEEDS

Staff responses to questions about further training needs (Table 13) indicated that the top 3 needs were:

- (1) Workplace risk assessment
- (2) De-escalating techniques
- (3=) Breakaway/Restraint techniques
- (3=) Part-trauma reactions
- (3=) Part-incident self care and support

When further training needs were analysed by original length of training (Table 14) differences were noted in response by length of training for specific needs. However the small number of staff trained for half a day and 2,3, or 5 days limits interpretation of trends. Those who had a half days training were less likely to be in clinical risk situations and excluded from further analysis. Staff who had received one days training were compared to staff who had received 2,3 or 5 training (Table 15).

The needs summarised in this way identified some interesting differences. The proportion of those who had one-day training sought more training on reporting of incidents than those who had 2,3 or 5 days training. Those who had 2,3 or 5 days training sought more training on causes of aggression, controlling ones own feelings, post-trauma reactions, post-incident self-care and workplace risk assessment, than those who had one days training. Statistical analysis indicted only further training in controlling own feelings and post-incident self care were significantly different between the two groups (Table 15).

At first sight this would suggest that one-day training was better at meeting staff needs. However, it should be remembered that the staff with longer training were from a group with a higher risk of violence at work and as such cannot be directly compared to the staff who had one days training. It will be important to match training to the level of risk. Any modification to training in high-risk situations may be able to consider these responses.

DISCUSSION

This report has highlighted a number of different points. The investigation that linked training to incident records has identified a significant difference in reported verbal abuse and physical assault incidents between trained and untrained staff was greater for physical assault incidents.

The trained staff had changed reporting behaviour from that prior to training. This was acknowledged in questionnaire responses.

This will require to be considered when setting targets for reductions in incident rates at work. The overall number of incidents will increase after providing training. It may be necessary to have a more specific definition of incidents that would be used e.g. examine the trend in RIDDOR reportable incidents recorded in NHS minimum dataset returns.

It is unfortunate that linkage between training in RENVER and incident rates was unable to be done due to the limited amount of training during the period of study. This would have allowed for an objective comparison of outcomes.

The questionnaire responses indicated reduced anxiety and increased confidence after training. There was also improvement in restraint and breakaway techniques following training according to respondents.

Despite these positive benefits of training, the increased reporting of physical assaults would suggest that the perceived benefit is not followed by reduced rates of reporting of physical assaults.

This may be because the staff have been trained to report more consistently. Investigations of RIDDOR reportable incidents may be necessary to clarify if more serious incidents are reduced following training. This is a suitable subject for further study.

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Table 1: Rates of verbal and physical abuse in trained and untrained staff (LAPCT)

LAPCT V&A Incidents and Training	Trust	Trained	Untrained		
Employee Numbers	1800	243	1557		
Verbal Abuse (2 years)	164	44	120		
Physical Abuse (2 years)	247	74	173		
Annual Rate of Reported Verbal Incidents	4.6/100	9.0/100	3.9/100		
95% CI		6.1-13.3/100	3.0-4.9 /100		
Difference and CI				5.1/100	2.0 – 9.5/100
Annual Rate of Reported Physical Incidents	6.9/100	15.2/100	5.6/100		
95% CI		11.3 – 20.3/100	4.6-6.9/100		
Difference and CI				9.6/100	5.5 – 14.8/100

Table 2: Age- gender distribution of respondents to questionnaire

Age	Gender		Total
	Male	Female	
16 to 25	2	8	10
26 to 35	12	66	78
36 to 45	16	96	112
46 to 55	8	137	145
56 to 65	5	33	38
TOTAL	43	340	383

Table 3: Employer and Staff Group

Staff Group	Training Trust			Total
	Acute	Renver	L & A PCT	
Admin & clerical	6		28	34
Ancillary	11	3	9	23
Maintenance / estates			1	1
Medical / dental			6	6
Nursing / midwife (UKCC Reg)	53	20	103	176
Nursing / midwife (support)	11	11	52	74
Qualified PAM	12	2	32	46
PAM non-qualified	6	1	7	14
Scientific & technical			2	2
Senior Manager			1	1
Practice Manager			1	1
TOTAL	99	37	242	378

Table 4: Duration of Training by Trust

Training Trust	Length of training					Total
	Half day	One day	Two days	Three days	Five days	
Acute	7	78	7	1	5	98
Renver	1		10	15	10	36
L & A PCT	12	210	13	2	1	238
TOTAL	20	288	30	18	16	372

Table 5: Department where staff worked

Department	Training Trust			Total
	Acute	Renver	L & A PCT	
Community	9	3	44	56
Mental Health	18	24	68	110
Learning disabilities		1	2	3
Maternity	15		8	23
Medical	13		27	40
Surgical	13		9	22
Casualty / trauma / OP	7		9	16
Clinical services - radiology, labs etc.	6		3	9
Care of elderly / long stay	13	6	46	62
Estates			2	2
Hospital admin	2		8	10
Rehabilitation		2	3	5
Palliative care			3	3
All departments	2	1	6	9
Paediatrics	1		1	2
Other			1	1
TOTAL	99	37	240	376

Table 6: Injury during training

Injured During Training	Training Trust			Total
	Acute	Renver	L & A PCT	
No	97	32	238	367
Yes	1	5	3	9
TOTAL	98	37	241	376

Table 7: Change in Reporting Behaviour

Staff Group	Changed my reporting behaviour		Total
	No	Yes	
Admin & clerical	11	19	30
Ancillary	6	16	22
Maintenance / estates	1		1
Medical / dental	4	2	6
Nursing / midwife (UKCC Reg)	80	85	165
Nursing / midwife (support)	22	48	70
Qualified PAM	27	13	40
PAM non-qualified	6	6	12
Scientific & technical	1	1	2
Senior Manager		1	1
TOTAL	158	191	349

Table 8: Change of Awareness of Violence and Aggression

Staff Group	Changed my awareness of V & A		Total
	No	Yes	
Admin & clerical	4	29	33
Ancillary	1	22	23
Maintenance / estates	1		1
Medical / dental	2	4	6
Nursing / midwife (UKCC Reg)	48	123	171
Nursing / midwife (support)	8	65	73
Qualified PAM	7	35	42
PAM non-qualified	1	13	14
Scientific & technical		2	2
Senior Manager		1	1
Practice Manager		1	1
TOTAL	72	295	367

Table 9: Reduced anxiety following training

Training Trust	Reduced my anxiety Dealing with V & A		Total
	No	Yes	
Acute	34	61	95
Renver	14	23	37
L & A PCT	73	158	231
TOTAL	121	242	363

Table 10: Improved confidence following training

	Improved my confidence dealing with V &A		Total
	No	Yes	
Training Trust			
Acute	12	79	91
Renver	9	28	37
L & A PCT	45	188	233
TOTAL	66	295	361

Table 11: Improved restraint/ breakaway techniques

	Improved restraint/ breakaway techniques		Not applicable No restraint training	Total
	No	Yes		
Training Trust				
Acute	27	63	1	91
Renver	5	30	0	35
L & A PCT	56	171	1	228
TOTAL	88	264	2	354

Table 12: Training made worker more likely to cause injury

	Made me more likely to cause injury		Total
	No	Yes	
Training Trust			
Acute	81	8	89
Renver	32	4	36
L & A PCT	194	28	222
TOTAL	307	40	347

Table 13: Training Trust and further training needs

	ACUTE	L & A PCT	RENVER	TOTAL
TOTAL	(N=78)	(N=196)	(N=32)	(N=306)
Causes of aggression	25 (32%)	46 (23%)	12 (38%)	83 (27%)
Types of incident	16 (21%)	49 (25%)	8 (25%)	73 (24%)
Potential for aggression	21 (27%)	56 (29%)	14 (44%)	91 (30%)
Circumstances increasing risk	21 (27%)	54 (28%)	11 (34%)	86 (28%)
Risk assessment situation	31 (40%)	62 (32%)	14 (44%)	107 (35%)
De-escalating techniques	36 (46%)	88 (45%)	18 (56%)	142 (46%)
Controlling own feelings	21 (27%)	63 (32%)	18 (56%)	102 (33%)
Breakaway/Restraint techniques	35 (45%)	88 (45%)	13 (41%)	136 (44%)
Inapp use of physical techniques	17 (22%)	52 (27%)	8 (25%)	77 (25%)
Post-trauma reactions	32 (41%)	85 (43%)	17 (53%)	134 (44%)
Reporting systems	28 (36%)	71 (36%)	7 (22%)	106 (35%)
Post-incident self care & support	37 (47%)	80 (41%)	18 (56%)	135 (44%)
Workplace risk assessment	38 (49%)	97 (49%)	22 (69%)	157 (51%)

Table 14: Length of training and further training needs

	HALF DAY	1 DAY	2 DAYS	3 DAYS	5 DAYS	TOTAL
TOTAL	(N=14)	(N=233)	(N=23)	(N=16)	(N=15)	(N=301)
Causes of aggression	2 (14%)	61 (26%)	8 (35%)	6 (38%)	5 (33%)	82 (27%)
Types of incident	2 (14%)	55 (24%)	5 (22%)	4 (25%)	4 (27%)	70 (23%)
Potential for aggression	1 (7%)	70 (30%)	8 (35%)	5 (31%)	5 (33%)	89 (30%)
Circumstances increasing risk	3 (21%)	64 (27%)	7 (30%)	6 (38%)	4 (27%)	84 (28%)
Risk assessment situation	6 (43%)	78 (33%)	9 (39%)	6 (38%)	6 (40%)	105 (35%)
De-escalating techniques	9 (64%)	108 (46%)	8 (35%)	10 (63%)	6 (40%)	141 (47%)
Controlling own feelings	6 (43%)	71 (30%)	9 (39%)	9 (56%)	6 (40%)	101 (34%)
Breakaway/Restraint techniques	4 (29%)	107 (46%)	9 (39%)	7 (44%)	7 (47%)	134 (45%)
Inapp use of physical techniques	3 (21%)	59 (25%)	7 (30%)	6 (38%)	1 (7%)	76 (25%)
Post-trauma reactions	4 (29%)	99 (42%)	13 (57%)	6 (38%)	8 (53%)	130 (43%)
Reporting systems	3 (21%)	90 (39%)	7 (30%)	2 (13%)	4 (27%)	106 (35%)
Post-incident self care & support	3 (21%)	97 (42%)	14 (61%)	9 (56%)	10 (67%)	133 (44%)
Workplace risk assessment	7 (50%)	114 (49%)	15 (65%)	9 (56%)	10 (67%)	155 (51%)

Table 15: Comparison of more training needs between staff trained for 1 day and those trained for 2,3 or 5 days.

	1 Day (N=233)	2, 3 or 5 Days (N=54)
Causes of aggression	61 (26%)	19 (35%)
Types of incident	55 (24%)	13 (24%)
Potential for aggression	70 (30%)	18 (33%)
Circumstances increasing risk	64 (27%)	17 (31%)
Risk assessment situation	78 (33%)	21 (39%)
De-escalating techniques	108 (46%)	24 (44%)
Controlling own feelings *	71 (30%)	24 (44%)
Breakaway/restraint techniques	107 (46%)	23 (43%)
Inapp use of physical techniques	59 (25%)	14 (26%)
Post-trauma reactions	99 (42%)	27 (50%)
Reporting systems	90 (39%)	13 (24%)
Post-incident self care **	97 (42%)	33 (61%)
Workplace risk assessment	114 (49%)	34 (63%)

* 14% difference, 95% confidence interval 0.1% - 28.3%

** 19% difference, 95% confidence interval 4.7% - 32.8%

PROJECT TEAM MEMBERS

The following team of NHS staff undertook this OHSSIG funded project:

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