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An investigation into the relationships between bullying, discrimination, burnout and patient safety in nurses and midwives

Judith Johnson, PhD, ClinPsyD^{abd}; Lorraine Cameron, MA^{be*}; Lucy Mitchinson, BSc^{af};

Mayur Parmar, BSc^{ag}; Gail Opio-te, RN^{ch}; Gemma Louch, PhD^{bi}; Angela Grange, RN, PhD^{bj}

^aSchool of Psychology, University of Leeds, Leeds, LS29JT, UK; +44 (0)1133235719

^bBradford Institute for Health Research, Bradford Royal Infirmary, Bradford, BD96RJ; +44 (0) 1274 383430

^cSilsden District Nurse Team, Bradford District Care NHS Foundation Trust, Bradford, BD18 3LD; +44 (0)1274 256131

^dCorresponding author; Lecturer, j.johnson@leeds.ac.uk

^eHead of Equality and Diversity

^fResearch and Implementation Assistant

^gResearch and Implementation Assistant

^hCommunity Nurse

ⁱResearch Fellow

^jHead of Nursing; Research and Innovation.

* Since the article was accepted for publication, we are sad to report that Lorraine Cameron has died. Lorraine was passionate about equality and diversity, and was a driving force behind this project. We are grateful to have worked with her on this piece of research.

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An investigation into the relationships between bullying, discrimination, burnout and patient safety in nurses and midwives: Is burnout a mediator?

Abstract

Background: Bullying and discrimination may be indirectly associated with patient safety via their contribution to burnout, but research has yet to establish this.

Aims: To investigate the relationships between workplace bullying, perceived discrimination, levels of burnout and patient safety perceptions in nurses and midwives, and to assess whether bullying and discrimination were more frequently experienced by Black, Asian and Minority Ethnic (BAME) than White nurses and midwives.

Methods: Five hundred and thirty-eight nurses and midwives were recruited from four hospitals in the UK to complete a cross-sectional survey between February and March 2017. The survey included items on bullying, discrimination, burnout and individual level and ward level patient safety perceptions. Data were analysed using path analysis.

Results: Results were reported according to the STROBE checklist. Bullying and discrimination were significantly associated with higher burnout. Higher burnout was in turn associated with poorer individual level and ward level patient safety perceptions. Experiences of discrimination were three times more common among BAME than White nurses and midwives, but there was no significant difference in experiences of bullying

Conclusions: Bullying and discrimination are indirectly associated with patient safety perceptions via their influence on burnout. Healthcare organisations seeking to improve patient care should implement strategies to reduce workplace bullying and discrimination.

Keywords: workforce and employment; burnout; diversity; discrimination; patient safety

Introduction

Numerous studies have found an association between higher burnout and poorer patient safety (Hall et al., 2016; Panagioti et al., 2018; Hall et al., 2018; Johnson et al., 2017), suggesting that reducing burnout could be an area for patient safety improvement initiatives to target. Recent reviews of burnout reduction interventions suggest these are effective but effect sizes are small (Panagioti et al., 2017; West et al., 2016). Organisational interventions (e.g., work scheduling, staff training) appear to be most effective (Panagioti et al., 2018). However, it is unclear which form of organisational interventions may work best. One possible area organisational interventions could focus on is workplace bullying and discrimination, but further research is needed to explore this.

Literature review

Bullying in hospitals and healthcare organisations is an issue of international concern, and has been experienced by between 20% and 77% of nurses (Rosenstein and Naylor, 2012; Sellers et al., 2012; Roche et al., 2010; Stanley et al., 2007; Farrell et al., 2006; Ganz et al., 2015; Carter et al., 2013). Black, Asian and Minority Ethnic (BAME) and immigrant nurses are more likely than White nurses to experience workplace bullying (Deery et al., 2011). This is possibly due to a higher likelihood of bullies targeting employees whose appearance or accent is different to the wider workplace population (Deery et al., 2011; Berdahl and Moore, 2006). Similarly, discrimination in nursing is widespread. In the UK, the National Health Service (NHS) recruitment process favours White applicants, with White applicants 1.57 times more likely to be appointed from shortlisting as BAME applicants (Kline et al., 2017). In the US, 40% of foreign-educated nurses report experiencing discriminatory practices in relation to benefits, wages or shift/unit assignments (Pittman et al., 2014).

There is reason to believe that these elevated rates of discrimination and bullying could be a patient safety concern. Previous research links bullying and discrimination with burnout

(Volpone and Avery, 2013; Laschinger et al., 2012), and some studies have also directly linked bullying with patient safety (Houck and Colbert, 2017). However, no studies have included UK hospital nurses, where a quarter of entry-grade nurses are BAME (Kline et al., 2017). Furthermore, there is a lack of research into possible associations between discrimination and patient safety, and it remains unclear whether addressing discrimination could improve patient safety. As significant global shortages of healthcare workers have resulted in net migration of nurses from low- to higher-income countries, proportions of BAME nurses in higher income countries could be expected to rise, and the need to understand these issues will become increasingly important (Aluttis et al., 2014).

When this evidence is considered together, it seems likely that bullying and discrimination may be indirectly associated with patient safety via their contribution to burnout, but research has yet to establish this. A proposed model of the associations between bullying, discrimination, burnout and perceptions of patient safety is presented in Figure 1. If supported, this would suggest interventions which reduce bullying and discrimination may reduce burnout. Such interventions may also improve other outcomes linked with burnout such as patient experience, quality of care, staff retention and absence rates.

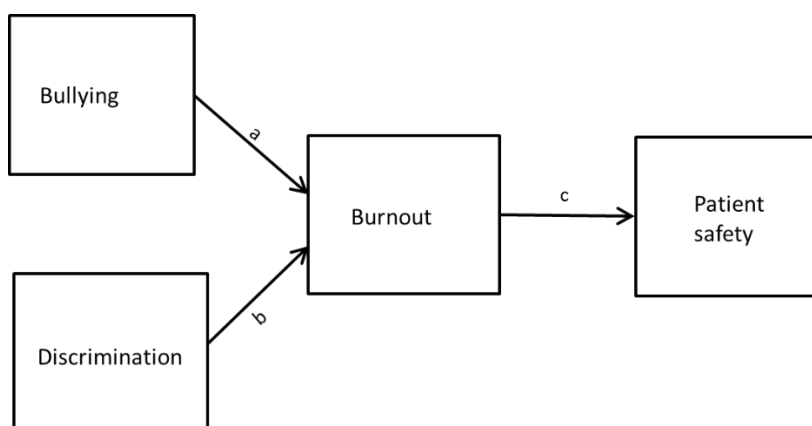


Figure 1. Proposed model of the relationships between bullying, discrimination, burnout and patient safety perceptions

In summary, our research aimed to investigate the relationships between workplace bullying, perceived discrimination, levels of burnout and patient safety perceptions using path analysis. We predicted that perceived bullying and discrimination would be associated with higher burnout, which would in turn be associated with poorer perceptions of patient safety in nurses and midwives. A corollary prediction was that experiences of workplace bullying and perceived discrimination would be more frequent in BAME than White nurses and midwives.

Methods.

Participants

All registered and practicing hospital nurses and midwives from four hospitals within an acute NHS Trust were invited to participate in the study in the UK between February and March 2017. We aimed to recruit over 320 participants; this is the suggested sample size proposed by Wolf et al. (2013) as being adequate for testing Structural Equation Models investigating mediation where there is up to 20% missing data per indicator. All participants provided informed consent prior to completing the study.

Procedure

Participants were informed of the study through a global email. Eligible participants, identified from the Trust Electronic Staff Record (ESR), received a paper questionnaire pack. We were aware that some participants may be concerned that their responses would be shared with the trust. To address this, the information sheet informed participants that only research team members would have access to their data, and that their responses would be entirely confidential. The participants were asked to return questionnaires via the Trust internal mail. After two weeks, reminders and a second paper questionnaire were sent to participants who had not responded.

Design

The study used a cross-sectional survey design. Results were reported according to the STROBE checklist (supplementary file 1).

Measures

Demographic information. Questionnaire items asked for information regarding gender, ethnicity, age, job role, highest level of qualification, years qualified and time spent working within the Trust.

Bullying and discrimination. Respondents were asked two items based upon the NHS Workforce Race Equality Standards and Indicators (WRES), each requiring a 'yes' or 'no' response. The first measured discrimination: "In the last 12 months have you personally experienced discrimination at work? (Participants were provided with the following definition: Discrimination is when you are treated as less favourable than someone else because of your ethnicity, age, gender, etc)." The second measured bullying, harassment and abuse: "In the past 12 months have you experienced harassment, bullying or abuse from other staff at work? (Participants were provided with the following definition: Harassment is unwanted conduct which has the purpose of violating your dignity or creating an intimidating, hostile, degrading, humiliating or offensive environment)". For both items, 'none' was coded as '1' and occurrence of harassment/bullying or discrimination was coded as '2'.

Burnout. The Oldenburg Burnout Inventory (OLBI) (Demerouti et al., 2000) consists of two eight-item subscales, Disengagement and Exhaustion. Disengagement subscale items include "Over time, one can become disconnected from this type of work". Exhaustion subscale items include "There are days when I feel tired before I arrive at work". Items were rated on a 4-point scale from 1 ("strongly disagree") to 4 ("strongly agree"). Possible scores ranged from eight to 32 on each subscale, with higher scores indicating higher burnout. The

measure demonstrated good internal consistency in our study ($\alpha = 0.80$ for Emotional Exhaustion, $\alpha = 0.79$ for Disengagement, $\alpha = 0.88$ for the full scale).

Patient safety perceptions. Both individual level and ward/unit level patient safety perceptions were measured. Previous research suggests this approach provides complementary information that varies between nurses according to individual differences and stress (Louch et al., 2016; Louch et al., 2017).

Individual-level safety perceptions. Individual level safety perceptions were measured using the one-item Safe Practitioner Measure (Louch et al., 2016) (“My practice is not as safe as it could be because of work related factors/conditions”). This is scored on a five-point scale from one (“Strongly disagree”) to five (“Strongly agree”) (Louch et al., 2016). Responses were reverse coded in order that higher scores suggested more positive safety perceptions.

Ward/unit-level safety perceptions. To assess ward/unit-level safety perceptions, participants responded to a subscale from the Hospital Survey on Patient Safety Culture (Sorra and Nieva, 2004) focusing on “Perceptions of Patient Safety”. This comprises four items (e.g., “It is just by chance that more serious mistakes don’t happen around here”). Items were scored on a five-point scale from one (“Strongly disagree”) five (“Strongly agree”), with total possible scores ranging from four to 20 and higher scores suggesting more positive perceptions. The measure demonstrated good internal consistency in our study ($\alpha = .80$).

Data Analysis

Descriptive statistics and correlations were conducted for study variables. For the purposes of the inferential statistics, ethnicity was collapsed into two categories to allow for comparisons (White was coded as ‘1’ and Black, Asian or Minority Ethnic (BAME) was coded as ‘2’). Spearman’s Rho correlations were conducted for most variables, as several variables were not normally distributed. Point-biserial correlations were conducted for binary

variables (bullying, discrimination and ethnicity) with other continuous and ordinal variables. It was not possible to assess correlations between binary variables. Odds ratios and the Fisher's Exact test were calculated to investigate whether experiences of bullying and discrimination varied according to ethnicity (White vs. BAME) (McHugh, 2009).

For the purposes of path analysis, the two burnout facets were totalled to create one burnout item. This was due to the two facets of burnout being closely related, which can adversely affect model fit in SEM when included separately as endogenous variables. Furthermore, previous research suggests that both facets have a similar association with patient safety perceptions, so they would be unlikely to demonstrate different relationships with other variables in these analyses (Johnson et al., 2017). Missing data analyses were undertaken for variables to be included in the path analyses. Rates of missing data for variables varied between 0.9% (gender) to 12.5% (Burnout). Little's chi-square statistic was not significant, suggesting no systematic pattern to the missing data ($\chi^2 = 26.74$, $df = 21$, $p = .18$) (Little, 1988), and as overall missing data rates were <20%, data imputation was conducted (Garson, 2015). This was undertaken with regression imputation in AMOS 22. This imputes predicted values in place of missing values using linear regression, which estimates these values based on the observed (i.e., non-missing) values of that individual (Arbuckle, 2013).

To test the proposed model of the relationships between bullying, discrimination, burnout and each of the patient safety perception scales, SEM path analyses were conducted in AMOS 22. This enabled use of the bootstrapping method to estimate model fit and regression weights, which is a powerful non-parametric approach. As it uses a resampling procedure, data distributions do not need to conform to assumptions of parametric tests. In order to reduce estimation error we followed the advice of Cole and Preacher (2014): the

multiple-item scales we included (burnout; ward-level patient safety perceptions) were highly reliable measures, and we kept our models simple.

Bootstrapping was used to test two models (5000 bootstrap samples; 95% confidence interval), both of which controlled for age and gender. Model 1 tested a proposed relationship between study variables whereby bullying and discrimination were associated with higher burnout, which in turn was associated with lower individual-level patient safety perceptions. Model 2 repeated this, replacing the outcome variable with the ward/unit-level perceptions of patient safety measure. Bias-corrected bootstrap confidence intervals were reported (Cheung and Lau, 2007). For each path tested in the analyses, Standardised beta coefficients were reported followed by confidence intervals (lower limit, upper limit) and the significance value, in line with previous similar studies (Johnson et al., 2017; Holden et al., 2011).

To assess model fit, we reported chi-square value, the root mean square error of approximation (RMSEA) and the Comparative fit index (CFI), in line with recommendations by Hooper et al. (2008). Hooper et al. (2008) note that the chi-square has several severe limitations, namely that it assumes multivariate normality and rejects properly specified models that do not meet this assumption, and that it is nearly always significant when samples are large. As such the RMSEA and CFI were also reported to provide alternative fit indices. RMSEA values ≤ 0.08 were deemed to signal acceptable fit and values ≤ 0.06 were deemed to signal good fit. CFI values ≥ 0.90 were used to indicate acceptable fit and values ≥ 0.95 were used to indicate good fit (Hooper et al., 2008).

Results

Participant Characteristics

One thousand, seven hundred and four participants were contacted and 538 responded (M age= 43.55, SD= 12.72, 90.5% female, gender data missing for 1.5% participants), producing a response rate of 31.6%. We were unable to gather information regarding why

non-responders chose not to participate. Demographic information for participants is presented in Table 1. Participants had been qualified on average 16.89 years (SD = 11.29) and had been working for the Trust on average for 11.91 years (SD = 10.39).

Table 1: Demographic information for participants

		Number	%
Ethnicity	White	428	79.6
	Asian	83	15.4
	African-Caribbean	12	2.2
	Mixed ethnicity	7	1.4
	Other ethnicity	2	0.4
	Preferred not to state	2	0.4
	Missing	4	0.7
Education (highest attainment)	PhD or Doctoral degree	2	0.4
	Masters degree	42	7.8
	Postgraduate diploma	81	15.1
	Bachelors degree	256	47.6
	Advanced diploma	99	18.4
	A-Levels or equivalent	19	3.5
	Other attainment	27	5.0
	Missing	12	2.2
Discipline	Nursing	458	85.1
	Midwifery	79	14.7
	Missing	1	0.2
Band	8a or above (e.g., matron/lead nurse)	38	7.1
	7 (ward manager)	113	21.0
	6 (ward sister/charge nurse)	159	29.6
	5 (staff nurse grade)	217	40.3
	Missing	1	0.2

Bivariate Associations

Descriptive statistics and bivariate associations are presented (Table 2). Occurrence of bullying was associated with higher disengagement ($r_{pb} = 0.18, p < 0.001$) and exhaustion ($r_{pb} = 0.15, p = 0.001$), and lower individual level and ward level safety perceptions ($r_{pb} = -0.14,$

$p = 0.001$ and $r_{pb} = -0.16$, $p < 0.001$, respectively). Occurrence of discrimination was also associated with higher disengagement ($r_{pb} = 0.15$, $p = 0.001$) and exhaustion ($r_{pb} = 0.15$, $p = 0.001$) and lower individual level and ward level safety perceptions ($r_{pb} = -0.11$, $p = 0.016$, and $r_{pb} = -0.10$, $p = 0.023$, respectively). Disengagement and exhaustion were positively associated with each other ($r_s = 0.62$, $p < 0.001$) and both burnout facets were inversely associated with safety perceptions ($r_s = -.41$, $p < 0.001$ for individual perceptions and $r_s = -.39$, $p < 0.001$ for ward perceptions for disengagement,; $r_s = -.41$, $p < 0.001$ for individual perceptions and $r_s = -.35$, $p < 0.001$ for ward perceptions for exhaustion).

Table 2: Means, Standard deviations ^a and correlations for variables

	Mean	2	3	4	5	6	7
1. Bullying ^b	---	----	.18***	.15**	-.14**	-	---
						.16***	
2. Discrimination ^b	---		.15**	.15**	-.11*	-.10*	---
3. Disengagement (burnout facet)	16.90 3.43			.62***	-	-	.07
					.41***	.39***	
4. Exhaustion (burnout facet)	20.05 3.67				-	-	-.07
						.41***	.35***
5. Individual-level safety (Safe practitioner measure)	3.46 1.20					.52***	-.03
6. Work area/unit level safety (AHRQ subscale)	12.90 3.41						.03
7. Ethnicity ^b	---						

Note. * $p < 0.05$, ** $p < .01$, *** $p < 0.001$. AHRQ = Agency for Healthcare Research and Quality.

^aStandard deviations appear in italics below the means. Spearman's Rho correlations are reported unless point biserial correlations are indicated. ^bThese variables were binary. Ethnicity was divided into White and Black, Asian or Minority Ethnic (BAME) categories. As such, no mean was calculated for these variables and point-biserial correlations were conducted.

Path Analyses of the Associations Between Bullying, Discrimination, Burnout and Safety Perceptions

Two path analyses were tested, the first with ward-level patient safety perceptions as the outcome and the second with individual level patient safety perceptions as the outcome.

Ward level safety perceptions. When ward level safety perceptions was the outcome (Figure 2), the pathway between bullying and burnout was significant ($B = 0.157$, $CI = 0.073$, 0.239 , $p = 0.001$), the pathway between discrimination and burnout was significant ($B = 0.129$, $CI = 0.041$, 0.219 , $p = 0.003$) and the pathway between burnout and patient safety was significant ($B = -0.404$, $CI = -0.473$, -0.326 , $p < 0.001$). Model fit indices were $X_2(6) = 17.652$, $p = 0.007$; $CFI = 0.94$; $RMSEA = 0.06$, suggesting that although the chi-square was significant there was overall acceptable model fit.

For completeness, we also tested the model when paths between discrimination and ward-level safety perceptions and bullying and safety perceptions were also specified. In this model, the pathway between bullying and burnout was significant ($B = 0.157$, $CI = 0.073$, 0.239 , $p = 0.001$), the pathway between discrimination and burnout was significant ($B = 0.129$, $CI = 0.041$, 0.219 , $p = 0.003$) and the pathway between burnout and patient safety was significant ($B = -0.387$, $CI = -0.459$, -0.308 , $p < 0.001$). However, the pathways between bullying and patient safety ($B = -0.079$, $CI = -0.184$, 0.025 , $p = 0.143$) and discrimination and patient safety ($B = -0.008$, $CI = -0.102$, 0.085 , $p = 0.857$) were not significant. Model fit indices showed no consistent improvement upon the previous model ($X_2(4) = 13.473$, $p = 0.009$; $CFI = 0.95$; $RMSEA = 0.07$); as such the previous model was retained due to its parsimony.

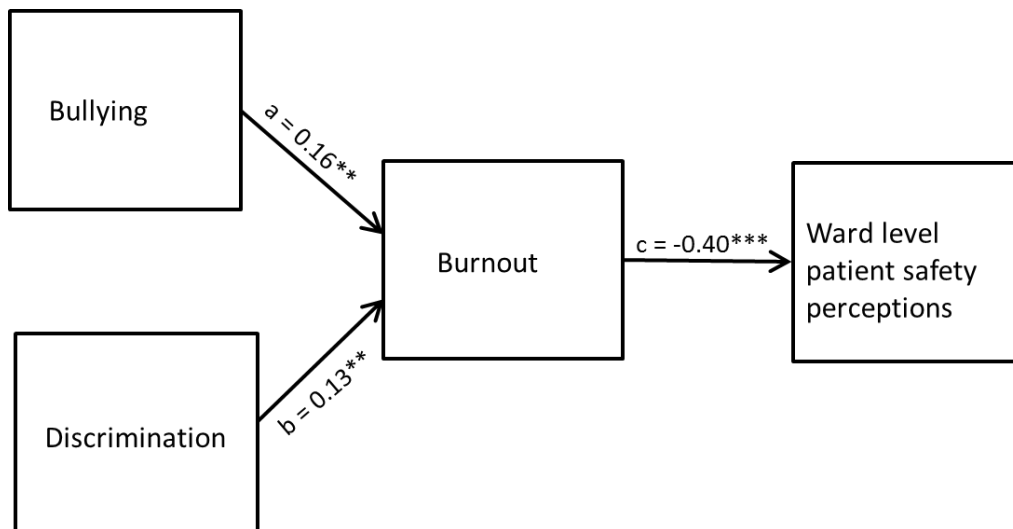


Figure 2. Structural equation model of the relationships between bullying, discrimination, burnout and ward level patient safety perceptions

Individual Level Safety Perceptions. Similarly, when individual level safety perceptions was the outcome (Figure 3), the pathway between bullying and burnout was significant ($B = 0.157$, $CI = 0.073, 0.239$, $p = 0.001$), the pathway between discrimination and burnout was significant ($B = 0.129$, $CI = 0.041, 0.219$, $p = 0.003$) and the pathway between burnout and patient safety was significant ($B = -0.473$, $CI = -0.543, -0.395$, $p < 0.001$). Model fit indices were $X^2(6) = 18.926$, $p = 0.004$; $CFI = 0.95$; $RMSEA = 0.06$. Although the X^2 test was significant this might be expected given our sample size; however, the other model fit indices suggest good model fit.

For completeness, we also tested the model when paths between discrimination and individual-level safety perceptions and bullying and safety perceptions were also specified. In this model, the pathway between bullying and burnout was significant ($B = 0.157$, $CI = 0.073, 0.239$, $p = 0.001$), the pathway between discrimination and burnout was significant ($B = 0.129$, $CI = 0.041, 0.219$, $p = 0.003$) and the pathway between burnout and patient safety was significant ($B = -0.461$, $CI = -0.536, -0.378$, $p < 0.001$). However, the pathways between bullying and patient safety ($B = -0.045$, $CI = -0.126, 0.039$, $p = 0.294$) and discrimination and

patient safety ($B = -0.017$, $CI = -0.109, 0.071$, $p = 0.69$) were not significant. The model fit indices were poorer than the previous model ($X^2(4) = 17.099$, $p = 0.002$; $CFI = 0.94$; $RMSEA = 0.08$), leading us to reject this model in favour of the former.

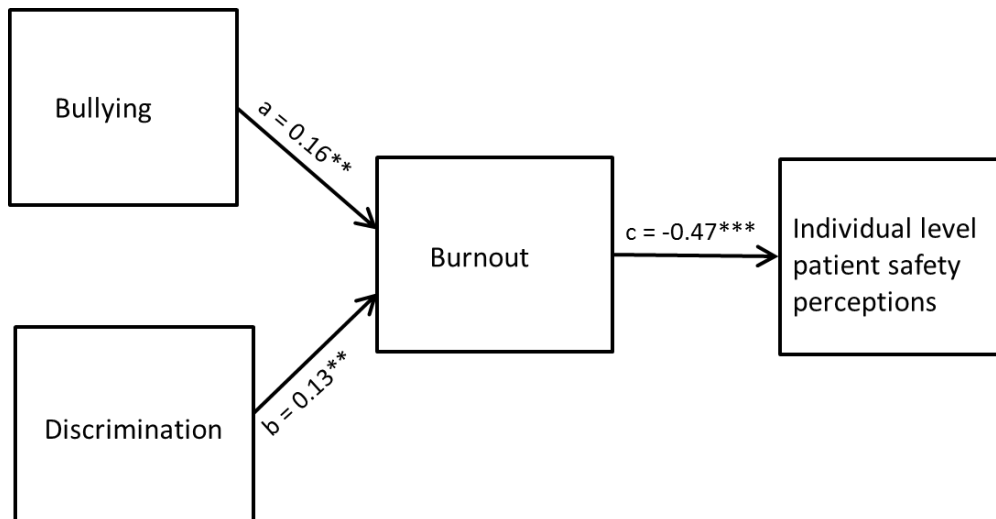


Figure 3. Structural equation model of the relationships between bullying, discrimination, burnout and individual level patient safety perceptions

Ethnicity and Experiences of Bullying and Discrimination

A higher rate of BAME participants (18 of 102; 17.6%) reported experiencing bullying in the previous year compared with White participants (52 of 419; 12.4%). The odds of experiencing bullying were 1.5 times higher for BAME participants (odds ratio = 1.51, 95% CI [0.84, 2.72]). However, Fisher's exact test suggested this was not significant, $p = 0.19$.

A higher rate of BAME participants (21 of 102; 20.5%) reported experiencing discrimination at work in the previous year compared with White participants (33 of 421; 7.8%). The odds of experiencing discrimination were three times higher for BAME participants (odds ratio = 3.04, 95% CI [1.68, 5.54]) and Fisher's Exact test suggested this was significant, $p < 0.001$.

Discussion

This study reports results from a survey of UK nurses and midwives from four hospitals in one acute NHS organisation. We investigated the relationships between bullying, perceived discrimination, levels of burnout and patient safety perceptions. The results supported our hypothesised model. Both bullying and discrimination were significantly associated with higher burnout. Higher burnout was in turn associated with poorer perceptions of patient safety at both the individual and ward level. Experiences of discrimination were three times more common in Black, Asian and Minority Ethnic (BAME) than White nurses and midwives, however while more BAME nurses and midwives experienced bullying than White nurses and midwives, this difference was not significant.

A large number of studies have found that burnout is linked with poorer patient safety (Hall et al., 2016; Panagioti et al., 2018). This finding is less clear when patient safety outcomes are measured using objective measures such as incident reports, possibly due to reporting variability, but consistent and robust when patient safety outcomes are self-reported (Hall et al., 2018; Panagioti et al., 2018). Together, this body of work suggests that reducing burnout could be one target for patient safety initiatives to address. However, burnout reduction interventions have only limited effectiveness (West et al., 2016). While interventions targeted at the organisation level, addressing areas such as work scheduling and staff training seem to be most effective (Panagioti et al., 2017), it is unclear which types of organisational interventions produce the greatest reductions in burnout. The present study extends this literature by 1) providing the first evidence that perceived discrimination is associated with patient safety in nurses and midwives and 2) proposing and testing the first proposed framework of the associations between bullying, discrimination, burnout and perceptions of patient safety, and reporting that bullying and discrimination have an indirect relationship with patient safety perceptions which is mediated by burnout. This suggests that reducing bullying and discrimination at an organisational level may be one way to reduce

burnout, and could be useful targets for patient safety initiatives to address. It should be noted, however, that the size of the associations between bullying and burnout, and discrimination and burnout was small; one possible avenue for future research to explore could be to investigate whether there are factors which moderate the strength of these relationships.

Global healthcare staff shortages have led to increased migration of nurses and doctors from low- to higher- income countries (Aluttis et al., 2014). Countries including the UK, Netherlands and Australia actively recruit from overseas (WHO, 2014); an analysis of 2011 census data indicated that over 30% of nurses and midwives in Australia were born overseas (Negin et al., 2013) and in the UK in 2017, 20% of nurses joining the NHS were not from the UK (Baker, 2018). The present findings suggest that a fair and equal approach to recruitment and promotion for all nurses may support patient safety, and countries who recruit nurses from overseas should take particular care to ensure that any discrimination in their recruitment and promotion practices is reduced.

The present study is the first to investigate associations between bullying and patient safety within UK hospital nurses and midwives. Previous research has focused on nurses in the US, Canada and Australia, and has reported that bullying is linked with outcomes such as medication errors (Rosenstein and Naylor, 2012) and fall rates (Roche et al., 2010). The current study extends this by finding a similar association in the UK, where 20% of registered nurses have experienced bullying in the last 6 months (Carter et al., 2013). This adds further evidence that this association may be universal, and reducing bullying could be a target for patient safety initiatives to focus on internationally. However, further research is needed to explore these associations in non-English speaking and developing countries.

Our finding that perceived discrimination was higher in BAME nurses and midwives than White nurses and midwives is consistent with previous NHS reports suggesting the

likelihood of being appointed to a post following shortlisting is 1.57 higher for White applicants (Kline et al., 2017). It is also consistent with research from the US suggesting that 40% of foreign educated nurses have experienced discrimination (Pittman et al., 2014). However, although BAME nurses and midwives reported higher levels of bullying than White nurses and midwives, this difference was not significant. This contrasts with previous studies suggesting higher rates of bullying in BAME than White nursing staff. For example, Deery et al (2011) found 18.2% of BAME nurses had experienced verbal harassment from colleagues compared with 10.4% of white nurses. We found that a similar percentage of BAME nurses and midwives reported bullying (17.65%), however slightly more White nurses and midwives in our sample also reported bullying (12.4%) which may explain why this difference was not significant. Our findings regarding bullying can also be compared with studies in UK nursing students; these suggest that rates of bullying are higher in students, with around 40% having experienced bullying (Birks et al., 2017; Tee et al., 2016). Being bullied can lead student nurses to consider leaving nursing (Tee et al., 2016). Furthermore, a recent study estimated that the annual cost of bullying to the NHS is £2.281 (Kline and Lewis, 2018). Taken together, it seems that experiences of bullying are common, there is no sign that rates are declining, and this problem is financially costly as well as psychologically harmful for those involved.

Implications for Clinical Practice

Reducing workplace bullying and discrimination in nursing and midwifery may support the delivery of safe patient care. Bullying reduction interventions may involve organisational changes such as the introduction of procedures to raise awareness of bullying and provide a bullying reporting mechanism. They can also involve individual interventions such as the provision of training and education (e.g., assertiveness training) to change behaviours or perceptions (Gillen et al., 2017), although this approach may place

responsibility on the victims of bullying rather than the perpetrators. The strongest evidence currently supports the Civility, Respect and Engagement (CREW) intervention, a nationwide initiative by the US Department of Veterans Affairs (Gillen et al., 2017). This involves facilitators meeting regularly with organisations to create respectful, civil work environments (Osatuke et al., 2009). Interventions to reduce discrimination in recruitment practices include introducing discrimination law, monitoring the diversity of organisations and anonymising as much of the recruitment process as possible (Lloyd, 2010). While many of these interventions are beyond the scope of individual organisations to implement, Lindsey and colleagues (2013) suggest organisations should pass applications to a 'middle person' to anonymise them and screen out stigmatising information before passing them to decision makers. They also suggest using highly structured interview schedules and appointing interview panels who are low in explicit and implicit bias (Lindsey et al., 2013).

Limitations

This study was limited by its use of a cross-sectional design, which means that conclusions regarding causality cannot be drawn. We omitted to ask participants for information regarding how long they had been working for before joining the trust; this information would have been useful in providing a fuller description of the sample. We based our bullying and discrimination questions on the NHS Workforce Race Equality Standards and Indicators (WRES). This decision meant that we used binary items which reduced variability for statistical analysis. It also meant that we omitted to ask participants about indirect discrimination; this information would have complemented the data we gathered regarding direct discrimination and may have allowed for a fuller understanding of the relationships between discrimination, burnout and patient safety. Responses may have been biased by a higher rate of extreme responders participating (those who are experiencing particularly high or low levels of bullying, discrimination, burnout and perceptions of patient

safety). Finally, it should be noted that the non-significant difference regarding bullying may have reached significance in a larger sample.

Conclusion

Workplace bullying and discrimination are associated with higher levels of burnout, which are in turn associated with poorer individual-level and ward-level patient safety perceptions in hospital nurses and midwives. BAME nurses and midwives experience higher levels of discrimination than White nurses and midwives. Healthcare organisations seeking to improve their levels of patient safety should implement interventions to reduce bullying and discrimination within their recruitment practices.

Key points

- BAME nurses and midwives are three times more likely to experience discrimination at work than White nurses and midwives.
- Bullying and discrimination are indirectly associated with patient safety perceptions, via their influence on burnout.
- Patient safety interventions in nurses and midwives should target bullying and discrimination.
- When appointing nurses and midwives, healthcare organisations should use methods to reduce discrimination against applicants from ethnic minority groups.

Ethical permissions

The study was approved by the University of Leeds, School of Psychology Ethics Committee on 20th October 2016 (Ref: 16-0267) and the Health Regulatory Authority on 19th January 2017 (Ref: ID 217229).

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