

ORIGINAL ARTICLE

Radiation therapy students' perceptions of peer group supervision: a pilot study

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Abstract

Introduction: Research indicates radiation therapy students are at risk of burnout. Peer Group Supervision (PGS) is a tool used to help reduce stress, increase reflective practice and help manage professional issues. This pilot study aimed to investigate the third-year New Zealand radiation therapy students' perceptions of participating in PGS. **Methods:** In 2019, all 27 third-year radiation therapy students were introduced to PGS. At the end of the year, the students were invited to fill in a 14-item Clinical Supervision Evaluation Questionnaire (CSEQ), answer an open-ended question and provide demographic data. The CSEQ asks participants to indicate the extent to which they agree with 14 statements related to Purpose, Process and Impact of PGS. The open-ended question asked if there were anything else they would like to say about participating in PGS as a student. The study utilised both qualitative and quantitative methods. **Results:** Of the 27 students invited, 22 responded to the questionnaire. Analysis of the CSEQ revealed that eight of the 22 students (36.4%) had a positive impression of PGS, 13 (59.1%) were neither positive nor negative, and one (4.6%) had a negative perception of PGS. The thematic data showed that the students perceived PGS to assist with stress management. They valued having scheduled time out to reflect on practice and appreciated the safety and trust established in the groups. **Conclusion:** Overall, the radiation therapy students responded positively to PGS. The students felt safe talking about clinical issues in their groups, and they perceive PGS to positively affect their stress management, resulting in new clinical insights and increased self-awareness. Further research is required to examine the long-term effects of PGS on patient care and if PGS can help reduce burnout for student radiation therapists.

Introduction

Burnout is described as a state of emotional, physical and mental exhaustion due to long-term involvement in emotionally demanding situations. According to the Maslach Burnout Inventory (MBI),^{1,2} there are three dimensions to burnout. The first is emotional exhaustion, where individuals feel overwhelmed by demands of others. The second, depersonalisation, occurs by inappropriately attempting to cope with exhaustion and is characterised by feelings of detachment and dehumanisation. The final stage is a decreased sense of personal accomplishment and is associated with feelings of inadequacy, personal failure and poor professional self-

esteem.² Burnout can increase the risk of depression, anxiety, insomnia, drug abuse and suicidal ideation.^{3,4} In allied health professionals, burnout increases the risk of self-reported poor patient care, job absenteeism and medical errors.⁵

International and New Zealand (NZ) studies indicate that radiation therapists (RTs) are exposed to unique occupational stressors.^{6–8} These include treating dying patients and people of their own age, low staff morale, lack of career progression and lack of recognition from management, all of which contribute to burnout.⁶ A national NZ study (2013)⁷ found that RTs experience significantly high levels of burnout. Their burnout scores exceeded the MBI normative mean scores for medical

workers and those from previously published studies within the radiation oncology context.^{7,8} RTs in NZ also reported limited coping strategies for managing work-related stressors.⁶ The NZ RTs indicated they would like interventions implemented to help them cope with the occupational stressors they experience in the workplace.^{6,7}

Additional studies have shown that burnout also affects student RTs. In the United Kingdom (UK), Probst et al.⁹ reported that emotional exhaustion and burnout resulted in 36% of student RTs deciding not to complete their radiation therapy studies.⁹ Similarly, Leung et al.³ found high rates of burnout in trainee radiation oncologists in NZ and Australia, with 49.5% experiencing emotional exhaustion and/or depersonalisation and 13.1% scoring high in all three areas of burnout.³ The UK Society and College of Radiographers (SCoR) recommended building resilience training into radiation therapy training programmes to help combat student attrition.¹⁰ However, they did not identify a specific model to implement.

Peer Group Supervision (PGS) allows peers of equal status, in groups of four to six, to focus on developing interpersonal skills to manage workplace stress, challenging clinical situations, emotional and ethical dilemmas.¹¹ This differs from more traditional forms of counselling/clinical supervision in that it does not require the presence of a qualified expert to facilitate the process. Group members bring an issue for supervision to the group, and an agenda is set. Each group member then takes a turn as the supervisee, and the others collectively become the supervisor. The supervisors are reciprocally providing solutions for the supervisee's issue. The meetings use a range of highly structured group processes for supervision, so there is always a peer facilitator assigned, who safeguards the process to ensure the group sticks to the contract and maintains the focus of the supervisory process. To increase the group's effectiveness and ensure that members leave 'intact' the sessions end with a final review.¹¹ Overall, PGS should increase group members' professionalism within their work environments and leads to better patient care.^{11,12}

RTs across five radiation therapy centres in NZ trialled PGS during 2017 and 2018. The study indicates that PGS maybe useful in reducing burnout for RTs in their first five years of practice.¹³ They perceived PGS as a way to improve their patient care and reduce their stress because they felt they could discuss patient-related matters at the meetings. In contrast, more experienced staff were using the groups as a 'professional support group', rather than 'PGS', as a strategy for managing the organisational stressors associated with burnout. These RTs appeared to struggle with the structure of PGS. To be effective, groups need to adhere to group processes and the agreed

structure, and participants need a clear understanding of what they want to achieve from each PGS meeting.^{11,13}

Overall, the NZ RTs responded positively to PGS,¹³ which prompted academic staff to implement PGS into the Bachelor of Radiation Therapy (BRT) programme. The BRT is a three-year degree offered at the University of Otago, Wellington campus and is the only Radiation Therapy programme in NZ. In 2019 the 27 third-year student RTs were introduced to PGS. Therefore, the aim of this pilot study was to investigate the students' perceptions of participating in PGS.

Methodology

In February 2019, all 27 third-year student RTs on the BRT took part in a workshop introducing them to the concept of PGS. Instructions were given regarding how to run PGS meetings, with emphasis on the importance of adhering to group processes and the agreed structure. To help with this, students were given a handout about PGS to refer to, and were randomly split into groups of four or five. Participating in PGS was mandatory for the students and ran for 1–1.5 hours. From February to June 2019, five PGS monthly meetings were held face to face while the students were on campus. The meetings were timetabled into university time. From July to November 2019, students were on clinical placement in one of nine radiation therapy centres around NZ, so the five PGS meetings were held over Zoom™ as the students were not necessarily placed in the same centre. Time was also set aside for the PGS meetings whilst the students were clinical. The students remained in the same groups throughout the year to ensure continuity. For the sessions, students recorded who facilitated the meeting and any absences, whilst at the University they also recorded where they met as a group.

Questionnaire distribution

Following ethics approval from the University of Otago Ethics Committee (reference number D19/189), all 27 students were invited to participate anonymously in an online questionnaire using Qualtrics™. The questionnaire was distributed via email, with a participant information sheet, on the 6th November 2019 (5 days after the last timetabled PGS session) and remained open until 30th November 2019. The information sheet explained it was voluntary to complete the questionnaire, and the students could opt-out at any time. Students were sent automated reminder emails to complete the questionnaire. The decision to participate in the questionnaires was deemed as consent.

The questionnaire

The evaluation tool was an online survey that collected both qualitative and quantitative data. Quantitative data were obtained from the first section of the questionnaire, which utilised the Clinical Supervision Evaluation Questionnaire (CSEQ). The CSEQ developed by Horton et al.¹⁴ gathers data across 14 fields relating to participant perception of group purpose, process and impact. It has been found to have reliability and validity for group supervision in allied health professions.^{14–16} The CSEQ format used in this study was slightly modified with the permission of its authors. Specifically, the name of the activity being evaluated was changed from 'Clinical Supervision' to 'Peer Group Supervision'. The CSEQ asks participants to indicate their level of agreement (on a 5-point Likert scale, scoring –2 to +2) with 14 statements (Table 1) about Purpose, Process and Impact of PGS. A score of –2 corresponded with 'strongly disagree', –1 to 'disagree', 0 to 'no opinion', +1 to 'agree' and +2 to 'strongly agree'. The format of the questionnaire was such that the students could not leave any of these questions unanswered before advancing to the second section.

Qualitative data were gathered in the second section of the questionnaire using an open-ended question that

asked the participants if they had anything else to add about their experience with PGS as a student. This was a blank text box that the students could type into. This question was optional, and there was no minimum word count or word limit imposed.

The final section of the questionnaire gathered student demographic data: gender, ethnicity (multiple selections possible) and age group.

Analysis

Using the previously described Likert scale,^{14,15} the lowest possible score was –28, indicating strong disagreement with all statements, and the highest +28. A score of +14 or more indicated a 'definitely positive view of this programme'¹⁴ and average score of +1 for all statements. A score of less than 0 indicated a negative view of PGS.¹⁷

Pearson product-movement correlation coefficients were calculated to compare the relationships between the student's perceptions of the purpose and process of PGS with their perceptions of the impact of PGS.

An inductive thematic analysis approach to the open-ended responses from the survey was undertaken to provide complementary information to the quantitative data.¹⁸ Open-ended responses were read and re-read independently by the two researchers (a summer student and an academic researcher) to develop codes. Initial coding was further refined through re-reading responses independently and checking for consistency across the data set. The researchers then compared and discussed their independent coding and further refined codes. From this discussion, categories and themes emerged until consensus was reached.^{18,19}

Results

Demographic information

Of the 27 students, RTs invited to participate in this study, 22 responded to the questionnaire, a response rate of 81.5%. Most participants identified as NZ. European female and were between the ages of 21 and 24 (Table 2). The demographic characteristics of this cohort reflect the students studying on the BRT in NZ.

CSEQ results

The percentages cited in the following sections refer to the number of participants who rated each statement as strongly agree or agree (+2 or +1, respectively). The mean score (MS) gives the average score participants gave each statement, ranging between 2 and –2, with 0 being neutral. (Table 3).

Table 1. Clinical Supervision Evaluation Questionnaire (CSEQ).

Statement 1	The purpose of peer group supervision is to improve patient care
Statement 2	I feel safe sharing workplace issues in peer group supervision sessions
Statement 3	I believe that any confidences I share are respected
Statement 4	I have gained new clinical insight through peer group supervision
Statement 5	There is mutual trust between the members in my group
Statement 6	Peer group supervision has definitely had a positive impact on the quality of care I provide
Statement 7	Being a part of a peer supervision group is helping me develop my self-awareness
Statement 8	Peer group supervision has helped me feel more confident about dealing with my job
Statement 9	The purpose of peer group supervision is to enable practitioners to feel confident in their own practice
Statement 10	I feel confident about bringing issues to peer group supervision
Statement 11	Peer group supervision has helped me cope with any stresses at work I may have
Statement 12	Peer group supervision has made me more aware of the skill areas I need to improve
Statement 13	There are well-established ground rules in my group
Statement 14	I am clear about what I want to get out of peer group supervision

Table 2. Participant characteristics ($n = 22$).

Gender	
Male	3
Female	19
Ethnicity	$n = 23^a$
NZ. European	17
Maori	1
Samoan	0
Cook Island Maori	0
Chinese	0
Indian	1
Other	4
Age	
17–20 years	2
21–24 years	19
25–28 years	1

^a $n = 23$ for Ethnicity as one student identified as both NZ European and Māori.

Purpose (3 statements)

Sixteen participants (73%) agreed that the purpose of PGS is to improve patient care (MS 0.59). All 22

participants agreed that the purpose of PGS is to enable practitioners to feel confident in their own practice (MS 1.05), and all participants felt clear about what they wanted to get out of PGS (MS 0.86).

Process (5 statements)

All 22 participants felt safe sharing workplace issues in PGS sessions (MS 1.81). However, only 12 students (55%) felt that their group had well-established ground rules (MS 0.36). Nineteen students (86%) felt that any confidences they shared would be respected (MS 1.00), and all felt there was mutual trust between group members and felt confident about bringing issues to PGS (MS 1.14 and 1.27, respectively).

Impact (6 statements)

Sixteen students (73%) felt that being a part of PGS helped develop their self-awareness (MS 0.86), and 68% felt that they had gained new clinical insight through PGS (MS 0.82). Half (11 students) found that PGS had made

Table 3. Clinical Supervision Evaluation Questionnaire (CSEQ) results¹.

	Strongly agree	Agree	No opinion	Disagree	Strongly disagree	Total Score	Mean Score
Purpose							
The purpose of peer groups supervision is to improve patient care	2	15	0 ²	–2	–2	13	0.59
The purpose of peer group supervision is to enable practitioners to feel confident in their own practice	8	15	0	0	0	23	1.05
I am clear about what I want to get out of peer group supervision	4	15	0	0	0	19	0.86
Process							
I feel safe sharing workplace issues in peer group supervision sessions	8	18	0	0	0	26	1.18
There are well-established ground rules in my group	2	11	0	–5	0	8	0.36
I believe that any confidences I share are respected	10	14	0	–2	0	22	1.00
There is mutual trust between the members in my group	12	13	0	0	0	25	1.14
I feel confident about bringing issues to peer group supervision	12	16	0	0	0	28	1.27
Impact							
Being a part of a peer group supervision group is helping me develop my self-awareness	8	12	0	–1	0	19	0.86
I have gained new clinical insight through peer group supervision	6	12	0	0	0	18	0.82
Peer group supervision has made me more aware of the skill areas I need to improve	4	9	0	–6	–2	5	0.23
Peer group supervision has definitely had a positive impact on the quality of care I provide	4	7	0	–5	0	6	0.27
Peer group supervision has helped me cope with any stresses at work I may have	6	15	0	–3	0	18	0.82
Peer group supervision has helped me feel more confident about dealing with my job	2	15	0	–1	–2	14	0.64

¹Total student score for each statement, where strongly agree scores 2 (1 student strongly agreeing = 2 points, 2 students strongly agreeing = 4 points), agree scores 1 (1 student agreeing = 1 point), no opinion scores 0 (5 students with no opinion scores = 0), disagree scores –1 (1 student disagreeing = –1) and strongly disagree scores –2 (1 student strongly disagreeing = –2).

²In this case there was: 1 student who strongly agreed, 15 students who agreed, 3 students had no opinion (0 score), 2 students disagreed and 1 student strongly disagreed. Total of 22 students.

them more aware of skills they needed to develop as qualified RTs (MS 0.23). Nine students (41%) felt that PGS had an impact on the quality of care they can provide (MS 0.27). Eighteen (82%) felt that PGS helped them cope with any stresses they had at work (MS 0.82), and 73% felt that PGS helped them feel more confident to do their jobs (MS 0.64).

Analysis of CSEQ data

A score of 14 or more from any student indicates a 'definitely positive perception of PGS'.^{14,15} Of the 22 students, eight had a score of 14 or more (36.4%). One student (4.55%) returned a score of less than 0, indicating dissatisfaction with PGS. A further 13 (59.1%) students had scores between 0 and 14, indicating neither positive nor negative viewpoint. The statements that attracted the most positive perceptions of PGS from all participants were statements 2 and 10 (Table 1).

The overall mean student score for the entire questionnaire was 9.5 (range -28 to +28), a median of 12, and 25th and 75th quartiles of 9 and 14.75, respectively. Of the 14 statements, six had no negative responses (score of 0 or more by all participants). From the variety of statements, the main issues related to confidentiality, overall purpose of PGS, and a clinical focus. These were statements 2, 4, 5, 9, 10 and 14 (Table 1).

Of the 308 student scores (14 statements × 22 students = 308 scores), there were three 'strongly disagree' responses (score -2), one each to statements 1, 8 and 12 (Table 1). There were 25 'disagree' responses (score -1), the majority of which (64%) came from the impact section. The statements with the most 'disagree' responses were numbers 6 (*PGS has definitely had a positive impact on the quality of care I provide*), 12 (*PGS has made me more aware of the skill areas I need to improve*) and 13 (*there are well-established ground rules in my group*). Of the 22 completed responses, three accounted for 12 of the 25 disagree responses (48%). One of these students also accounted for two of the three 'strongly disagree' responses. There were a further 49 neutral responses (score 0) and 187 individual positive responses (score +1), and 44 were 'strongly agree' (score +2), giving an average student statement score of 0.79.

Pearson's product-movement correlation coefficients (r) were calculated to compare the relationships between the students' perceptions of the purpose and process of PGS with their perceptions of the impact of PGS (Table 4). The bivariate correlations shown in Table 4 revealed a strong positive correlation between purpose and impact ($r = 0.78$, ($n = 22$) $P = 2.03e-05$). This means a change in purpose is associated with a change in impact in the same direction and vice versa.

Table 4. Correlations ($n = 22$).

	Purpose mean	Process mean	Impact mean
Purpose mean Pearson correlation	1	0.41	0.78
Significant (2 tailed)		0.0551	2.02847E-05
Process mean Pearson correlation	0.41	1	0.50
Significant (2 tailed)	0.0551		0.0174
Impact mean Pearson correlation	0.78	0.50	1
Significant (2 tailed)	2.02847e-05	0.0174	

Findings from qualitative data analysis

Of the 22 students who participated, 15 (68%) answered the open-ended question. Four main themes that emerged from the data were; the positive effects of PGS on stress management, safe spaces in groups, finding the unique structure of PGS helpful and liking scheduled time out to reflect.

Being part of a supportive group for stress management

The main theme that was brought up was the benefits of PGS regarding stress management. Eleven students commented that it was useful to talk about clinical issues, support each other to cope with emotional demands of placement, and help each other realise they are not alone.

PGS has been good to discuss clinical issues and de-stress over them...

RT 14, female. Overall CSEQ score: 13

... an opportunity to confide in individuals in the same profession, to talk about workplace environment or how to cope with the emotional aspects of our jobs.

RT 5, female. Overall CSEQ score: -3

... it has really helped me put things into perspective and good to discuss issues with others who are going through the same thing as me.

RT 7, female. Overall CSEQ score: 18

Safe spaces in the groups

The students were mainly positive about the issue of safety and indicated that the PGS structure created a safe space for them to discuss issues. Three emphasised that the group they were placed with was important for this.

I felt very comfortable to share my concerns with my group, although I wonder if that was due to the individuals who I happened to be grouped with.

RT 18, male. Overall CSEQ score: 9

I think it really depended on the group you were in, about how comfortable you could discuss these issues.

RT 2, female. Overall CSEQ score: 9

I really enjoyed the fact that we kept the groups that we had at the start of the year through clinical placement as there was a bond and a sense of trust already created.

RT 9, female. Overall CSEQ score: 9

One student mentioned that they were careful to have the meetings in a place where they would not be overheard by staff.

...I wanted to make sure I was in a room that was confidential and that issues I wanted to bring up that involved staff wouldn't be vocalised publically [sic].

RT 10, female. Overall CSEQ score: 15

Structure of PGS

Five students mentioned that having a formal structure was beneficial for keeping sessions focussed, as well as ensuring participation from all group members.

Having a structured format for discussing problems was important and is something that is lost with other supports such as talking with a group of friends. Having equal opportunity to contribute was beneficial and prompted people who are usually more withdrawn to offer their unique and often very useful insights.

RT 18, male. Overall CSEQ score: 9

This was really beneficial as it kept gossiping to a minimum but having the 5–10 min catch-up at the beginning and end of each PGS meeting helped reduce the amount of non-PGS related information.

RT 10, female. Overall CSEQ score: 15

However, two students mentioned that they struggled with the PGS format and keeping the sessions structured.

...I feel it is hard to keep them structured though.

RT 14, female. Overall CSEQ score: 13

My only concerns with PGS was it's [sic] structure clinically, as I felt people were often so excited to share that there was hardly any discussion around what each person has done/their actions.

RT 21, female. Overall CSEQ score: 13

Scheduled time out to reflect

Five students commented that they appreciated PGS being timetabled at the University and scheduled into their clinical placements. This allowed students time to prepare for PGS. On clinical placement, the RT staff also had access to the student schedules, so they were aware that the students would be away from the work area for that time.

I appreciate that time has been allocated from clinical time to attend PGS. If it were out of work hours, I expect fewer people would likely participate.

RT 15, female. Overall CSEQ score: 18

It was good to have timetabled time to do it.

RT 7, female. Overall CSEQ score: 18

Having this as a formal-informal time to discuss our placements was really beneficial to be able to get through tough spells as well as learn from different perspectives.

RT 6, male. Overall CSEQ score: 14.

However, one student mentioned that their group did not always attend the online sessions once on clinical placement.

Practically the peer group supervision did not work in our group as people did not attend the online sessions due to either being too busy [sic], or being let off early and just wanting to go home.

RT 3, female. Overall CSEQ score: 1

Two students mentioned that although they valued the sessions, time pressure from placement and some qualified staff and group members not supporting the concept of PGS made taking time out for PGS difficult.

It would have been really useful during placement and having the opportunity to discuss issues and even just to see how everyone was coping, as sometimes we wouldn't go out of our way to message/talk to each other. It was difficult with the pressure from placement, meaning people were more inclined to not attending the meetings, which was also influenced by staff saying whether it was necessary. In some cases for students, had to leave placement even earlier to attend these meetings.

RT 2, female. Overall CSEQ score: 9

Although Friday afternoon was a nice time, I think maybe switching up days and times would improve engagement as often at that time of the week people are ready to start the weekend and are keen on an early finish as opposed to pgs.

RT 19, female. Overall CSEQ score: 16

Discussion

This pilot study aimed to investigate NZ third-year student RTs perceptions of participating in PGS. Overall, the student perceptions of participating in PGS were positive. The qualitative and quantitative data indicate they appreciated time out to hold meetings and felt their confidentiality was respected. They perceived that PGS helped their RT practice as a student and felt comfortable discussing stressful clinical issues in their groups, signposting that PGS may help reduce symptoms of burnout for students. The responses to the open-ended question indicated a slightly more favourable perception of PGS than we expected from the CSEQ scores. However, seven students choose not to answer the open-ended question, so it's possible they did not favour PGS as much as the 15 students that did answer the open-ended question, who mainly had high CSEQ scores.

Although some students admitted to struggling with the formality and ground rules, in general the groups appeared to function well and adhered to the structure. For example, several students commented that they were careful not to let sessions disintegrate into gossip. This contrasts with the NZ PGS study¹³ that found that a lack of structure reduced effectiveness of PGS, with discussion sometimes becoming unfocussed and devolving into gossip. However, the NZ study also found that RTs with one to five years' experience were more likely to follow the PGS guidelines than staff with more than five years' experience. The more experienced staff used the groups more as support groups than peer supervision. This may be due to more experienced staff working in hierarchical environments, which may have influenced the group dynamics. In the current pilot study, the students all had the same amount of experience and status. Therefore, it may have been easier for the students, and perhaps early qualified staff, to adhere to PGS processes. For the students, regular emails were sent to remind them of the PGS guidelines, and all students attended the training at the start of the year that emphasised the importance of structure and process. This may indicate that the earlier PGS is introduced, the easier it will be for RTs to adhere to the structures and processes of PGS in the future.

Most participants agreed the purpose of PGS was to improve patient care and enable confidence in practitioners. All participants felt clear about what they wanted from PGS. There was a corresponding perception that involvement with PGS achieved these aims, as the students reported that PGS helped them cope with stressors at work, be more confident with their jobs, increase self-awareness and gain new clinical insight. Correspondingly, the Pearson product co-efficient calculations revealed a positive correlation between

purpose and impact ($r = 0.78$). Dawber and O'Brien¹⁷ used the CSEQ to evaluate reflective practice groups (another phrase used for peer group supervision) for oncology and intensive care unit (ICU) nurses. They found a similar correlation between purpose and impact and between process and impact. However, our process/impact correlation was low ($r = 0.50$), meaning the students thought the impact of PGS was unaffected by how well the meetings went. Meaning the impact of PGS on the students would be similar regardless of whether they did or did not like how the sessions were led. This effect may be linked to the students' lack of work experience affecting their ability to connect session quality to impact, which may also explain our high number of neutral CSEQ scores.

Our results support the claims of previous studies involving allied health professionals participating in PGS in regards to purpose, process and impact of PGS. Students reported improved stress management,^{15,17,20} improved feelings of trust^{17,21} and new ways to deal with clinical issues.^{21,22} Dawber and O'Brien¹⁷ found that 74% of oncology nurses in their sample had a positive perception of clinical supervision (scoring over 14). This contrasts with the 36.4% of students in our study with scores over 14. Work experience again may be a factor in these differing perceptions, considering that they were surveying nurses who had been working for a number of years, whereas the present pilot study surveyed students. In addition, the nurses' supervision meetings were facilitated by a trained supervisor, which may have influenced the perceived value of each session. Having paid supervisors, although ideal, would not be a viable option for the BRT.

The results of this pilot study should be taken into account when considering planning PGS into timetables and schedules as a proactive measure, rather than a reactive one, to better equip students to manage occupational stressors that could lead to stress and burnout. Since 2020 all students on the BRT (year one, two and three) are introduced to PGS whilst at the University. As they proceed into the clinical environment, they continue to participate in monthly PGS meetings.

Limitations

The annual intake of student RTs in NZ is less than 30, and although our questionnaire is representative, our sample size is still small. Thus, outliers and individual differences will skew the results and make generalisation difficult. A longitudinal study could be conducted to get a larger data sample.

All data gathered by questionnaires are vulnerable to recall bias and influence from the most recent PGS session. Additionally, the Likert scale is a type of ordinal

data that means that the responses may magnify biases, as the options (agree, disagree, etc.) are relatively narrow.

The open-ended question is subject to volunteer bias. In general, only the students who felt strongly about PGS left comments. The CSEQ preceded the themed questions within the questionnaire, reducing the independence of these two sampling methods, with the former potentially informing the latter. Randomisation of the order in which the questionnaire sections were completed would reduce this risk.

Conclusion

Overall, this pilot study indicated that the third-year student RTs perceptions of PGS were positive. They felt safe to talk about clinical issues in their groups, and they perceived PGS to have a positive effect on their stress management, indicating that PGS may help reduce burnout for student RTs. The unique structure of PGS helped the students to reflect on and solve clinical issues resulting in new clinical insights and increased self-awareness. Further research is required to examine the long-term effects of PGS on patient care and a longitudinal study to increase the generalisability of the results to determine if PGS can indeed reduce burnout for student RTs.

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Conflicts of Interest

The authors declare that there are no conflicts of interest.

References

- Maslach C, Jackson S. Maslach Burnout Inventory Manual. Consulting Psychological Press, Palo Alto, CA, 1997.
- Maslach C, Jackson SE, Leiter MP. Maslach Burnout Inventory: Third edition. Evaluating Stress: A book of resources. Consulting Psychological Press, Palo Alto, CA, 1997; 191–218.
- Leung J, Rioseco P. Burnout, stress and satisfaction among Australian and New Zealand radiation oncology trainees. *J Med Imaging Radiat Oncol* 2017; **61**: 146–55.
- Dyrbye LN, et al. Burnout and suicidal ideation among US medical students. *Ann Intern Med* 2008; **149**: 334–41.
- Shanafelt TD, Bradley KA, Wipf JE, Back AL. Burnout and self-reported patient care in an internal medicine residency program. *Ann Intern Med* 2002; **136**: 358–67.
- Jasperse M, Herst P, Dungey G. Workplace challenges and coping strategies in a small cohort of radiation therapists in New Zealand: a pilot study. *New Zeal. J. Med. Radiat. Technol.* 2011; **54**: 4–9.
- Jasperse M, Herst P, Dungey G. Evaluating stress, burnout and job satisfaction in New Zealand radiation oncology departments. *Eur. J. Cancer Care (Engl)* 2014; **23**: 82–8.
- Akroyd D, Caison A, Adams RD. Burnout in radiation therapists: the predictive value of selected stressors. *Int J Radiat Oncol* 2002; **52**: 816–21.
- Probst H, Boylan M, Nelson P, Martin R. Early career resilience: Interdisciplinary insights to support professional education of radiation therapists. *J Med Imaging Radiat Sci* 2014; **45**: 390–8.
- Coyler H. Improving retention of the radiotherapy workforce - the role of practice placements in student attrition from pre-registered programmes in England: full report. (2013).
- McNicholl A, Baker W. The Power of Peer Supervision. New Zealand Coaching and Mentoring Centre, Auckland, New Zealand. (2012).
- Lakeman R, Glasgow C. Introducing peer-group clinical supervision: an action research project. *Int J Ment Health Nurs* 2009; **18**: 204–10.
- Dungey G, Naser H, Sim D. New Zealand radiation therapists' perceptions of peer group supervision as a tool to reduce burnout symptoms in the clinical setting. *J Med Radiat Sci* 2020; **67**: 225–32.
- Horton S, de Lourdes Drachler M, Fuller A, de Carvalho Leite JC. Development and preliminary validation of a measure for assessing staff perspectives on the quality of clinical group supervision. *Int J Lang Commun Disord* 2008; **43**: 126–34.
- Dawber C. Reflective practice groups for nurses: a consultation liaison psychiatry nursing initiative: Part 2 - the evaluation. *Int J Ment Health Nurs* 2013; **22**: 241–8.
- Kuipers P, Pager S, Bell K, Hall F, Kendall M. Do structured arrangements for multidisciplinary peer group supervision make a difference for allied health professional outcomes? *J Multidiscip Healthc* 2013; 391–7. <https://doi.org/10.2147/JMDH.S51339>
- Dawber C, O'Brien T. A longitudinal, comparative evaluation of reflective practice groups for nurses working in intensive care and oncology. *J Nurs Care* 2013; **3**: 1–8.
- Braun V, Clarke V. Using thematic analysis in psychology. *Qual. Res. Psychol.* 2006; **3**: 77–101.
- Nowell LS, Norris JM, White DE, Moules NJ. Thematic analysis: Striving to meet the trustworthiness criteria. *Int. J. Qual. Methods* 2017; **16**: 1–13.
- Culp C, Berding J. Peer group supervision in the field of logopaedia and occupational therapy - Support for

- training of competences in clinical reasoning and lifelong-learning. *Forum Logopadie* 2014; **28**: 16–21.
21. O'Donoghue K. An evaluation of clinical supervision of allied health professionals from two district health boards: a preliminary summary report. (2016).
 22. McGrath D, Higgins A. Implementing and evaluating reflective practice sessions. *Nurse Educ Pract* 2006; **6**: 175–81.