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Abstract:

Nurses' own mental health is of paramount importance, both in terms of patient safety and the sustainability of the workforce. Age, years in the profession, in post and personal experience or exposure to mental health problems are relevant to the mental health nursing workforce crisis in the UK. This study aimed to determine the relationship between age, years in the profession and post and self-reported experience of mental health problems using an online cross-sectional survey of 225 UK mental health nurses. Number of years in post was inversely correlated with overall experience of mental health problems, particularly living with someone else with mental health problems. Those with experience of living with someone with mental health problems had significantly fewer years of professional experience than those without. This paper discusses possible explanations for this phenomenon and makes the case for future research on the topic.

146 words

Keywords:

nursing; mental health; workforce; personal experience; age; tenure

Main text

Introduction

The prevalence of mental health problems among health professionals has been the subject of policy concern in the UK in recent years (Gärtner et al, 2010; Department of Health, 2010; Boorman, 2009; Harvey et al, 2009). Nurses' own mental health is of paramount importance, both in terms of patient safety and the sustainability and resilience of the workforce (Gärtner et al, 2010). This is of particular concern given diminishing mental health nurse (MHN) workforce numbers (Campbell, 2016) and concerns that changes in educational funding will lead to a decline in quality and quantity of recruits (Hemingway, 2016). The UK also faces an ageing mental health nursing workforce, with 29% of English mental health nurses being over 50 and with the option to retire at 55 (RCN, 2014). The UK Department of Health recently called for all employers of health care staff to address employee mental health as part of their wellbeing strategies (Mental Health Taskforce, 2016) and included a 'staff wellbeing' payment was included in the 2015 NHS Standard Contract (NHS England, 2016). The starting point for employer wellbeing and mental health strategies aimed at MHNs must be an estimation of the size and nature of nurses' own experience of mental health problems and an exploration of the relationship between MHNs' mental health and . Both MHNs' experience of their own mental ill health and of mental health problems of those close to them is of relevance here given recent evidence that exposure and experience are key motivators for joining the profession (Edward et al, 2015).

Prevalence of experience of mental health problems in UK MHNs

The most common means of measuring prevalence of mental health problems in mental health nurses has been the use of versions of the General Health Questionnaire (GHQ) (Goldberg and Williams, 1988) (Johnson et al, 2011; Edwards et al, 2000; Fagin et al, 1996). Wall et al (1997), using the GHQ-12 on 11637 NHS staff, found psychiatric morbidity of 26.8%

overall, with 30% for male and 29% for female nurses. Caseness in the UK has been reported at 42% for early career mental health nurses (Kipping, 2000), 41% for CPNs (Fagin et al, 1995; 1996), 39% for CMHT staff (Johnson et al, 2011), 38% for CMHT staff (Walsh et al, 2002); 35% (Edwards et al, 2000), 31% and 27.9% for WBPNS (Fagin et al, 1995; 1996), 30% for CMHT staff (Wykes, Stevens & Everitt, 1997), 29% for mental health trust staff (Johnson et al, 2011). More recently, Mark and Smith (2012) surveyed nurses accessed at random via the Royal College of Nursing (hence a similar target group to the one in the present study, albeit not mental health nurses), using the Hospital Anxiety and Depression Scale (HADS) (Zigmond and Snaith, 1983), and found 27.3% of nurses to meet the 'clinical cut-off for anxiety and depression.' They compare this to Calnan et al's (2001) report of 23% GHQ12 caseness in general practice staff and 14-18% caseness in the general population.

Age and years of experience

This paper focuses on age, years in the profession and years in current post as salient factors with relationships to experience and personal exposure to mental health problems. Age difference in prevalence of mental health problems in nurses has been found in a number of previous studies. Prevalence of mental ill health has been found to be high in studies of younger nurses (43.4% in LaVoie-Tremblay et al, 2008; Ryan and Quayle, 1999). Older nurses (over 60) have been found to have better mental health but higher prevalence of health problems per se than younger nurses (Letvak, Ruhm and Gupta, 2013). Conversely, Musshauer et al (2006) found age to influence physical but not mental health scores in a survey of female hospital workers. Younger age has been associated with higher emotional exhaustion in Japanese mental health nurses (Leka, Hassard and Yanagida, 2012). In Christensson et al's (2011) study, younger (under 30) nursing students were more likely to report depressive symptoms than those over 30. Arafa et al (2003) found younger Egyptian nurses to be at higher risk of psychiatric morbidity than

older nurses. However, Malinauskiene et al (2009) found nurses age 45-54 to be at higher risk of GHQ caseness than those in other age brackets. When Brunetto et al (2012) looked at the wellbeing of Australian nurses they did so in the context of generational shifts (from Baby Boomers to Generations X and Y). This suggest that age-related differences in psychiatric symptoms should be related to both the points the nurses are in their careers and the social circumstances of younger versus older and middle aged people, for example the ages of their families and their general health.

Years in the profession and years in role

Some studies on nurses' mental health have presented data on the variable of years in nursing although it may have been excluded from final analyses due to its strong correlation with age (for example, Kawano, 2008). In others the variables of years in the profession and years in current post or setting were reported just as descriptive means rather than reporting of possible correlations (Edwards et al, 2001; Sorgaard et al, 2007). Prosser et al's (1999) modelling of mental ill health and burnout in UK acute and community mental health nurses found correlations between tenure in the profession and burnout factors but not GHQ caseness. Ryan and Quayle (1999) found age (being under 30) but not years of practice to relate to GHQ60 caseness or work stress indicators in Irish psychiatric nurses. Neither years as a nurse nor years working on current unit were correlated with mental ill health in Chinese nurses (Lambert et al, 2007). Similarly years in the profession were not a significant factor in the mental health of US, Japanese, Thai or Korean nurses (Lambert et al, 2004) or Jamaican nurses (Lindo et al, 2006). Years in the profession has been negatively correlated with depressive symptoms in US nurses (Welsh, 2009). Conversely, having more than 20 years of experience in nursing has been associated with poorer mental health in Thai nurses (Kaewboonchoo et al, 2009) and with incidence of PTSD in Swedish forensic nurses (Lauvrud, Nonstad and Palmstierna, 2009).

In summary, multiple studies report higher prevalence of mental health problems and its correlates in younger nurses. Underlying mechanisms for this prevalence may be related to generational and social factors. The relationship between mental health problems and years in the profession or role has not been consistently studied and reported, but there is sufficient international evidence to warrant a further exploration of these factors.

The present study was undertaken using a self-report of experience of mental health problems rather than a caseness measure in order to account for the relationships between past and present experience and the experience of living with someone with mental illness. This approach favoured participants' own estimation of their experience of mental illness over psychometric measure that would determine symptoms and caseness on their behalf. A similar approach was used in a Finnish survey of psychiatric hospital staff (Virtanen et al, 2012), which found that 18% of psychiatric staff and 17% of psychiatric nurses in 21 Finnish hospitals reported psychiatric problems when asked whether they had ever been diagnosed with a mental disorder.

This paper presents salient findings on age and years in the profession from the quantitative part of a sequential mixed methods study exploring mental health and subjective well-being of mental health nurses.

Aim/s

This study aimed to determine the relationship between age, years in the profession and years in current post and self-reported experience of mental health problems in UK mental health nurses.

Methods

Research Design

Mental health nurses were invited to complete an online survey questionnaire, sent to them via email between January and September 2013.

Sampling and access

Participants were recruited via emails sent out by two national professional associations, the Royal College of Nursing and the Mental Health Nurses Association. Links to the survey were then emailed to all RCN Mental Health Nursing Forum members via newsletters, and in the RCN research newsletter. Calls for response were also sent out to members of the Mental Health Nurses Association (part of Unite the Union), which has a membership of around 2000. When the survey was publicised more widely, potentially up to 17,000 nurses were accessed (RCN mental health and MHNA membership combined), although again it is not known how many were actually aware of the study. 225 responses have been included in this study.

Data collection

Survey participants were asked about their gender, age, ethnicity, household size, work status (full or part time, unemployed or student), work setting, years in post, years since qualifying. The questionnaire comprised demographic questions, questions about experiences of mental ill health and measures of subjective wellbeing (the Office for National Statistics questions (Office for National Statistics, 2012), the Satisfaction with Life Scale (Diener et al, 1985) and the Warwick Edinburgh Mental Wellbeing Scale (Tennant et al, 2007), as previously reported in Oates et al, 2016). The workplace questions had been validated for use in working age adults in previous studies of UK MHNs (Edwards et al, 2001; Johnson et al, 2011; Fagin et al, 1996). The demographic questions were formulated according to standard variations from by the East Midlands Public Health Observatory (2011) Health, Work and Wellbeing: Employee Health Needs Assessment Methods and Tools March question bank.

Respondents were asked about their own personal experience of mental health problems in four sections: themselves now; themselves in the past; people they live with now and people they had lived with in the past. The questions used here were unique to this study. They were refined through the piloting process, which incorporated feedback from 29 mental health workers, a mental health service user reference group and a local mental health nursing research group. The review of the literature found a lack of evidence on nurses' past or familial experience of mental health problems and a reliance on reports of recent symptoms as per the GHQ. The questions used in this section of the survey were novel and aimed to yield original findings, with a view to developing a validated measure of experience of mental health problems in future research. The four questions about personal experience of mental health problems were:

Are you presently experiencing or being treated for mental health problems?

Have you experienced or been treated for mental health problems in the past?

Do any of the people you currently live with experience or undergo treatment for mental health problems?

Had you previously lived with someone experiencing or undergoing treatment for mental health problems?

Data analysis

Survey responses were analysed using SPSS 21. Data were tested for compliance with the assumptions of multivariate analysis (Pallant, 2010; Tabachnick and Fidell, 2005).

For the purpose of analysis four groups were compared to the rest of the sample:

Group A - MHNs reporting experience of mental health problems at the time of the survey (n 55, 24.9%);

Group B - MHNs with any form of personal experience of mental health problems either themselves or with a family member, in the past or present (n 142, 59.9%);

Group C - MHNs with their own past or present mental health problems (n112, 52.1%);

Group D - MHNs with past or present experience of living with someone with mental health problems (n94, 42.5%).

The same person could be a member of all groups if they A reported experience of mental health problems at the time of the survey, B reported any experience of mental health problems in the past or present, reported present or past mental health problems and D, has experience of living with someone with mental health problems. The analyses here were made comparing members of these groups with the rest of the sample, rather than with each other.

Descriptive statistics in the form of means, standard deviations, and frequency counts were calculated in order to understand the characteristics of the study sample. Associations between SWB, personal experience of mental health problems and demographic and workplace factors were tested using inferential statistics. Pearson's χ^2 test for independence were used to understand the strength and direction of relationship between the categorical variables of personal experience of mental health problems and the categorical variables of age, years in profession and years in post. Binary logistic regression was used to measure the combined association between demographic and workplace variables and personal experience of mental health problems.

Ethical considerations

This study was approved by a local University's Research Ethics Committee ensuring that it met relevant ethical codes and the Declaration of Helsinki. Participants were given information about the study in advance and confirmed consent to take part before commencing the survey. The only participant identifiable data that was collected were emails for survey

participants who volunteered for phase two of the study. Due to the sensitivity of the topic, participants were given information about how to access help for their own mental health problems.

Results

Sample characteristics

The majority of participants were female (n159, 71%), aged between 40 and 49 (n79, 35.4%), working full time (79.8%, n174) and White British (n193, 85.8%). Participants had been in post between less than 1 year and up to 35 years and in the profession between less than 1 year and up to 50 years. Their mean number of years in the profession was 14.8 (SD 10.9). Their mean number of years in post was 5.6 (SD 6.3). The final sample was demographically representative of the UK mental health nurse population, as reported in other recent studies (RCN, 2013; Johnson et al, 2012).

There was no statistically significant relationship between age, gender, full or part time work status and experience of mental health problems. This paper reports on factors for which there were significant relationships.

Findings

Likelihood of experience of or personal exposure to mental health problems was associated with age, years in profession and years in role. Key findings of this study were: a higher proportion of nurses in middle age (40 to 49) had personal experience of mental health problems; a higher proportion of younger nurses (under 40) had experience of living with someone experiencing mental health problems; years in the profession did not significantly correlate with any form of experience of mental health problems; years in current post significantly correlated with experience of living with someone with mental health problems. However, the mean number of years in profession or post for those MHNs with experience of living with someone with mental health problems was significantly less than MHNs without that experience.

The associations between age, years in post and years in the profession and experience of mental health problems (Table 1)

Table 1 shows that a higher proportion of MHNs between the ages of 40 and 49 had personal experience of mental health problems than their younger and older colleagues, both at the time of the survey (Group A) (31.6%), with any form of personal experience (Group B) (67.7%) and with their own past or present mental health problems (Group C) (56.6%). A higher proportion of nurses under 40 (45.8%) had past or present experience of living with someone with mental health problems than those aged between 40 and 49 (44.7%) or aged 50 and over (33.3%).

Higher proportions of MHNs who had been in the profession for three to five years reported an overall experience of mental health problems, their own experience of mental health problems and having lived with someone with mental health problems than in the other categories. The lowest proportion of MHNs reporting mental health problems at the time of the survey were those with less than two years' experience (13.2%). The lowest proportion of those reporting their own past or present experience (Group C) or experience of living with someone with mental health problems (Group D) were those with over 11 years since qualification. Nurses with six to 10 years of experience in their current post had the highest proportion of reported mental health problems at the time of the survey (36.4%) and in Group B (70.6%). Nurses with less than two years' experience reported the highest proportion of both past or present mental health problems (62%) and experience of living with someone else with mental health problems (52.6%). There was a significant correlation between years in post and having one's own experience of mental health problems (Group C: $\chi^2(3, 210) = 8.289$ $p = 0.040$, $\phi = 0.199$) and experience of living with someone with mental health problems (Group D $\chi^2(3, 216) = 10.706$, $p = 0.013$, $\phi = -0.223$).

Associations between years in post, years in profession and personal experience of mental health problems (Table 2).

Number of years in post was inversely correlated with overall experience of mental health problems, particularly in relation to living with someone else with mental health problems. MHNs with experience of living with someone with mental health problems had significantly fewer years of professional experience than those without. Using independent samples t-tests comparing mean years in post and profession as continuous variable in all four groups we found a significant difference in mean number of years in the profession between nurses who had been or were living with someone with mental health problems (Group D) and the rest of the sample: 11.96 years (SD 9.62) versus 16.74 (SD 11.43) (independent samples t-test: $t(210) = -3.29, p = 0.01$, two tailed). The magnitude of difference between the means showed a small to moderate effect (Cohen's $d = -0.452, r = -0.22$). The mean number of years in post for MHNs with any form of experience of mental health problems (Group B) was also significantly lower than the rest of the sample: 4.75 years (SD 5.519), versus 6.89 years (SD 7.260), $p = 0.029$ (independent samples t-test $t(122.2) = -2.215, p = 0.029$). The magnitude of difference between the means showed a small to moderate effect (Cohen's $d = -0.332, r = -0.164$).

The mean number of years in post was also significantly lower for those with experience of living with someone with mental health problems (Group D) than other participants: 3.92 years (SD 4.78) versus 6.69 years (SD 6.95) (independent samples t-test: $t(207.13) = -3.415, p = 0.01$, two tailed). The magnitude of difference between the means showed a small to moderate effect (Cohen's $d = -0.464, r = -0.22$).

Put together with the findings on age, the association between time and experience of mental health problems (as reported in Table 1) seems to be complex and not linear. Being older does not necessarily mean reporting more exposure to living with or having mental health problems. The relationship between years in the profession and mental health problems was not significant, apart from the experience of living with someone else with mental health problems. Having fewer years in current post was significantly associated, again with having lived with someone with mental health problems.

The combined relationship between demographic and workplace factors and experience of mental health problems (Tables 3, 4, 5, 6)

Independent demographic and workplace variables had a significant combined effect on the likelihood that MHNs reported personal experience of mental health problems, particularly years in profession, years in post and also household size. Direct logistic regression was used to determine the relationship between demographic and workplace factors (independent variables) on the dependent variables of having mental health problems at the time of the survey (Group A), having any personal experience of mental health problems (Group B), having past or present own mental health problems (Group C) and having past and present experience of living with someone with mental health problems (Group D). These are reported in Tables 3 to 6, giving Wald and B values and Odds Ratios for each variable. In each table the statistically significant variables ($p < 0.05$) are highlighted in bold.

For MHNs reporting mental health problems at the time of the survey (Group A, Table 3), the full model was not statistically significant, $\chi^2(8, n = 213) = 15.986, p = 0.314$. The model was not able to distinguish between participants who did or did not report current

mental health problems. None of the independent variables made a unique statistical contribution to the model. The lack of significant predictive factors reflects the findings of the chi square tests for independence discussed earlier.

For MHNs with any form of personal experience of mental health problems (Group B, Table 4), the full model **was** statistically significant, $\chi^2(14, N = 204) = 3.402, p 0.003$ indicating that the model was able to distinguish between participants who did or did not report current mental health problems. The model as a whole explained between 15.1% (Cox and Snell R^2) and 20.8% (Nagelkerke R^2) of the variance and correctly classified 68.5% of cases compared to 64.7% when none of the variables were entered into the SPSS predictive model. The independent variables that made a unique statistical contribution to the model were: being in post for two years or less, being qualified for between three to five years and living alone increased likelihood of personal experience of mental health problems; being in post for over 11 years, living with just one other person and living with four or more people reduced the likelihood of personal experience of mental health problems.

For MHNs reporting their own past or present mental health problems (Group C, Table 5), the full model **was** statistically significant, $\chi^2(14, n = 196) = 28.415, p 0.013$ indicating that the model was able to distinguish between participants who did or did not report current mental health problems. The model as a whole explained between 13.4% (Cox and Snell R^2) and 17.9% (Nagelkerke R^2) of the variance and correctly classified 68.5% of cases compared to 52.8% when none of the independent variables were added to the SPSS predictive model. The independent variables that made a unique statistical contribution to the model were: being in post for less than two years increased likelihood of reporting mental health problems as did being in the profession for three to five years; being in post for

three to five or over 11 years and living with just one other person reduced the likelihood of mental health problems.

For MHNS with experience of living with someone with mental health problems (Group D, Table 6) the full model **was not** statistically significant. Some independent variables did make a unique statistical contribution to the model. They were: being post for two or less years increased likelihood of having lived with someone with mental health problems; being in post for six to ten or over 11 years decreased likelihood of having lived with someone with mental health problems. Living with just one other person decreased likelihood of having lived with someone with mental health problems.

The variables of years in profession and post (as well as household size) were the best predictors of mental health problems for nurses with overall experience of mental health problems, past and present experience and experience of living with someone with mental health problems. However the relationship between years in profession and post and mental health problems was not progressive, with different numbers of years in post and profession being associated with reporting own and lived with mental health problems. The predictive models here were not convincing, as evidenced by the R^2 s all being under 20%. This suggests that household size and years of professional and post experience warrant further investigation, but that other stronger predictor of MHNs' mental health problems should be sought. The poor fit of this model calls for further exploratory research to be done, looking beyond obvious factors.

Discussion

In this study we found that whereas the number of years a nurse had been in the profession was not associated with experience of mental health problems, years in current post was positively associated with having some form of personal experience of mental health

problems. MHNs with experience of mental health problems had typically been in post for fewer years than those without experience. Years in the profession were, however, a significant factor in likelihood of living with someone with a mental health problems, past or present. More MHNs who had been in the profession for a short amount of time having had experience of living with someone with mental health problems. Difference in age was not significantly associated with personal experience of mental health problems, in either of the four groups. This contrasts with previous studies in which age differences in prevalence of mental health problems have been found, specifically higher prevalence of mental illness in younger nurses (Morrissy et al, 2013; Arafa et al, 2003; Christensson et al, 2011; Lavoie-Tremblay et al, 2008; Ryan and Quayle, 1999; Letvak et al, 2013).

These findings are novel and of significance because they suggest that age, years in professional and years in post cannot be treated as proxies for each other. Common sense assumptions about cohorts of older nurses having increased likelihood of personal experience of mental health problems (just because they have more life experience) should not be made. Whilst it may be assumed that for individual MHNs age, years in the profession, and years in post are on the same trajectory (increasing year on year at the same rate for each nurse), the findings of this study suggest that for the relationship between age and years in profession and post in mental health nurses is complex, with less experienced nurses being the most likely to have lived with someone with a mental health problems and MHNs with less time in their current post being most likely to have their own mental health history. There are a number of possible explanations for this. The MHN profession attracts mature students, so those with relatively few years in the profession may not be so youthful (49% of students in Pryjmachuk and Richards' 2007 study were over 25 at the start of their course). Mental health nurses tend to be older than their general nursing counterparts (Alexander et al, 2015; Royal College of Nursing, 2014). There may well be a

relationship between experience of mental health problems and when nurses change posts or join and exit the profession. There may be a cohort effect, with an increasing number of UK MHN coming into the profession with experience of mental health problems as a result of overt encouragement to do so in recent years and policies of inclusion for people with mental health problems. Alexander et al (2015) in the US noted that prior experience of mental illness in family and friends was a motivator to join the profession. This warrants further research, where the confounding and contributory factors may be assessed along with the impact of inclusive policies.

Without a longitudinal cohort element, the present study cannot fully account for the impact of age on nurses' mental health. Nurse training and certainly entry into the profession in the UK has changed over recent years (Royal College of Nursing, 2014), meaning that the characteristics and social circumstances of UK MHNs in different age brackets may be relevant here, particularly with a significant proportion (32.3%) of UK MHNs being over 50 (Royal College of Nursing, 2014). The findings of this survey call for further work, mirroring the studies on generations in nursing that have been conducted in Australia and the US (Humble and Cross, 2010; Brunetto et al, 2012; Letvak et al, 2013). Cohort research on MHNs in the UK has focused on student nurses or those newly qualified (Kipping, 2000; Prymachuk and Richards, 2007; Rungapadiachy et al, 2006; McCrae et al, 2014). These groups are perhaps easier to access for research, because of recent or current associations with academia, but there is a lack of data on mental health and wellbeing of older and more established MHNs.

The use of four questions on past and present mental health problems as well as experience of their own or living with someone with mental health problems has yielded novel information about MHNs' personal experience of mental ill health. There is potential to develop the questions and categories here into a validated measure.

Limitations

A limitation of online research with access via a third party means that response rates, based on potential participants seeing and deciding whether to take part in a study can be difficult to calculate and are often low (Fan and Yan, 2010). The response rate and sample size of this survey limit claims to generalisability because of the potential for response bias in the sample and because of the low power studies are at risk of Type II error (Fox et al, 2009; Christley, 2010). However, the representativeness of this nationally drawn sample must also be taken into account when considering generalisability. The final sample was demographically representative of the UK MHN population, as reported in other recent studies (RCN, 2013; Johnson et al, 2012), although generalisability to non UK MHN populations would be unwise given the particular social and political circumstances of the profession in the UK. This study offers novel findings because age, years in profession and years in post have been differentiated and because MHNs' personal experience of mental health problems has been differentiated into four types of experience. The findings here suggest that further research must be done to explore the differentiations made here.

Implications

This study contributes to the understanding of mental health nurses' reported rates of mental illness. The findings suggest that age and years in the profession should not be treated as correlates in future studies of nurses' wellbeing. The influence of lived experience of mental health problems on motivation to join the profession should be the subject of further research.

Conclusion

This study identified a complex relationship between age, years in post, and years in the profession in relation to personal experience of mental health problems. Personal experience of living with someone with mental health problems was more likely in MHNs with fewer years of experience. This finding warrants further investigation, because causes of this phenomenon can only be hypothesised at this point. The broader content for this study is a profession at crisis point, with both age and experience as relevant factors. Longitudinal and cohort studies are needed in order to determine the relationship between years in profession, post, age and mental health problems in the UK, in a similar way as they have been done in Australia and the US (Letvak et al, 2013; Brunetto et al, 2012). Longitudinal research on MHNs mental health over the course of their career could address relationships between nurses' own mental health and years in the profession. Cohort studies, with a focus on nurses at various points in their careers, would identify those factors in the MHN experience that are different between nursing generations. An international comparative focus is warranted here in order to diagnose which factors and relationships are unique to the UK NHS and which are relevant for our profession as a whole.

5124 words

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