The impact on work-related stress of mental health teams following team-based learning on clinical risk management

S. B. SHARKEY[1] & A. SHARPLES[2]

[1]*Department of Nursing & Midwifery, University of Stirling, Highland Campus, Inverness, and* [2]*Institute of Health and Community Studies, Bournemouth University, Bournemouth, UK*

Correspondence:
Siobhan B Sharkey
Department of Nursing &
Midwifery
University of Stirling
Highland Campus
Old Perth Road
Inverness IV2 3FG
UK
s.b.sharkey@stir.ac.uk

SHARKEY S. B. & SHARPLES A. (2002) *Journal of Psychiatric and Mental Health Nursing* **9**, ••–••

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Risk management is viewed as a systematic process based on multiprofessional and multi-agency decision-making. A learning pack was developed as part of a team-based learning project aiming to encourage and develop collaborative working practice. This brought different professionals and agencies working in mental health together to learn. There is little doubt that mental health practice is a source of stress for practitioners. Apart from the stress associated with managing 'risky' situations, risk management is also a relatively new concept. This can increase stress around ability to cope, both on an individual practitioner level and in teams. This article reports the impact that the learning pack had on team members' stress, specifically work-related stress. A range of scales were used to measure change in stress and results demonstrated reduced work-related pressure in a number of areas following the learning. The implications for team learning in relation to clinical risk management are discussed in light of the findings.

Keywords: clinical risk, evaluation, pre and post measures, team-based learning, work-related stress

Accepted for publication: 9 July 2002

Introduction

A learning pack on risk management in mental health was developed for use with clinical mental health teams and brought different professionals and agencies together to learn. The pack included a range of activities designed to enable participants to safely discuss and make decisions about risks in the mental healthcare context. The development of the pack commenced in Spring 1998 and was facilitated through collaboration with a large mental health provider in southern England, in conjunction with social services and the local voluntary sector working with people with serious and enduring mental health problems. The development of the learning pack is reported elsewhere (Sharkey & Sharples 2001, Sharkey *et al.* 2001). This article reports the impact that the learning pack had on team members' stress, specifically work-related stress. (The term 'risk management' is used throughout to include assessment and management.)

The pack

The draft learning pack comprised six sections, each of which had a corresponding group workshop facilitated by mental health trainers. A facilitator's (trainer's) pack was also provided. Each group workshop comprised a mix of facilitator-directed sessions, participant-led group discussions, presentations and feedback, as well as activities and

reading between workshops. Group workshops had a minimum of 4 weeks between them. Facilitators provided advice on clinically based activities between workshops. Group workshops lasted approximately $3^1/_2$ hours. The learning activity occurred in two localities and was run by the same two facilitators.

Evaluation phase

Following the development of the learning pack (Sharkey & Sharples 2001) a 6-month evaluation (pilot) was carried out.

The evaluation phase of the study had a number of aims, including identifying any impact on occupational stress of team members and any changes in knowledge and skills. The evaluation also aimed to identify problems with the delivery of the pack. This article reports the findings relating to occupational stress; other findings are reported elsewhere (Sharkey et al. 2001).

Models and sources of stress

The research team were interested in whether or not the learning pack helped reduce work-related stress among the mental health teams. Cooper's model of the dynamics of work stress has been cited as particularly useful in linking details of work stressors and their individual and organizational outcomes. (Cooper & Marshall 1976, Cooper 1981, Cox 1993) This model identifies sources of stress as: intrinsic to the job; role in the organization; relationships at work; career development; organizational structure and climate and home–work interface. (Cooper 1981) Kirkcaldy & Martin (2000) also emphasize the usefulness of Cooper's stress-model (Cooper et al. 1988), which identifies causes of work-related stress to include organizational roles, relationships with others, organizational structures and climate, where the effects of stressors can manifest themselves in mental and physical health problems and in lowered job satisfaction.

Fagin & Bartlett (1995) and Fagin et al. (1995) provide a useful model of stress that 'captures the dynamic and temporal elements of stress and sees it as a struggle between coping strategies and external "real world" pressures which impinge on individuals and have subjective and sometimes physical consequence' (Fagin & Bartlett 1995, p. 76). Their model is based on that proposed by Cooper et al. (1988), who developed the occupational stress indicator. Fagin et al. (1995) caution against assuming a causal link between external demands and stress. They propose that causes are often determined by the interaction of many components, both the intrinsic (what people do) and extrinsic (aspects of the job such as management structures,

goals, conditions, relationships) factors as well as the temporal aspects. These factors are well documented in the literature (Numberof & Abrams 1984, Cooper & Mitchell 1990, Carson et al. 1997, 1999, Baillon et al. 1999, Kirkcaldy & Martin 2000). Fagin & Bartlett (1995) also factor in the role of personality, particularly those aspects that influence confidence and esteem (increased stress being linked to type A personality). Moore & Cooper (1996) have found, for example, that GPs have more type A personalities than other health professionals, making them particularly vulnerable to stress. They go on to suggest that strategies such as 'insight-orientated training' need to be more fully understood in light of the particular stressors of working in mental health.

Many studies report similarities in the sources of stress and burnout in healthcare staff. Among these are issues relating to team relationships, type of clinical area and context of work, conflict between home and work pressures and confidence and competence in undertaking new roles and areas of care (Kennedy & Grey 1997, Dawkins et al. 1985, Nolan & Cushway 1995, Michie et al. 1996). Recently, Wall et al. (1997) found that health service workers reported significantly higher levels of psychiatric disorder associated with stress than the general population. In addition, nursing staff have been found to have the highest levels of pressure and high levels of psychiatric morbidity. (Rees & Cooper 1992, Wall et al. 1997, Baillon et al. 1999). Kirby & Pollock (1995) discuss the links between work pressure, lack of involvement in decision-making and a 'distancing' from personal involvement with clients and they link increased job satisfaction and good relationships to lower stress.

Moore & Cooper (1996) suggest that professionals who work in emotionally demanding environments have exacerbated experiences of stress and strain, and that mental health professionals are particularly vulnerable to severe emotional exhaustion and psychological tension, which they suggest are qualitatively different from other organizational stressors. They discuss the 'big three' in relation to an interactive model of stress: home, work and personality. Kirkcaldy & Martin (2000), in examining and assessing multiple job-related variables found that nursing professionals, for example, perceive most stress to be related to confidence and competency in role, home–work conflict and organizational involvement. They also found that stress is closely associated with demands imposed in interpersonal relationships.

There is little doubt of the intrinsic components of mental health practice as a source of stress for practitioners. Dunn & Ritter (1995) discuss stress moderators in relation to psychiatric nurses. They examine the role of social support, team support and role clarity in mitigating the stress-

ful effects of violence against staff or threats of violence. In examining the literature, they revealed uncertainty as to whether organizational support reduced stress. Dewe (1987) also examined the relationship between stressors and stress in over 2000 New Zealand nurses, identifying coping strategies used by nurses. He identified six dimensions: problem-orientated behaviours; unwinding strategies (in relation to colleagues); keeping problems to oneself; acceptance; resignation; and avoidance behaviours such as smoking, and drinking alcohol, tea and coffee. Edwards *et al.* (2000, 2001), in relation to community teams, link levels of stress to increased workload, administrative duties and lack of resources. For community mental health nurses in particular, they identify inappropriate referrals, safety issues, role conflict, role ambiguity and lack of support. In a companion report to the study, Burnard *et al.* (2000, p. 526) reported an emerging picture of community mental health nurses:

> . . . who perceive themselves to be overworked, struggling with considerable paperwork and administrative issues, having both too many clients and serious concerns about their client group.

Sources of stress have also been identified more directly by Coffey (1999) as 'managing difficult patients' and by Whittington & Wykes (1992) as minor acts of violence. Burnard *et al.* (2000) also identified client-centred issues such as concerns about safety of clients, nurses' safety and dealing with suicidal behaviour. They conclude that effects of stress can vary between mental and physical health problems and reduced job satisfaction. High absenteeism, poor job performance and reduced effectiveness are among the organizational consequences of stress.

Apart from the stress associated with managing 'risky' situations, crisis and dangerous clinical and social conditions, risk management is also a relatively new concept within which practitioners are being encouraged to frame their working practices. Dealing with new work systems, perhaps perceived as an employer's agenda, can raise practitioner anxiety around ability to cope, both on an individual level and in teams.

Education and risk management

Arguably, effective risk management systems should have a beneficial effect on practitioners working together in clinical and community settings; however, the role and impact of education in improving effectiveness or reducing work-related stress, is unclear (Department of Health 1998, Jordan *et al.* 1999). Brown *et al.* (1995) in a study of community psychiatric nurses' stressors, demonstrated that for the group of CPNs surveyed, not having an ENB course in

community psychiatric nursing was predictive of higher GHQ (general health questionnaire) scores, indicating increased mental and physical health problems. In addition, a number of factors have been identified in relation to stress. For example, work restructuring, better support and shorter hours were noted to reduce stress for junior doctors (Payne 1999). Improved clinical supervision and targeted education have also been identified as effective. (Moore & Cooper 1996, Cresswell & Firth-Cozens 1999) Effectiveness of teamwork was also found to be positively related to job satisfaction and mental health of team members (Carter & West 1999). [5]

Risk management is dependent on good communication between team members, clear identification of client needs and available resources, including which professionals need to do what, when and how often. Managing crisis and risk brings mental health practitioners into situations that can have negative consequences for both themselves and service users, for example violence, physical safety issues, verbal threats and distressing events such as suicide or self-harm. Education about risk management should therefore aim to bolster the coping mechanisms that practitioners use to deal with these sorts of stressful situations. Jones & Johnson (2000), when discussing programmes to reduce [6] stress in clinicians, recommend multilevel programmes that attempt to reduce problematic elements of the psycho-social work environment. They identify a range of adaptive changes in problem-solving, self-management skills, affective well-being and work performance as a result of educational interventions. Parry-Jones *et al.* (1998) suggest that being able to control stress factors, such as heavy workloads and caseloads, work relationships, aspects of relationships with service users, and lack of time, staff and resources, as well as administrative activities, are important aspects in stress reduction. The learning pack aimed to facilitate development of individual and team skills in coping with stressful events at work and was evaluated on the extent to which it reduced work-related stress for the group of learners.

In summary, key factors in relation to role and performance include stress levels, coping strategies and relationships with colleagues. It makes sense therefore to have expectations that education and learning about clinical risk assessment and management will have a positive impact on stress levels and coping (among other outcomes such as changes in practices). Following a period of learning in relation to risk management, it was anticipated that a reduction in stress related to pressures and coping at work, would be found within the multidisciplinary team. In keeping with the aims of the study the research question for this phase of the evaluation is: Is there observed change in the multidisciplinary team across a number of dimensions

relating to coping, stress and work, following the learning period?

Aim

The aim of the research reported here was to describe any impact on the work-related stress of mental health teams using the learning pack.

Design and methods

Robson (2000) talks about the methodological difficulty when one wants to move simply from saying that there has been a change, to claiming the change can be attributable to the intervention itself and not some other cause. In the current study it was difficult to set up a controlled experiment. Random assignment was not practical as it was felt that the likelihood of all members of a locality team agreeing to participate would be reduced if there was a possibility of non-assignment to the learning opportunity (Robson 1993) Teams needed to know what they were committing to (Frankfort-Nachmias & Nachmias 1996, Robson 2000) Therefore, a quasi-experimental approach was adopted for this phase of the study, using pre and post measures, which enabled a measure of change, albeit subject to the methodological difficulties highlighted. As empirical generalizability was not an objective, it was felt that this approach was acceptable to gain a picture of change within the context of the study. Rigorous operationalization of measures enhanced trustworthiness and accuracy of the findings.

Sample

The sample consisted of two locality teams, each from a different site within an NHS Trust. Sampling was self-selective in that each locality team in the Trust was provided with information (including information sheets for each member of the team) about the research and invited to participate. Team leaders then conveyed their willingness to participate to the researchers on behalf of their team. Members of two locality teams volunteered. These teams were made up of nurses, psychiatrists, occupational therapists, psychologists and social workers from acute inpatient and community settings.

A series of information-giving presentations about the learning pack and the evaluation were made within the Trust (this amounted to county-wide presentations as the Trust spanned a large rural setting). The aim was to include as many qualified practitioners as possible from each locality team. Forty-one participants in all were initially recruited between the two teams.

Measures

Occupational stress indicator (OSI) (Cooper et al. 1988)
The OSI has been used in a wide range of settings, including healthcare, to measure occupational stress and provides a useful measure for the impact of the learning pack. It is a reliable and validated scale (Robertson *et al.* 1990) and has been used extensively as a research tool in surveys (Onyett *et al.* 1997), in pre and post (before and after) studies (Reid & Moss 1999) and as a measure of change over time (Proctor *et al.* 1998, Baillon *et al.* 1999, Kirkcaldy & Martin 2000).

The indicator comprises a biographical questionnaire and six subscales, each using a six-point Likert scale. The OSI is built on a model of stress in keeping with the aims of the evaluation. (Cooper *et al.* 1994) Combined sample means derived from raw data collected during over 20 studies using the OSI (sample > 7000) are available for comparison purposes. (Cooper *et al.* 1994).

Healthcare-related work pressure scale (adapted from the nurse stress index, NSI, Harris 1989)
Given one foci of the evaluation was impact on work-related stress, it was decided to administer an additional measure to validate the research findings in relation to stress by comparing the findings pre and post from the OSI work-related pressure scale.

For this purpose the work-related subscales from the nurse stress index (NSI) were chosen. The NSI was developed as a 30-item self-report method of identifying sources of stress for groups of senior nurses. The NSI was found to be reliable and have reasonable construct-validity in a study of 117 front-line nurses (Cooper & Mitchell 1990). The NSI comprises six subscales and uses a five-point Likert-type rating scale with 1 = not at all pressured and 5 = extremely pressured. The 'managing the workload (1) and (2)' and 'dealing with patients and relatives' subscales were used in the current study. The word nursing was replaced by the word practice within the 'managing the workload (2)' scale. Higher scores indicate higher work-related pressure.

Operationalization and administration of measures

Participants were coded prior to administration of pre measures. The measures were administered according to the instructions within the OSI management pack (Cooper *et al.* 1988). The recommended administration procedure was followed, ensuring there were similar conditions for each participant. The OSI is self-administered and takes approximately 45 minutes to complete. The shortened NSI was administered along with the OSI during 1-hour ses-

sions. Pre and post measures were administered within 8 weeks before and after the learning intervention. The piloting of the pack (learning intervention) lasted for 6 months, with six trainer-led workshops approximately 1 month apart.

Ethical considerations

Once teams identified themselves as willing to participate, individual team members were asked to give consent to participation. Participants were reassured that measures would be reported anonymously and that the responses would be analysed by group only. Ethical permission for the study was granted by the Trust ethics committee. A project steering group provided peer review for the study.

Analysis

Quantitative data for pre and post measures were analysed using descriptive statistics (including 95% confidence intervals of the difference). Data were examined for normality. Parametric tests (paired t-test) were used for those items that were normally distributed, non-parametric tests (Wilcoxon signed rank test) were used for items not normally distributed. Significance levels were set at $P = 0.05$. (Statistical Package for Social Sciences, SPSS Version 10; Munro 2001) Not all respondents completed all items for the OSI questionnaires. In the event of a missed response, scale calculation was completed by inserting a 'neutral' score of 3.5. This approach was deemed acceptable due to the very small number (0.27%) of missing items (Baillon et al. 1999).

Results

Of the initial 41 participants recruited into the evaluation (pilot) phase of the study, all 41 completed the pre measures. However, only 32 started the learning pack and 27 completed the pack and subsequently the post measures. Analyses were carried out on the 27 participants who completed both the pre and post measures. Responses were not broken down in terms of gender or individual professional group as the aims of the study involved an interest in whole group (team) impact. Attrition did not affect the spread of occupations represented in the study. Means, standard deviations and confidence intervals for each scale in the OSI and the NSI scales are reported in Tables 1 and 2 (* = significant).

In comparison with available norms and means from similar studies, mean scores for pre measures on the six scales in the OSI were on a par with other healthcare worker norms and slightly higher than reported norms for

white collar workers (Cooper et al. 1994). When compared with a similar mixed group of health professionals working in a specialist psychiatric elderly unit (Baillon et al. 1999), the means indicate corresponding sources of stress, better locus of control, similar job satisfaction, less frequent type A behaviour, better mental and worse physical health. Comparing pre and post learning scores for the OSI sources of stress subscale suggests that there was a general decrease in many sources of stress, with the items 'factors intrinsic to the job' ($z = -2.216$; $P = 0.027$) and 'the managerial role' ($t = 2.352$; d.f. = 26; $P = 0.027$) showing significant difference. Although no significant change was shown in any of the other subscales in the OSI, the 'events around you' subscale means were also all lower at post measures, suggesting an increase in perceived loci of control. The mental health subscale mean was also lower at post measure, suggesting improved mental health. Interestingly, lower means at post measures are also observed for the job satisfaction subscale, suggesting less satisfaction.

Scores for the NSI (nurse stress index) 'work-related pressure' scales all show a lowering of item means at post measure. This suggests a general decrease in work-related pressure, with two items showing significant difference following the intervention, 'fluctuations in workload' ($t = 3.03$; d.f. = 26; $P = 0.05$) and 'dealing with relatives' ($t = 2.739$; d.f. = 25; $P = 0.011$), and three items showing highly significant difference, 'difficulty in dealing with aggressive people' ($t = 5.75$; d.f. = 26; $P < 0.001$), 'difficult patients' ($t = 4.441$; d.f. = 26; $P < 0.001$) and 'involvement in life and death situations' ($t = 3.783$; d.f. = 26; $P = 0.001$).

Discussion

One of the aims of the research was to produce a learning opportunity and describe its impact on clinical teams. Using a range of measures relating to perception of work-related stress, work coping strategies and control the research was able to demonstrate impact in a number of areas.

Results from OSI and NSI measures before and after the learning intervention suggest that there were significant changes in a number of areas in relation to participants' experiences of stress within 2 months before and after they undertook the clinical risk learning.

A number of areas of change in measurement means warrant further comment. In particular there appears to have been a clear impact on work-related stress. All of the NSI work pressure subscales showed a decrease in mean scores, suggesting a lowering of work-related stress. This is particularly interesting when set alongside the changes in the OSI subscale, sources of stress. All demonstrated a low-

Table 1

Mean OSI scores for the combined groups at pre- and post-learning intervention. Combined sample means derived from raw data collected during over 20 studies using the OSI (sample > 7000), which are available for comparison purposes (Cooper *et al.* 1994)

OSI subscales	Pre-measures ($n = 27$)		Post-measures ($n = 27$)		CI (95%)
	Mean	SD	Mean	SD	
Sources of stress (higher score = more frequent felt source)					
Factors intrinsic to the job	31.81	6.00	29.92	2.93	−0.22–4.19*
The managerial role	40.04	8.19	37.41	7.21	0.33–4.93*
Relationships with other people	32.33	6.78	31.44	5.69	−1.16–2.94
Career and achievement	29.85	6.07	27.85	5.95	−0.18–4.18
Organizational structure/climate	41.78	8.24	39.26	7.86	−6.24–5.10
Home/work interface	33.61	8.63	31.59	7.13	−0.62–4.66
General behaviour (higher score more = frequent type A)					
Attitude to living	20.41	4.13	20.33	3.42	−0.93–1.08
Style of behaviour	15.89	3.75	16.09	2.44	−1.25–0.84
Ambitions	10.74	1.72	10.30	1.46	−0.28–1.17
Total type A	46.89	7.45	46.98	5.97	−1.75–1.56
Events around you (higher score = perception of less control)					
Organizational forces	18.63	2.80	18.22	2.42	−0.45–1.27
Management processes	14.20	1.56	13.85	1.79	−0.38–1.09
Individual influences	10.19	1.52	9.91	1.58	−0.72–1.27
Total locus of control	43.06	4.39	42.20	4.06	−0.72–2.42
Coping with stress (higher score more = frequent use as coping source)					
Social support	17.11	2.87	16.85	2.86	−0.64–1.16
Task strategies	26.70	3.78	26.44	2.65	−1.16–1.68
Logic	12.81	1.42	12.41	1.78	−0.13–0 .95
Home and work relationship	16.67	3.64	16.78	2.69	−0.98–0.76
Time	14.85	1.61	15.07	1.57	−0.88–0.44
Involvement	23.04	2.72	23.67	2.47	−1.90–0.64
Job satisfaction (higher score higher = satisfaction)					
Achievement/value and growth	23.33	3.96	23.87	4.41	−2.52–1.45
The job itself	16.19	2.79	17.24	2.52	−2.13–2.27
Organizational design and structure	18.11	2.90	17.59	3.89	−0.79–1.82
Organizational processes	16.48	2.49	15.74	3.66	−0.64–2.12
Personal relationships	11.74	1.99	11.50	2.23	−0.50–0.98
Total view of job satisfaction	85.19	12.25	84.57	13.26	−4.79–6.01
Current state of health (higher score = more ill health)					
Mental	51.48	12.78	49.15	12.20	−2.09–6.76
Physical	32.26	10.12	32.17	9.92	−3.91–4.09

*$P < 0.05$

ering of mean scores following the learning intervention, with significant change found in items 'Factors intrinsic to the job' and 'The managerial role', again indicating a reduction in the extent to which work was regarded as a source of stress. Interestingly, in contrast to our findings, Proctor *et al.* (1998) found a general increase in pressure in the OSI scale 'sources of stress' *(*work-related pressures) experienced by care staff (control and intervention) following a period of training over 6 months. However, there was no significant difference between baseline and follow-up scores. They go on to suggest that based on their overall findings, including measures of general health (GHQ), lack of support and training in coping with a demanding and difficult job is a major source of stress for many care staff in nursing and residential homes. Given the apparently positive impact on sources of stress following training in the

current study, it is suggested that this need for training and support is as important for mixed mental health teams as it is for inpatient or residential settings.

Given the topic of the learning intervention, it is also worth noting that significant changes in the NSI work-related scale were found in the following items: 'difficulty in dealing with aggressive people', 'difficult patients', 'involvement with life and death situations' and 'dealing with relatives', the first two items showing highly significant change. The aims of the study in relation to the learning were to try to make a difference in the way in which teams understood and handled clinical risk. It is encouraging therefore within the limitations of the design of the study, to observe significant change within areas directly relating to working both with difficult patients and the risk area of aggression. Although this was a small non-

Table 2
Mean NSI scores for the combined groups at pre- and post-learning intervention

NSI scale, work-pressure subscales	Pre-measures (n = 27)		Post-measures (n = 27)		CI (95%)
	Mean	SD	Mean	SD	
Time pressures and deadlines	3.52	0.80	3.33	0.88	−0.21–0.58
I have too little time in which to do what is expected of me	3.56	0.97	3.15	1.03	−4.8–0.86
The demands of others for my time at work are in conflict	3.00	1.00	2.93	1.14	−0.34–0.48
I spend my time fighting fires rather than working to a plan	2.67	1.07	2.33	0.96	−4.7–0.71
Trivial tasks interfere with my professional role	2.78	1.01	2.70	1.10	−0.29–0.44
Fluctuations in workload	3.22	0.97	2.59	0.97	0.20–1.1*
Management expects me to interrupt my work for new priorities	3.08	1.20	2.69	1.26	−0.14–0.91
Deciding priorities	2.63	0.88	2.30	0.95	−0.12–0.79
My practice and administrative roles conflict	3.12	0.91	2.85	0.92	−0.10–0.64
Shortage of essential resources	3.33	1.24	3.11	1.22	−0.27–0.72
Difficulty in dealing with aggressive people	2.81	1.14	1.96	0.85	0.55–1.2*
Difficult patients	2.85	1.10	2.15	0.99	0.38–1.0*
Involvement with life and death situations	3.11	1.37	2.22	0.85	0.41–1.4*
Bereavement counselling	2.19	0.98	2.00	1.02	−0.25–0.64
Dealing with relatives	2.15	0.88	1.69	0.68	0.11–0.81*
Lack of privacy	2.44	1.42	2.00	1.07	−9.7–0.99
Poor physical working conditions	2.70	1.32	2.26	1.02	−0.14–1.0

*$P < 0.05$

controlled study, with the associated dangers of being under-powered, the degree of change in these two items in particular, indicates that there has been real change in this area. Indeed, the overall trend towards a reduction in work-related stress across all items in the NSI and OSI scales points to a meaningful impact. A range of items across both the OSI and the NSI scales have scores that are likely to indicate a type II error: when sample sizes are small it is likely that real underlying differences between groups (time one and time two) are not detected. Examining the confidence intervals for these items, where the minus figure is very close to zero, suggests significance but with the study being under-powered (Munro 2001).

Other subscales in the OSI also demonstrate interesting changes. The job satisfaction subscale, although not demonstrating any significant changes, does demonstrate a lowering of means across four items: 'organizational design and structure', 'organizational processes', 'personal relationships' and 'total view of job satisfaction'. It is interesting to observe a lowering of satisfaction with work, while at the same time observing that work is perceived as less stressful. Participants appear to be expressing that they are less satisfied with how their work settings are organized and run. This lowering may be the result of increased knowledge about the importance of good communication systems and documentation in managing risk. Increased expectation about one's own work systems and processes and increased concern over the gap between what is needed and what exists may have led to increased dissatisfaction among participants. Participants also reported an increase in feelings of control in relation to events around them: 'organizational forces', 'management forces' and 'individ-

ual influences'. Although not significant, this overall increase in feelings of control may again be a result of having increased knowledge and skills in relation to the management of clinical risk. Taking all the work-related changes together provides an indication that the learning did have some impact, in some cases significant impact, on participants. Wall et al. (1997) suggest that organizations have a role to play in reducing stress and that developing and supporting teams can have an impact. Firth-Cozens & Payne (1999) suggest that good management, improved communication, culture change and developing good team leaders can also play a part in lowering stress. Education has an important role to play in providing an opportunity for team members to increase knowledge and skills in key areas such as communication and in 'practising' working together in a safe and supportive way. Vincent (1999) also suggests that good communication, co-operation and training for staff are important aspects in the healthy development of organizations. These sorts of opportunities, such as that afforded by the clinical risk learning pack, can form the medium through which change can occur.

Other OSI scales demonstrate more modest or variable change between items. There were variable mean changes observed in the general behaviour and coping with stress subscales, indicating little trend within these domains. There also appeared to be little impact in relation to 'physical health', although 'mental health' appears to have improved, although not significantly, following the learning.

Additional outcomes for the study are more fully described in Sharkey & Sharples (2001). Feedback from the pre and post measures, the evaluation questionnaires

and a dissemination conference, were used to further inform and shape the learning pack, which is now complete and in use (Sharkey *et al.* 2001). The pack comprises an introduction to risk followed by four facilitator-led group workshops focusing on: violence; suicide and self-harm; vulnerability and neglect; and reviewing the pack and action planning.

Limitations

This was a small, non-controlled study and therefore non-generalizable. Nevertheless, the research team has been able to suggest that the pack made a positive rather than negative impact on participants. A 6-month follow-up of measures to establish any sustained change would have increased the validity of the findings. There were difficulties getting 'busy professionals' together to complete the pre and post measures. The research team acknowledges that the project required intensive input over time from the participants and this may have contributed to attrition. However, at a dissemination conference participants provided feedback that they viewed participation in the project as a positive experience and valued being part of a research project. Finally, one of the participating teams in the study experienced a significant traumatic event within the team during the learning period. The nature of this event may have had a negative impact on the team, thus adding to the complexity of the factors that may have influenced change and been reflected in post measures following the learning.

Conclusion

Overall there does appear to have been an impact following the learning, particularly in relation to risk-related aspects of work and the way in which work is perceived as a source of stress. Given the small numbers in the study (and the likelihood that it was under-powered), there was an overall trend pointing to a reduction in work-related pressure (sub-scales OSI and NSI), with significant change in some items, suggesting real impact in these areas. It is worth noting that the use of the OSI, which facilitates a broad range of measures relating to stress, provides an opportunity to work across and within professional groups. Inter-relatedness between team members is an important aspect of effective practice and it is felt that using a measure that acknowledges the team context of the work environment is crucial. Ironically, although not unexpectedly, the learning also appears to have increased dissatisfaction with work. This is an important issue for both educationalists and employers: increased awareness as a result of learning can lead to dissatisfaction both with an organization and with one's own

capabilities. Strategies such as follow-up sessions and supervision could mitigate this effect.

It is impossible to be conclusive about the way in which the learning pack led to a reduction in work-related stress given the small size of the study, its non-controlled nature and the potential impact on participants from a multiplicity of sources. Nevertheless, it is possible to suggest that learning about risk management in the mode described in the current study, that is, team and clinically orientated, had a positive impact on participants in reducing the extent to which they felt work was a source of stress. This is an important outcome for any piece of learning, in enabling a workforce to cope with a very demanding, difficult and complex role.

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