

Surgical Reflection Rounds as an Organisational Innovation to Improve Staff Resilience

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Abstract

Introduction: Owing to the growing demands, high levels of expectations and increasing stress experienced by many clinicians, alarming rates of burnout and depression threaten their wellbeing. Studies on physicians' suicide collectively show moderate (men) to high (women) elevated suicide rate ratios. More than half of UK doctors report significant symptoms of burnout - a rate more than twice that among professionals in other fields.

There is an urgent need for more research examining the psychological well-being of healthcare professionals as it plays a fundamental role in recruitment and retention and has a direct impact on patient safety. We aim to assess the effectiveness of reflection rounds in improving resilience in healthcare professionals.

Methods: Between October 2017 and April 2018, a two-group non-randomized controlled trial design evaluated the effect of surgical reflection rounds (SRR) on a study vs control group of healthcare workers at a teaching hospital in London. 98 participants were interviewed using a Connor-Davidson Resilience Questionnaire (CD-RISC10). Data analysis was performed by descriptive statistics, independent-sample t test, one-way ANOVA, and regression analyses. Wilcoxon signed rank test was used to compare scores on the pre- and post SSR CD-RISC questionnaires. Results were considered to be significant at $p < 0.05$.

Results: 120 participants were included (response rate = 81.67%). There were 44 healthcare workers in the SRR cohort and they were matched with 44 control healthcare workers who did not participate. The majority (68%) were female. Most of them were junior doctors (64%). Respondents were mostly junior doctors equal or below 39 years of age (70%). The mean baseline resilience score was 75.9 (SD 6.0, range 40 - 110). In multivariate analysis, only marital status, age group, and seniority remained significantly associated with resilience level. The mean CDRISC score in the SRR group was 88.62 +/- 9.32 compared to 83.14 +/- 8.59 in the control group after 6 months. This result was statistically significant.

Conclusion: There is a need for effective evidence based strategies to improve resilience in clinical populations, thereby positively impacting on patient safety. Our study demonstrates surgical reflection rounds can be effective in building resilience amongst our staff.

Keywords: Resilience; Staff Well-Being; Professional Burnout

Introduction

There is an urgent need for more research examining the psychological well-being of healthcare professionals, as it plays a fundamental role in recruitment and retention and has a direct impact on patient safety [1].

Alarming high levels of burnout, depression and suicide threaten the well-being of healthcare professionals. Recent media coverage surrounding the manslaughter charge of a junior doctor has compounded the issue further [2]. More than half of UK doctors report significant symptoms of burnout - a rate more than twice that among professionals in other fields [3]. According to a 2017 RCS survey, 51% of surgeons (and 65% of surgical trainees) have reported low morale being the main issue in their workplace affecting their mental well-being [4].

We know that the problem starts early. Medical students and trainees have higher rates of burnout and depression than their peers who are pursuing non-medical careers [5]. The trend is not exclusive to doctors as nurses also experience high rates of burnout [6]. Clinicians are human, and it takes a personal toll on them when circumstances make it difficult to fulfil their ethical commitments and deliver the best possible care.

The Point of Care Foundation [7] has worked with over 180 organisations throughout the NHS, specifically supporting clinical teams in introducing Schwartz rounds [8], now formally evaluated in a longitudinal National Institute for Health Research study with positive results for staff morale [9]. During these rounds staff can share the difficult emotional aspects of providing care while retaining compassion in a facilitated safe environment [10].

Queens Hospital, Romford is part of Barking, Havering and Redbridge NHS Foundation Trust, which provides district general hospital services for the local population and a range of community services. It has a total workforce of around 7000. Surgical reflection rounds were first introduced at Queens Hospital in October 2017 after the success of Schwartz Rounds [8], run in the preceding academic year. All staff in the surgical directorate, whether clinical or non-clinical, were invited to attend. A panel of two to three speakers - usually from different disciplines - spend around 20 minutes presenting a patient story or talking about a topic related to their work. The emphasis throughout is on the personal and emotional impact of their work and only touches on the details of clinical management as necessary to explain the story. There is anecdotal evidence that emotional availability and intelligence have been enhanced by organisations that support their staff.

A surgical reflection round lasts for one hour, and for the remainder of this time the discussion is opened up to all those attending under the guidance of two facilitators. It is emphasised that the purpose is not to solve problems but to reflect on the stories told, and to share experiences these may have brought to mind. The need for confidentiality is stressed in relation to any patient stories, and to any participants speaking during the Round. The intention is to provide a safe environment, in which staff feel able to talk freely. The round is timetabled protected teaching with notice given to the department.

We hereby analysed and present the preliminary results of this initiative on our staff resilience.

Methods

Design

A two group non-randomised trial compared the effect of SRR on a cohort of healthcare workers (intervention group), with a similar cohort of healthcare workers (control group) who did not attend the SRR groups. All participants were assessed prospectively at baseline, during the intervention and 3 months after completion of the intervention. Healthcare workers were included in the study as part of the

reflection round process this implied and verbal consent to participation. If a participant did not attend a reflection round they were not included in the intervention group of the study.

Participant recruitment, eligibility and randomisation

Study subjects were recruited using convenience sampling. All participants in the intervention group were recruited from the current cohort of the surgical directorate. The control group composed of all healthcare workers not in the division of surgery. All doctors, nurses, students and allied health care professionals were invited. This provided a pragmatic and realistic control population within the hospital. Recruitment was conducted between October 2017 and March 2018.

Eligible participants were assigned to groups based on their placements in surgery (intervention group) or other medical specialties (control group).

Measurement tools

Demographics included age, gender, relationship status, job grade, highest qualification, family responsibility (presence of dependents), alcohol, smoking status and past medical history. Resilience was assessed using the Connor-Davison Resilience Scale (CD-RISC10), which has been validated by many other investigators.

The CD-RISC is a 25-item questionnaire that takes into consideration many aspects of resilience, such as hardiness, social support, stress-coping ability, self-esteem, life satisfaction, successful aging, and positive and negative affect [12]. It consists of ten five-point Likert scale (with 0 = never; 4 = almost always) [13]. The final score is the sum of responses on the 10 items, with higher scores indicating higher levels of resilience. In our study, the internal consistency reliability was 0.91 (Cronbach's alpha).

Qualitative data were collected in writing from the participant evaluation forms, with the purpose to improve future SRR sessions and assess participants' perceptions about the value of the program.

Baseline CD-RISC scores were compiled and after 6 months of SSR, CD-RISC was re-scored for the cohort who attended SSR and for the cohort who did not. SSR were arranged bimonthly as standard in the surgical directorate timetable.

Data analysis

Statistical analysis using SPSS®, version 21.0, was completed using repeated measures within-group analysis of variance to determine if a significant difference existed between pre- and post intervention resilience mean scores. Participants also completed an evaluation form. Participant evaluations were collected, tabulated data was anonymised and allocated a study number.

The demographic variables were summarized using descriptive statistics.

To strengthen the clinical interpretability of the results, respondents were also categorized according to their resilience score: low (scoring within the first quartile), moderate (second quartile and third quartile) and high (fourth quartile).

Respondents were subsequently grouped into low resilience or average/high resilience. Univariate and multivariate logistic regression models were used to assess associations between demographic variables and different levels of resilience. The effects of these variables are expressed as odds ratios and associated 95% confidence intervals. P-values less than 0.05 were considered statistically significant. The t test was used to compare scores on the pre- and post SSR CD-RISC questionnaires between the two groups. Results were considered to be significant at $p < 0.05$.

Results

There were 120 potential participants meeting the inclusion criteria. Among them, 22 participants did not complete the study questionnaires. Therefore, 98 participants were included (response rate = 81.67%). All participants in the study group attended all sessions across the duration of the study.

Table 1 presents the demographics of the participants. The large majority (68%) were female. Most of them were junior doctors (64%), with a fairly equal proportion being single (47%) and in a relationship (50%). Respondents were mostly junior doctors equal or below 40 years of age (70%).

Demographics	Number (%)	Low Resilience	Moderate Resilience	High Resilience
Male	33 (34)	10 (30.3)	15 (45.4)	8 (24.2)
Female	65 (66)	18 (27.6)	33 (50.7)	14 (21.5)
Age Group				
< 26	32 (32.5)	14 (43.7)	15 (46.8)	3 (9.37)
26 - 39	32 (32.5)	8 (25)	20 (62.5)	4 (12.5)
> 39	34 (35)	6 (17.6)	23 (67.6)	5 (14.7)
Marital Status				
Single	46 (47)	10 (21.7)	20 (43.4)	16 (34.7)
Married	50 (51)	8 (16.0)	23 (46.0)	19 (38.0)
Grade				
FY1	30 (31)	14 (46.7)	9 (30.0)	7 (23.3)
SHO	16 (16)	6 (37.5)	7 (43.8)	3 (18.8)
SPR	23 (23.4)	5 (21.7)	12 (52.1)	6 (26.1)
Consultant	6 (6.4)	0 (0)	3 (50.0)	3 (50.0)
Nurse	7 (7.1)	2 (28.5)	3 (42.8)	2 (28.5)
Student	11 (11.2)	4 (36.3)	5 (45.4)	2 (18.2)
Allied Health Care Professional	5 (5.1)	2 (40.0)	2 (40.0)	1 (20.0)
Smoking	18 (18.3)	4 (22)	8 (44.4)	6 (33.3)
Alcohol	51 (52)	10 (19.6)	29 (56.7)	12 (23.5)
Medical History	23 (23.4)	6 (26.0)	10 (43.4)	7 (30.4)
Disability	2 (2)	0	2 (100)	0

Table 1: Demographics of participants and baseline resilience.

Base line resilience level

The mean resilience score was 75.9 (SD 6.0, range 40 - 110). 28% were of low resilience (defined as scoring lower or equal to 25th percentile); 62% were of moderate resilience level (scoring above 25th percentile but less than 75th percentile); and 10% were of high resilience level (scoring above 75th percentile).

Association between demographic variables and level of resilience.

In univariate analysis, relationship status, age group, and job grade were significantly associated with a higher level of resilience, as presented in table 2. Specifically, older senior health care participants (HCPs) in a relationship were almost twice as likely to report moderate/high resilience. Staff who have been in a relationship were approximately twice more likely to report moderate/high resilience than single health care participants.

Demographics	Univariate odds ratio CI 95%	P value	Multivariate odds ratio	P value
Male	Ref		Ref	
Female	0.83 (0.50 - 1.39)	0.490	0.69 (0.39 - 1.22)	0.200
Age Group				
<26	Ref			0.038
26 - 39	1.88 (1.42 - 2.48)	< 0.0005	1.04 (0.73 - 1.48)	0.844
39>	3.15 (2.19 - 4.53)	< 0.0005	2.75 (1.22 - 6.18)	0.015
Marital Status				
Single	Ref			
Married	1.93 (1.50 - 2.48)	< 0.0005	1.68 (1.23 - 2.32)	0.001
Grade				
	Ref	0.109	1.23 (0.80 - 1.88)	
FY1	2.10 (1.38 - 2.76)	0.111	0.56 (0.24 - 1.38)	0.345
SHO	2.23 (1.18 - 2.93)	0.123	1.16 (0.75 - 1.95)	0.233
SPR	2.13 (1.22 - 2.86)	0.239	1.13 (0.61 - 1.98)	0.734
Consultant	2.21 (1.23 - 2.96)	0.049	1.11 (0.80 - 1.81)	0.049
Nurse	1.83 (1.29 - 2.81)	0.049	1.22 (0.71 - 1.69)	0.049
Student	1.86 (1.32 - 2.78)	0.211	1.27 (0.69 - 1.75)	0.867
Allied Health Care Professional	1.91 (1.31 - 2.77)			0.856
Smoking	0.85 (0.61 - 1.18)	0.211	2.13 (1.22 - 2.86)	0.543
Alcohol	1.81 (1.11 - 2.96)	0.112	1.83 (1.29 - 2.81)	0.454
Medical History	4.97 (1.73 - 14.29)	0.432	1.91 (1.31 - 2.77)	0.586
Disability	0	0	0	0

Table 2: Association between demographic variables and resilience.

Health care participants aged 26 - 39 years were nearly twice as likely to report moderate/high levels of resilience as compared to health care participants below 26 years of age. Health care participants aged above 39 were thrice as likely to report moderate/high resilience levels as health care participants below 26 years.

In multivariate analysis, only relationship status, age group, and job grade remained significantly associated with resilience level.

Two cohorts were recruited as demonstrated in table 3. After 6 months of intervention, the intervention cohort (n = 44) and the control cohort (n = 44) were assessed using the Connor-Davison Resilience Scale (CD-RISC10). The mean CDRISC score in the SRR group was 88.62 +/- 9.32 compared to 83.14 +/- 8.59 in the control group after 6 months. This result was statistically significant.

Variable	SRR Group n = 44 (%)	Control Group n = 44 (%)	t	X ²	P value
Male	14 (31.8)	10 (22.7)	0.072		1.000
Female	30 (68.0)	34 (77.3)			
Age Group					
<26	15 (34.0)	17 (38.6)		0.343	0.279
26-39	15 (34.0)	13 (29.5)			
39>	14 (31.8)	14 (31.8)			
Marital Status					
Single	24 (54.5)	21 (47.7)		0.312	0.263
Married	20 (45.4)	23 (52.2)			
Grade					
FY1	9 (20.5)	9 (20.5)		0.269	0.752
SHO	6 (13.6)	6 (13.6)			
SPR	8 (18.1)	3 (6.81)			
Consultant	7 (15.9)	8 (18.1)			
Nurse	6 (13.6)	7 (15.9)			
Student	5 (11.4)	6 (13.6)			
Allied Health Care Professional	3 (6.81)	5 (11.4)			
Smoking	9 (20.5)	11 (25.0)			
Alcohol	28 (63.6)	26 (59.0)		0.217	0.243

Table 3: Homogeneity testing of general participant characteristics.

Variable	SRR Group n = 44	Control Group n = 44	t	P value
Resilience Score (mean+/- SD)	88.62 +/- 9.32	83.14 +/- 8.59	-2.009	0.049

Table 4: Resilience Scoring in the two comparative groups.

Qualitative data

> 90% of participants gave to the round an overall “excellent” or “exceptional” score. The subject was universally considered either relevant or very relevant to the daily practice of all health participants involved.

Open feedbacks included terms as “relieving”, “eye opening”, “instructive”, “touching”.

Discussion

Healthcare participant wellbeing has been the subject of several recent studies. Increasing incidence of burnout and episodes of suicides amongst doctors have brought to the creation in the US of a specific Foundation as well as the circulation of tools to identify professionals at risk and to facilitate their access to care [4].

Interest is growing in resilience training for NHS staff, but there is still no evidence for its benefit. The aim of this study was to investigate the benefits of the surgical reflection round intervention in the improvement of resilience and associated mental health and well-being of our staff. To our knowledge, this is the first trial that has utilized an individualized intervention approach, based on the success of Schwartz rounds [8].

The overall results suggest that the surgical reflection rounds, in addition to regular pastoral support within the surgical directorate, was effective in the building resilience when compared with sole support from other healthcare participants. The benefits remained statistically significant. It is noted that that resilient individuals are among age matured, most likely those that have financial stability, in stable relationships and have more control over their live (consultants, nurses). The transferable benefits of this intervention were beyond the scope of this study but clearly warrant further investigation.

Morale, engagement, and wellbeing in clinical staff affect quality of care, sickness absence, and retention - described especially clearly by Michael West and Jeremy Dawson for the King's Fund [14].

There is subjective evidence that engaging the clinical workforce with supportive, innovative strategies could address deteriorating morale and engagement of NHS staff as highlighted in the 2017 annual NHS staff survey [15]. Do we adequately mentor our junior colleagues as an essential part of their training, providing further encouragement and confidential emotional and academic support. It should be reiterated that resilience should be for the difficult emotional burden of caring, responsibility, and carrying risk- and not for unacceptable, dangerous working conditions [16]. Key factors in improving working conditions: shared values and mutual support in teams; managers being willing to engage in dialogue about pressure (and delivering solutions); and low tolerance for poor behaviour.

Senior clinicians and managers play crucial role models as leaders to front line staff by engaging clinical teams and the manner in which we elect these individuals in the future will be interesting [17].

We shall promote a culture of physician well-being; from this perspective, we wholeheartedly support the creation of a UK national network such as the Point of Care Foundation as well as local initiatives to build resilience and confidential lines to provide support in case of burnout, or depression amongst health professionals [18-22].

Limitations of the Study

We recognise several limitations to our study. First, there have been few studies of resilience involving the participation of healthcare professionals, which limits any comparison of our current results with evidence from the literature.

In this study, as the convenience sampling method and small-sized sample were used, the representability of samples may not be reflected and the bias of data may be induced. The majority of participants in the study were of moderate level of resilience at baseline, future studies should include larger numbers of patients with higher levels of baseline resilience to determine if the impact is more pronounced in this group who are already resilient.

Conclusion

With the high prevalence of healthcare professional burnout, stress and associated burden of mental health concerns coupled with the limited resources for and access to staff support, there is a need for effective evidence-based strategies to improve resilience in clinical populations thereby positively impacting on patient safety.

Our study demonstrated the effectiveness of surgical reflection rounds with formal evaluation and reporting of such efforts allow for reproducibility and scalability, with the potential for widespread impact on healthcare professional well-being.

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