

Original Article

Do factors of emotion-focussed patient care and communication impact job stress, satisfaction and burnout in radiation therapists?

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Abstract

Objectives: To investigate levels and sources of job stress, job satisfaction and burnout experienced by radiation therapists (RTs) in an Australian cancer hospital, and determine the factors of emotion-focussed patient care and communication that contribute to RTs' stress and burnout.

Methods: One hundred and thirteen RTs working in a dedicated cancer hospital in Australia completed a self-report questionnaire.

Results: Twelve percent of RTs reported job stress while 73·5% reported job satisfaction in their current work roles. Up to 19% of RTs experienced burnout as measured on the Maslach Burnout Inventory scales. Emotion-focussed care and communication with patients was found to have links with job stress and burnout, but also with job reward and satisfaction. A range of organisational, personal and support factors were associated with RTs' experiences, including training and confidence in emotion-focussed patient communication.

Conclusion: Emotion-focussed care and patient communication contributes to both job stress and burnout, as well as job satisfaction. RTs' experience of job stress, satisfaction or burnout are likely to vary according to a range of personal, demographic and organisational factors.

Keywords: burnout; communication; confidence; job satisfaction; job stress

INTRODUCTION

Background and aims

Working in an oncology setting can be both a rewarding and challenging experience for

healthcare professionals. Like doctors and nurses, radiation therapists (RTs) play a central role in the care of cancer patients, working intensively with patients over extended periods of time. They provide technically sophisticated radiation treatment to manage patients' physical disease, but are also valued by patients for the important information, support, reassurance and comfort they provide.¹ Emotion-focussed

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patient care and communication is an important part of any clinician's skill-set when working with patients, and is defined in this article as communications by health professionals that directly or indirectly address a person's emotional state or wellbeing. This may include building an emotionally supportive relationship, providing information or explanations about treatment to allay fears, engaging in verbal or non-verbal communications that are experienced by the patient as emotionally supportive, or engaging in more focussed discussions about strategies, solutions or referrals that may assist in managing a patient's emotional wellbeing. The aim of this study was to explore RTs' challenges and experiences in providing emotion-focussed care and communication to patients, with particular focus on how this aspect of patient care contributes to RTs' job stress, job satisfaction and burnout.

Patients experience a range of emotions during their cancer treatment and RTs (who often see patients on a daily basis) may play a particularly important role in responding to cancer patients' emotional needs. For example, a study by Halkett and Kristjanson found that breast cancer patients emphasised the importance of 'achieving a sense of emotional comfort' from their RTs, and that this was primarily achieved by forming relationships with RTs and being provided with information about their treatment.¹ However, studies suggest there are numerous barriers that RTs face when communicating with or providing information to patients. For example, a second study by Halkett et al. found that RTs' lack training in emotion-focussed communication with patients and are least confident in conversations with patients about psychosocial issues.² They also found that time constraints and the competing need to focus on technical tasks interfere with effective communication when patients are distressed or anxious. A study of RTs by Probst and Griffiths also found that the lack of time RTs had to address tasks such as building rapport, came at a cost to RTs job satisfaction.³ Thus, RTs' exposure to the various stresses or challenges in the provision of emotion-focussed care may make them vulnerable to job stress or burnout and further investigation is warranted into this area of patient care for RTs.

Theories of burnout and the role of job stress and job satisfaction

Burnout is a common occurrence for employees across all different workplace settings, but has been of particular interest to researchers among healthcare professionals. Burnout is a state of emotional or physical depletion after a prolonged period of stress and is commonly conceptualised as having three distinct dimensions, including emotional exhaustion, depersonalisation and personal accomplishment.^{4,5} Emotional exhaustion is often referred to as the first stage in burnout, and is characterised by feeling emotionally overextended or overwhelmed.⁶ Depersonalisation includes feelings of cynicism, detachment or dehumanisation. A decreased sense of personal accomplishment (where low levels are a sign of increased burnout) involves negative self-judgements of one's achievements or self-worth in the workplace.^{4,5} The effect of cumulative stressors in the workplace is thought to cause burnout, and staff who have inadequate personal or organisational resources to cope with workplace demands may be particularly vulnerable to burnout.⁷ Job satisfaction in turn, has been cited as a possible buffer or protective factor against burnout.^{8,9}

Prevalence studies

Few studies appear to have examined burnout rates in RTs specifically. The largest study to do so was by Ackroyd and Adams on 502 RTs across the United States.¹⁰ They found burnout on all three burnout dimensions was significantly higher than norms of US medical workers. This is a source of concern given the many known negative consequences of stress and burnout for clinicians¹¹⁻¹³, patients^{9,13-19} and organisations alike^{3,20}. Similarly, a study of 75 Canadian RTs found that RTs had higher burnout on two of the three scales of burnout than other cancer employees²¹, suggesting that RTs may be a clinician group particularly vulnerable to burnout. In contrast, a study of RTs in the state of Florida, USA, found that burnout on all three scales was significantly lower than US norms for doctors and nurses²², however, the numbers in this study were small ($n = 45$). No studies were identified that

examined levels of job stress or satisfaction in RTs specifically, but studies of oncology clinicians more generally found that up to 45% of clinicians reported significant amounts of stress in their jobs, while up to 74% experienced significant amounts of job satisfaction.^{4,9,23} The extent to which emotion-focused patient care and communication contributes to job stress and burnout in RTs' remains unclear.

Factors contributing to job stress, job satisfaction and burnout

It is widely accepted that workload and other organisational factors such as lack of resources and support are key contributors to job stress and burnout.^{4,11,13,24,25} It is also widely accepted that a key source of clinician job satisfaction is the provision of patient care,^{4,8,9,26} yet studies also indicate that certain aspects of patient care, such as working with patient distress and suffering, can be a source of clinician burnout.^{11,23,27,28} According to theories of burnout, this is likely to occur when the task of helping patients who are suffering or in distress, exceeds the clinician's skills or capabilities.⁷

Clinicians' communication skills appear central to the task of addressing patients' emotional concerns, and RTs may receive little training in this area.² It is therefore possible that RTs who lack training or confidence in this area of patient care may be at particular risk of burnout. In support of this idea, studies have linked clinician's lack of confidence in patient communication, insufficient communication training and a perceived need for communication training with to higher levels of burnout.^{11,26,25,29,30} However, studies testing whether communication training reduces stress or burnout have found little or no evidence for this effect.^{31–35} One study actually found that communication training of oncologists led to worsened burnout on the emotional exhaustion dimension, 3 months after training.³⁶ In addition to the potential role that training and confidence in emotion-focused communication may play in clinician stress and burnout, other factors such as workload or workplace barriers to emotion-focused care and communication with patients may also add to the challenges of this care.

In summary, it remains unclear how the emotional aspects of patient care and communication may contribute to RTs' stress and burnout. The first aim of this study was therefore to examine the levels and sources of job stress and job satisfaction in an Australian sample of RTs, and determine the prevalence of burnout as compared with data from the large study of burnout in RTs by Ackroyd and Adams¹⁰ as well as to normative data available on doctors and nurses.⁵ The second aim of this study was to explore whether job stress, satisfaction and burnout are related to various demographic or patient-contact factors, barriers and supports to emotion-focused communication and care, or levels of clinician training and confidence in emotion-focused communication.

METHODOLOGY

Participants

Participants included RTs (Interns and Grades 1–6) at the Peter MacCallum Cancer Centre, Australia's only public hospital dedicated to cancer treatment, research and education (known as 'Peter Mac'). Patients at the hospital are predominantly adult, though some paediatric patients are seen. Given the study's focus on aspects of direct patient care, only RTs who had one or more hours of direct clinical contact with patients per week (the minimum amount recordable) were included in this study. Participation was sought via email invitation to all members of the RT department ($n = 225$), with a link to an anonymous online questionnaire.

Measures

The questionnaire content was designed specifically for this study, with the exception of the Maslach Burnout Inventory (MBI).³⁷ Pilot testing was conducted on a small sample of RTs to ensure readability, comprehension and acceptability of the questionnaire package. Full details of the MBI and other variables measured in this study are outlined below.

Demographic and practice information

Basic demographic and practice information was collected from participants, including age,

sex (male or female), current marital status (married/de facto or single) and years of experience as an RT. RT grade (reflecting role and seniority) was also recorded. Participants were also asked about the area of RT they predominantly worked in (treatment, planning, education, research or brachytherapy).

Patient contact

Two measures of patient contact were used in this study. The first included the hours of work that involved patient contact each week. The second was the frequency with which RTs had contact with patients presenting specifically with 'noticeable' emotional concerns. This variable was measured by four questions asking how often participants worked with patients who were noticeably: anxious, worried or fearful; frustrated or angry; depressed withdrawn; or distressed or tearful. Frequency was rated on a seven-point Likert scale ranging from 1 = 'never' to 7 = 'every day'. The four groups of emotions were chosen because they covered a range of common emotions that patients experience, and they corresponded to the four emotions covered in a communication workshop run at Peter Mac (described below), at which a proportion of the participants in this study had attended. A total frequency score was created by summing these four items (range 4–28). Cronbach's α coefficient for internal consistency was 0.91.

Barriers and supports to emotion-focussed communication with patients

Participants rated the extent to which they agreed or disagreed with statements about nine potential 'barriers' to emotion-focussed communication and two potential 'supports' to emotion-focussed communication (one inversely measuring support; see Table 6). Individual responses were recorded on a five-point Likert scale from 1 = 'agree strongly' to 5 = 'disagree strongly'.

Prior training in emotion-focussed communication with patients

Attendance was recorded at a four-hour Cancer Council Victoria workshop³⁸ run for clinical staff at the Peter Mac on emotion-focussed communication (titled 'Eliciting and responding to emotional cues'). The workshop focussed

specifically on how to communicate with patients who are angry, anxious, distressed or depressed. This learner-centred, small-group workshop included role-play practice of emotion-focussed communication skills with a professional actor simulating the patient role. The workshop was repeated on regular occasions between 2007 and 2011, with RT management encouraging both junior and senior staff to attend a workshop over this time.

Participants were also asked whether they had attended any other training (workshop/course-work) in emotion-focussed communication (e.g., responding to patients' emotions). Training could include undergraduate or postgraduate training at a university, hospital or other forum. Training did not have to be a part of their RT course of study.

The total hours of prior training received in emotion-focussed communication was calculated by combining hours of attendance at the four-hour 'Eliciting and Responding to Emotional Cues' workshop with hours of any other emotion-focussed communication training received.

Confidence in emotion-focussed communication with patients

Participants were asked to rate how confident they were in talking to patients about four groups of common emotional concerns (as used to measure patient workload, see above). Responses were recorded on a five-point Likert scale from 1 = 'not at all confident' to 5 = 'very confident', and the four questions combined into a total score. Cronbach's α coefficient for internal consistency for this measure was 0.93.

Levels and sources of job stress and job satisfaction

Participants were asked two single-item questions about how stressful and how satisfying they found their current work role, with responses to each question recorded on a five-point Likert scale from 1 = 'not at all stressful/satisfying' to 5 = 'very stressful/satisfying'. Participants also rated the extent to which a range of factors contributed to their job stress and satisfaction, with responses measured on a five-point Likert scale ranging from 1 = 'not at all' to 5 = 'very much'. Thirty-one possible sources of stress and 14 sources of satisfaction were listed (see Tables 4 and 5).

Burnout

The Maslach Burnout Inventory-Human Services Survey (MBI-HSS) was used to measure Burnout.³⁷ This 22-item scale has three subscales: Emotional Exhaustion (MBI-EE: nine items related to feelings of being emotionally overextended); Depersonalisation (MBI-DP: five items related to feeling numb or uncaring about the care or treatment of patients); and Personal Accomplishment (MBI-PA: eight items relating to feelings of competence and achievement. Scores on this scale are inversely related to burnout). Emotional exhaustion and depersonalisation are separate factors but are usually moderately correlated, whereas personal accomplishment is independent of these scales and typically has only low correlations with them. Responses were measured on a seven-point Likert scale of frequency (response options range from 0 = 'never' to 6 = 'everyday'). Responses were summed to give a total score for each subscale, with high levels of burnout being defined by a cut-off based on the upper third of the normative distribution.⁵ The reliability and validity of this measure has been well documented. For this study, the Cronbach's α for the MBI-EE, MBI-DP and MBI-PA scales, respectively, were 0.88, 0.51 and 0.76. The MBI-DP α was lower than that found by the authors of this scale (0.79), while the α for the remaining scales were comparable to those found by the authors of this scale (0.90 and 0.71, respectively).⁵

Data analyses

T-tests were used to compare means on the three MBI burnout subscales to findings from Ackroyd and Adams US study on RTs¹⁰ as well as MBI norms⁵. Ackroyd and Adams paper was chosen as a comparison study because of its large sample size, diverse sampling from across the United States, and use of the MBI scale (allowing direct statistical comparison to the current study as well as MBI norms of doctors and nurses, a more widely studied clinician group in the burnout field). The percentage of RTs endorsing the top two likert response options (e.g., 'agreed' or 'strongly agreed', 'quite' or 'very confident', etc.) were used to present data on sources of job stress and

job satisfaction. Independent *t*-tests and one-way between-groups ANOVAs (with Tukey's post hoc comparisons) were used to compare mean levels of job stress, job satisfaction and scales of burnout for groups (as seen in Table 1) of age, sex, marital status, RT grade, years of experience, work role (comparing treatment versus planning only), hours of patient-contact per week and the frequency of working with patients presenting with noticeable emotional concerns.

Bivariate Pearson correlations were conducted between job stress, job satisfaction and scales of burnout, and the barriers, supports, hours of training and confidence levels in emotion-focussed communication. Independent *t*-tests were used to compare scores of job stress, satisfaction and burnout for those who had attended the four-hour 'Eliciting and Responding to Emotional Cues' workshop³⁸ to those who had not attended.

RESULTS

Of the 225 RT staff sent the questionnaire, 130 were returned. Fifteen were excluded from analyses because of incomplete response sets, and two were excluded because of not currently working in any clinical capacity with patients, leaving 113 eligible participants for inclusion in the final analyses.

Participant characteristics and patient contact

The average age of participants was 32.7 years (SD = 10.06, range 21–64), and the average years of experience of working as an RT was 10.5 (SD = 9.74, range 1–41). Participants reported working an average of 29.5 hours/week in clinical contact with patients (SD = 5.84, range 1–47). All other participant characteristics can be seen in Table 1.

Prior training in emotion-focussed communication

A total of 54.9% ($n = 62/113$) had attended some form of emotion-focussed communication

Table 1. Participant characteristics and contact with patients

Participant characteristics	n	%
Age		
≤25	29	25.7
26–35	56	49.6
36–45	12	10.6
46+	16	14.1
Sex		
Male	27	23.9
Female	86	76.1
Marital status		
Married/de facto	74	65.5
Single	39	34.5
RT grade ^a		
Intern	12	10.6
Grade 1	25	22.1
Grade 2	30	26.5
Grade 2A/deputy charge	21	18.6
Grade 3	25	22.1
Grades 4–6	0	0
Years of experience as an RT		
≤5	48	42.5
6–10	25	22.1
11–15	15	13.3
16+	25	22.1
Main work role		
Treatment	44	38.9
Planning	48	42.5
Equal treatment and planning	12	10.6
Education	4	3.5
Research	3	2.7
Brachytherapy	2	1.8
Hours of patient contact per week		
≤10	23	20.3
11–30	28	24.8
30+	62	54.9
Ratings of frequency of working with patients who have noticeable emotional concerns		
Low (4–9)	34	30.1
Moderate (10–15)	47	41.6
High (16+)	32	28.3

Notes: ^aDefinition of RT Grades: interns = Graduates completing 12 months work experience before registration; Grade 1 = newly registered and practicing RTs; Grade 2 = 2+ years experience plus skills in education and technical support; Grade 2A/deputy charge = ability to deputise or support charge RT; Grade 3 = charge RT, in charge of clinical planning or treatment units; Grade 4 = senior heads of sections; Grade 5 = deputy director; Grade 6 = director of RT department.

Abbreviation: RT, radiation therapist.

training, of which just over 40% ($n = 47$, 41.6%) had attended the four-hour 'Eliciting and Responding to Emotional Cues' workshop.³⁸ Across the entire sample, the average hours of emotion-focussed communication training received was 4.60 hours (SD = 7.49, range 0–40).

Prevalence of job stress, job satisfaction and burnout

Twelve per cent ($n = 14/113$, 12.4%) reported that overall their current work role was 'quite' or 'very stressful'. Approximately three-quarters ($n = 83/113$, 73.5%) reported that overall their current work role was 'quite' or 'very satisfying'.

Nineteen and a half per cent of the sample had high burnout on the MBI-EE scale. Fewer (16.8%) had high burnout on the MBI-PA scale while only 1.8% had high burnout on the MBI-DP scale. *T*-tests indicated that participants in this study have significantly lower mean burnout levels on MBI-EE and MBI-DP scales than Ackroyd and Adams study of RTs¹⁰ as well as MBI normative data on doctors and nurses⁵ (see Table 2). In contrast, burnout was significantly worse on the MBI-PA subscale (with lower raw scores indicating higher burnout on this scale) compared with RTs in Ackroyd and Adams' study, and not significantly different to MBI norms of doctors and nurses. Correlations between job stress, job satisfaction, and scales of burnout can be seen in Table 3.

Sources of job stress and job satisfaction

The degree to which individual sources of job stress and satisfaction were experienced by participants can be seen in Tables 4 and 5. The top five sources of job stress included organisational factors and issues of team functioning, including high workload (54.0%), working with inefficient teams (41.6%), machine breakdowns (40.7%), working within difficult time constraints (40.7%) and problematic team relations (36.3%). Stress relating specifically to the provision of emotion-focussed aspects of care was endorsed by fewer RTs (e.g., working with patients who are angry 35.4%, or upset or emotional 27.4%). A smaller but reasonable number of RT endorsed questions suggestive that job stress from emotion-focussed care was related to a lack of abilities, skills or support in their role. For example, feeling unable to help patients who are upset or emotional was a source of stress for 29.2% of participants. Feeling poorly supported was a source of job stress for approximately one-quarter of the sample (23.0%), while lacking confidence in

Table 2. Prevalence of burnout and comparisons to other studies and norms

MBI subscales of burnout	% with high burnout	Mean (SD)	t	p-value
Emotional exhaustion				
Current study	19.5	17.74 (9.93)		
MBI norms 5 ^a	na	22.19 (9.53)	-4.759	0.000
Ackroyd and Adams ^{11b}	na	27.9 (13.7)	-10.870	0.000
Depersonalisation				
Current study	1.8	3.62 (3.35)		
MBI norms 5 ^a	na	7.12 (5.22)	-11.064	0.000
Ackroyd and Adams ^{11b}	na	10.5 (9.0)	-21.775	0.000
Personal accomplishment ^c				
Current study	16.8	37.17 (7.15)		
MBI norms 5 ^a	na	36.53 (7.34)	0.949	0.345
Ackroyd and Adams ^{11b}	na	42.1 (6.3)	-7.332	0.000

Notes: ^a MBI norms: *n* = 1104 US doctors and nurses. ^b Ackroyd and Adam's sample¹¹: *n* = 502 RTs surveyed across the United States. ^c Personal Accomplishment: the lower the mean score, the higher the burnout. This scoring is the reverse of the other two MBI scales. Abbreviations: MBI, Maslach Burnout Inventory; SD, standard deviation; na, not available.

Table 3. Pearson correlations between job stress, job satisfaction, and scales of burnout

	1	2	3	4	5
1. Job stress					
2. Job satisfaction	-0.121	-			
3. MBI-EE	0.482***	-0.299***	-		
4. MBI-DP	0.236*	-0.213*	0.466***	-	
5. MBI-PA	-0.014	0.399***	-0.026	-0.205*	-

Notes: Higher scores on MBI-EE and MBI-DP indicate higher burnout, while higher scores on MBI-PA indicate lower burnout. **p* < 0.05, ***p* < 0.01, ****p* < 0.001.

skills or feeling incompetent were endorsed by only 15.9% and 10.6%, respectively.

Top sources of job satisfaction included aspects of work that involved positive interpersonal relations with other staff or patients, including having good working relationships with other staff (93.8%), working with effective teams (92.0%) and having good working relationships with patients (87.6%). Feeling confident in skills was endorsed by 85.5% and knowing how to respond to patients who are upset or emotional was endorsed as a source of job satisfaction by 69.0%.

Factors associated with job stress, job satisfaction and burnout

Demographic factors and patient contact

ANOVA analyses found no significant group differences of age, sex, marital status, RT grade, years of experience, main work role (treatment versus planning) or hours of patient contact

per week on scores of job stress, job satisfaction or the three scales of burnout, as per groupings seen in Table 1. Levels of job stress, and scores on the MBI-EE and MBI-PA burnout scales differed significantly across the three levels of contact with patients with noticeable emotional concerns [job stress: $F(2,110) = 3.26, p = 0.04$; MBI-EE: $F(2,110) = 3.67, p = 0.03$; MBI-PA: $F(2,110) = 4.38, p = 0.02$]. Post hoc Tukey's comparisons indicated that RTs who had the most frequent contact with patients with noticeable emotional concerns, had significantly more job stress ($M = 2.76, SD = 0.80, p = 0.04$) and burnout on the MBI-EE scale ($M = 20.97, SD = 10.96, p = 0.02$) than those with the least contact with patients ($M = 2.26, SD = 0.67$ and $M = 14.50, SD = 8.21$, respectively). In contrast, Tukey's post hoc comparisons indicated that RTs who had the most frequent contact with patients with noticeable emotional concerns, had significantly less burnout on the MBI-PA scale ($M = 40.0, SD = 5.1, p = 0.01$) compared with those with the least contact with

Table 4. Sources of job stress

Sources of job stress	Quite stressful and very stressful [n (%)]
Having a high workload	61 (54.0%)
Working with teams that are ineffective or inefficient	47 (41.6%)
Machine breakdowns	46 (40.7%)
Working within difficult time constraints	46 (40.7%)
Having problematic working relationships with team members/colleagues	41 (36.3%)
Having little reward or recognition for work done	41 (36.3%)
Having to deal with patients who are angry	40 (35.4%)
Working with confusing or difficult departmental policies and procedures	38 (33.6%)
Working with patients you identify with (e.g., same age/situation as you)	37 (32.7%)
Having to deal with patients who are dying	34 (30.1%)
Feeling unable to help patients who are upset or emotional	33 (29.2%)
Having stressors in your personal life outside of work	32 (28.3%)
Missing treatment sheets	31 (27.4%)
Having to deal with patients who are upset or emotional	31 (27.4%)
Having limited time to talk to patients	28 (24.8%)
Feeling inadequately trained in certain aspects of work	28 (24.8%)
Feeling poorly supported in the workplace	26 (23.0%)
Having unreasonable demands placed on you by other staff	25 (22.1%)
Having to deal with patients who are in pain	24 (21.2%)
Having burdensome administrative responsibilities	21 (18.6%)
Having little control or autonomy within the workplace	20 (17.7%)
Having a lack of opportunity to pursue career progression in the workplace	20 (17.7%)
Lacking confidence in your skills	18 (15.9%)
Working in unpleasant physical workspace conditions	18 (15.9%)
Having a lack of opportunity to pursue professional development workshops and training in the workplace	18 (15.9%)
Having unreasonable demands placed on you by patients	17 (15.0%)
Not knowing what is expected of you	14 (12.4%)
Having problematic working relationships with patients	12 (10.6%)
Feeling incompetent	12 (10.6%)
Accommodating the additional needs of students in the workplace	11 (9.7%)
Administering treatment which has toxic side-effects for patients	8 (7.1%)

Table 5. Sources of job satisfaction

Sources of job satisfaction	Quite satisfying and very satisfying [n (%)]
Having good working relationships with other staff	106 (93.8%)
Working within teams that are effective or efficient	104 (92.0%)
Having professional esteem and pride in your work	102 (90.3%)
Having good working relationships with patients	99 (87.6%)
Knowing what is expected of you	97 (85.8%)
Feeling confident in your skills	97 (85.8%)
Feeling like you are making a difference in people's lives	95 (84.1%)
Feeling well supported in the workplace	89 (78.8%)
Having a work load that is manageable	84 (74.3%)
Knowing how to respond to patients who are upset or emotional	78 (69.0%)
Being rewarded or recognised for work done	76 (67.3%)
Having the opportunity to pursue career progression in the workplace	73 (64.6%)
Having helpful departmental policies and procedures to follow	72 (63.7%)
Having opportunities to pursue professional development workshops and training in the workplace	72 (63.7%)

Table 6. Pearson correlations of job stress, job satisfaction and burnout to barriers and supports to emotion-focussed communication

	Job stress (<i>r</i>)	Job satisfaction (<i>r</i>)	MBI-EE (<i>r</i>)	MBI-DP (<i>r</i>)	MBI-PA (<i>r</i>)
Barriers to emotion-focussed communication					
It is not my role to talk to patients about their emotional concerns	0.090	-0.279**	0.200*	0.124	-0.168
There is not enough time to talk to patients about their emotional concerns	0.419***	-0.181	0.339***	0.225*	0.033
There is not enough privacy in the workplace to talk to patients about their emotional concerns	0.393***	-0.061	0.331***	0.188*	0.135
I do not feel I have the skills to talk to patients about their emotional concerns	0.234*	-0.068	0.244**	0.135	-0.140
I do not know what to say to patients who are emotional	0.204*	-0.087	0.140	0.174	-0.135
I do not feel as competent in talking to patients about their emotions as other radiation therapists seem to be	-0.005	-0.001	0.001	0.116	-0.114
Other disciplines (e.g., Nursing and Radiation Oncology) are better placed to talk to patients about their emotions than radiation therapists	0.130	-0.128	0.012	0.027	-0.127
There is little I can say or do to help patients who are emotional	0.076	-0.164	0.146	0.130	-0.149
I get upset when I see patients in emotional distress	0.192*	0.115	0.160	0.107	-0.058
Support for emotion-focussed communication					
When a patient is upset or emotional, I can rely on my team to help me manage the situation	-0.016	0.149	-0.125	-0.192*	0.094
There are few opportunities in the workplace to debrief with team members/colleagues about the emotional impact of patient care	0.272**	-0.136	0.265**	0.065	0.077

Notes: Higher scores on MBI-EE and MBI-DP indicate higher burnout, while higher scores on MBI-PA indicate lower burnout.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Abbreviations: MBI-EE, Maslach Burnout Inventory-Emotional Exhaustion; MBI-DP, Maslach Burnout Inventory-Depersonalisation; MBI-PA, Maslach Burnout Inventory-Personal Accomplishment.

patients ($M = 35.1$, $SD = 8.3$), where high scores indicate low burnout on this scale. No statistical differences were found between other group comparisons at $p \leq 0.05$.

Barriers and supports to emotion-focussed communication

A variety of significant correlations were found between job stress and burnout and the barriers and supports to emotion-focussed communication (see Table 6). Notably, not having enough privacy, time or skills for emotion-focussed communication with patients was significantly correlated to job stress, as well as one or both of the MBI-EE and MBI-DP scales. Not knowing what to say to patients who are emotional, and getting upset when seeing patients in emotional distress, were significantly correlated to job stress only ($r = 0.204$, $p < 0.05$ and $r = 0.192$, $p < 0.05$, respectively). The belief that it is not RTs' role to talk to patients about their emotional concerns was significantly associated with higher burnout on the MBI-EE scale ($r = 0.200$, $p < 0.05$).

Results also indicated that being able to rely on their team for support when managing patients with emotional concerns is associated with reduced burnout on the MBI-DP scale ($r = -0.192$, $p < 0.05$), while having fewer debriefing opportunities in the workplace was significantly associated with greater job stress ($r = 0.272$, $p < 0.01$) and worse burnout on the MBI-EE scale ($r = 0.265$, $p < 0.01$). None of the barriers and supports to emotion-focussed communication were significantly correlated to the MBI-PA scale of burnout.

In regards to job satisfaction, lower job satisfaction was significantly correlated to RTs feeling like it is not their role to talk to patients about their emotional concerns. Job satisfaction was not correlated with any other barrier or support.

Prior training in emotion-focussed communication

Hours of emotion-focussed communication training was not significantly correlated with

Table 7. Pearson correlations of job stress, job satisfaction and burnout to hours of emotion-focussed training attended and confidence levels in emotion-focussed communication

	Job stress (<i>r</i>)	Job satisfaction (<i>r</i>)	MBI-EE (<i>r</i>)	MBI-DP (<i>r</i>)	MBI-PA (<i>r</i>)
Hours of training in emotion-focussed communication	-0.091	0.026	0.104	0.139	0.126
Confidence levels in emotion-focussed communication	-0.238*	-0.007	-0.089	-0.108	0.217*

Notes: Higher scores on MBI-EE and MBI-DP indicate higher burnout, while higher scores on MBI-PA indicate lower burnout.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Abbreviations: MBI-EE, Maslach Burnout Inventory-Emotional Exhaustion; MBI-DP, Maslach Burnout Inventory-Depersonalisation; MBI-PA, Maslach Burnout Inventory-Personal Accomplishment.

job stress, job satisfaction or any burnout scale (see Table 7). Interestingly however, *t*-tests revealed that higher burnout on the MBI-EE scale was associated with attendance at the four-hour 'Eliciting and Responding to Emotional Cues' workshop [$M = 19.96$, $SD = 10.50$, versus $M = 16.17$, $SD = 9.27$, $t(111) = 2.027$, $p = 0.045$]. This finding was contrary to expectations. No other significant differences were found on *t*-tests between attendance at this workshop and means scores of job stress, job satisfaction or the remaining two MBI scales of burnout.

Confidence in emotion-focussed communication

Correlations in Table 7 indicated that higher confidence in emotion-focussed communication was associated with less job stress ($r = -0.238$, $p < 0.05$) and less burnout on the MBI-PA scale ($r = 0.217$, $p < 0.05$), however, no significant relationship was found with job satisfaction or the MBI-EE and MBI-DP scales of burnout (Table 7).

DISCUSSION

This study provides important insights into the role that emotion-focussed care and communication with patients may play in the job stress, job satisfaction and burnout that RTs' experience in the workplace. Three-quarters of RT staff surveyed in this study reported feeling quite or very satisfied overall in their current job, which is comparable to satisfaction rates reported in other oncology clinician groups.^{9,23} RTs in the current study reported low levels of job stress (12.4%) compared with a high of 45% reported in other oncology clinicians.^{9,23} Given job stress is meant

to be a precursor to burnout, one might expect that burnout levels would be similarly low in the current study's population. Results partially supported this supposition, with RTs in current study demonstrating significantly less burnout on the MBI-EE and MBI-DP burnout scales compared with RTs in Ackroyd and Adam's study and MBI normative data for doctors and nurses.^{5,10} In contrast however, participants were found to have significantly greater mean levels of burnout on the MBI-PA scale than RTs in Ackroyd and Adam's study.¹⁰ The specific reasons for these different findings is unclear, however, they may reflect the 'geographical heterogeneity' found in burnout when it is compared across different hospital settings and countries³⁹ as well as the independence of the MBI-PA scale to the more strongly correlated MBI-EE and MBI-DP scales.⁵ It is certain, however, that rates of emotional exhaustion and depersonalisation were relatively low in the current study's population compared with other healthcare groups, but that factors may be impacting their capacity to achieve a sense of personal accomplishment in the workplace compared with RTs in other settings.

In exploring the factors contributing to job stress (a precursor to burnout), aspects of emotion-focussed care and communication were surveyed, and results confirm that this type of patient care does indeed contribute to job stress in RTs surveyed, but only in around one-third of the sample. In contrast, just over two-thirds of RTs in this study indicated that knowing how to respond to patients who are upset or emotional was a source of job satisfaction, while even greater numbers report satisfaction from having good working relationships with patients and feeling they are making a

difference in people's lives. Previous studies have also found that direct patient care is quite important in clinician's deriving job satisfaction from their work³, particularly when there is a good patient–clinician relationship or when the clinician feels that emotionally laden issues (e.g., death and dying) are managed well.¹¹ It is possible that RTs in the current study derive either (or both) stress or satisfaction from working with patients who are in emotional distress, but that their reaction (stress or satisfaction) may depend upon a range of mediating factors. Other sources of job stress more frequently endorsed by RTs included heavy workload, problematic organisational factors (such as machine breakdown, working within difficult time constraints, little reward or recognition), and poor team functioning and problematic team relations. These themes are consistent with common workplace and organisational factors found in literature more generally.^{3,11,13,23–25}

When directly testing the relationship of different variables to job stress, job satisfaction and dimensions of burnout, surprisingly none of the personal and demographic factors (e.g., age, sex, marital status, RT grade, years of experience and work role) were found to have any relationship with job stress, satisfaction or burnout. This contrasts some of the burnout literature that has linked age, gender and years of experience in particular to MBI burnout scores in oncology populations.^{11,30,40–42} In regards to patient contact, no significant differences of job stress, satisfaction or burnout were seen across different levels of patient contact per week. In contrast, when focussing on emotion-focussed patient care specifically, RTs who saw patients with noticeable emotional concerns most frequently (e.g., patients who were angry, distressed, depressed or anxious), had significantly higher job stress and burnout (on the MBI-EE scale) but significantly lower burnout on the MBI-PA scale than those who saw patients least frequently. Though a little surprising that results for burnout on the MBI-PA scale should differ in their direction to results found for job stress and MBI-EE, this scale is known to be independent of the MBI-EE and MBI-DP scales.⁵ As such, results suggests that working

specifically with patients' emotional concerns may indeed present unique challenges, as well as rewards for staff, over and above the demands of usual patient care.

When examining the barriers and supports to emotion-focussed communication identified in this study, results suggest that there may be a variety of factors that mediate the impact emotion-focussed patient communication has on RTs' experience of job stress or burnout. For example, a lack of available time, privacy and clinician skill were all factors that were significantly associated with job stress and dimensions of burnout. Probst and Griffiths³ also identified time as a central factor in RTs' stress levels in their workplace, while Halkett et al.² found that lack of time had a particular impact on effectively communicating with patients who were anxious or distressed. Results also highlighted the importance of team support and debriefing opportunities when engaging in emotion-focussed patient care, similar to Bragard et al.'s study that linked emotional exhaustion in RTs to dissatisfaction with support from supervisors.⁴³ These findings point to practical and useful ways in which workplace stressors can be addressed. For example, issues of time might be tackled by increasing staffing levels or better spacing patient appointments, whereas improving RT support or skill levels might be achieved through increased mentoring, supervision or targeted training. It would be interesting for future research to trial the implementation of strategies such as these, and measure changes in job stress and burnout over time. Removing barriers to emotion-focussed patient care might not only reduce burnout, but enable staff to more fully experience the rewards that this care appears to provide them.

One of the central questions of this study was whether increased RT training in emotion-focussed communication specifically, was associated with less stress or burnout. Contrary to expectations, no relationship was found between the total hours of emotion-focussed communication training and job stress or burnout. Unexpectedly, however, higher burnout on the MBI-EE scale was significantly associated with attendance at the four-hour

'Eliciting and Responding to Emotional Cues' workshop. This finding raises interesting questions. A previous study by Fujimori et al. found that communication skills training led to higher burnout on the MBI-EE scale.³⁶ These authors suggested that communication training might increase pressure on staff to be supportive and helpful to patients or may weaken their usual defences against the emotional impact of patients care, thus worsening burnout. They also suggested that training may encourage increased interactions with patients such that staff already emotionally exhausted, become more exhausted. Finally, they suggested that staff may undertake the workshop with unrealistic expectations of the gains they might achieve from the workshop. If these expectations are not met, clinicians may feel more helpless in their roles. It is possible that the same factors may have contributed to findings in this study. However, a causal relationship cannot be drawn from our results, and it is possible that RTs attendance at the workshop disproportionately favoured those with pre-existing high levels of burnout.

A more useful outcome measure than training might be RTs' confidence in emotion-focussed communication, as confidence more directly taps into each clinician's subjective sense of self-efficacy and belief in their ability to communicate and help patients. Halkett et al. found that RTs are least confident in discussing psychosocial issues with patients,² and the current study found that lower confidence was indeed associated with higher job stress and burnout on the MBI-PA scale. Replication of this finding and clarification of the causal direction of this relationship would be helpful in future studies, but the results here suggest that stress and burnout may be affected by an individual's perception of their ability to manage emotion-focussed encounters with patients confidently.

In conclusion, fewer RTs in this study report job stress than found in studies of other cancer clinicians, whereas levels of job satisfaction seem comparable.^{4,9,23} When compared with RTs in a large US study and MBI norms of doctors and nurses,^{5,10} RTs in this Australian sample experienced less burnout on the MBI-EE and MBI-DP scales, but worse burnout on MBI-PA scale.

Further analyses suggest that emotion-focussed patient care may place clinicians at risk of stress or burnout in some circumstances, however, may also be associated with significant job satisfaction and personal accomplishment. Factors that may increase RTs vulnerability to stress and burnout include having workplace barriers that impede emotion-focussed communication and care (e.g., lacking time or privacy for these communications), and when staff lack support or confidence in their emotion-focussed communication with patients. Attendance at the four-hour 'Eliciting and Responding to Emotional Cues' workshop had no relationship with job stress and two of the three scales of burnout (MBI-DP, MBI-PA), but unexpectedly, was associated with higher burnout on the MBI-EE scale. Further research to replicate this finding is required, and to determine the causal direction of this relationship.

One of the major limitations of this study was that analyses were exploratory in nature and multiple comparisons or correlations were made with no correction for type I error. Further research is therefore required to clarify and confirm the findings in this study. The causal direction of relationships cannot be assumed from the findings either and all participants were sourced from the one worksite, greatly limiting the generalisability of results. The Cronbach's α measure of internal consistency for MBI-DP scale of burnout was quite low, possibly because of limited variability of responses (only low numbers of participants endorsed burnout on this scale), and the MBI was the only formally validated measure used in this study. As such, interpretation of results should be made with some caution.

Despite these limitations, the results of this study have important implications for radiation therapy and other clinical departments in oncology settings. The results point the way to practical methods in which staff can be facilitated to provide emotion-focussed care and communication with patients while reducing their risk of stress and burnout. Strategies may include improving staff skills or confidence, improving staff support, and ensuring staff have the time and privacy to communicate with patients who

present with emotional concerns. It remains unclear whether clinician training in emotion-focussed communication with patients has the potential to positively impact clinician stress or burnout, or may in fact worsen stress and burnout for some staff. Further research is required to clarify this. Ultimately, however, efforts to identify workplace contributors to clinician stress and burnout will create a more positive and rewarding work culture for clinicians, and will have benefits for both clinicians and patients alike.

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