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School nurses' involvement, attitudes and training needs for mental health work: a UK-wide cross-sectional study

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Abstract

Aim. The aim of this study was to identify school nurses' views concerning the mental health aspects of their role, training requirements and attitudes towards depression in young people.

Background. Mental health problems in children and young people have high prevalence worldwide; in the United Kingdom they affect nearly 12% of secondary school pupils. School nurses have a wide-ranging role, and identifying and managing mental health problems is an important part of their work.

Methods. A cross-sectional study was conducted using a postal questionnaire sent to a random sample of 700 school nurses throughout the United Kingdom in 2008. Questions concerned involvement in mental health work and training needs for this work. Attitudes were measured using the Depression Attitude Questionnaire

Results. Questionnaires were returned by 258 (37%) nurses. Nearly half of respondents (46%) had not received any postregistration training in mental health, yet 93% agreed that this was an integral part of their job. Most (55%) noted that involvement with young people's psychological problems occupied more than a quarter of their work time. Staff attitudes were broadly similar to those of other primary care professionals, and indicated a rejection of stigmatizing views of depression and strong acknowledgement of the role of the school nurse in providing support.

Conclusion. Working with young people who self-harm, and recognizing and being better equipped to assist in managing depression and anxiety are key topics for staff development programmes.

What is already known about this topic

- Mental health problems, by virtue of their prevalence and disabling impacts, are an important public health issue globally.
- The role of front-line staff such as school nurses and the primary care team is crucial to the recognition and management of these health problems.

What this paper adds

- School nurses highly valued the mental health part of their work and spent considerable time supporting young people with psychological problems.
- School nurses identified a clear need for further training and support for this aspect of their role.

Implications for practice and/or policy

- The development of feasible and accessible training and support packages for school nurses is a priority.
- Working with young people who self-harm, and recognizing and being better equipped to assist in managing depression and anxiety are key topics for staff development programmes.
- There appears to be a requirement for improved local and national guidance on referral and better joint working with specialist child and adolescent mental health services.

Introduction

Mental health problems in children and young people are an important public health issue. Common mental disorders such as depression and anxiety are not only distressing for the individual, family and carers, but are also strongly associated with behavioural difficulties and limit educational and social achievements. Depression is predictive of a range of risk behaviours including self-harm, and is strongly linked to completed suicide (Gould *et al.* 2003, Evans *et al.* 2005). The teenage years in particular are associated with the incidence of depression and other mental health problems, and there is high degree of persistence and relapse, with onset in youth linked to risk of further episodes in adulthood (Maughan & Kim-Cohen 2005). In Britain, only a quarter of school-aged children with a diagnosed mental disorder have contact with specialized mental health services (Ford *et al.* 2007), and studies in other countries reveal similar low levels of mental health service use for health problems, with evidence that young people from ethnic minority groups are least likely to receive mental health care (Garland *et al.* 2005, Rickwood *et al.* 2007). The majority of children and young people with these problems seek advice from friends and family, and from teachers and school-based nursing services, and these frontline professionals play a vital role in identifying, managing and accessing additional services (Ford *et al.* 2007). School nurses are well-placed to identify and assist in the management of young people's psychological problems.

Background

The mental health of children and young people is a central aspect of their overall well-being and is recognized as such by the Convention on the Rights of the Child (<http://www.unicef.org/rightsite/index.html>). In many countries there has been a growth in interest in the mental health of young people and in activities to develop better services and support for this aspect of their welfare. In a recent comprehensive assessment of young people's well-being 21 nations of the industrialized world were compared in relation to six broad health dimensions – material well-being, health and safety, education, peer and family relationships, behaviours and risks, and young people's subjective sense of well-being (UNICEF 2007). The United Kingdom (UK), despite its relative affluence, was ranked overall last and lowest for the measures of peer and family relationships, behaviours and risks, and subjective well-being.

Subjective well-being, although broader than any medical categorization, relates importantly to psychiatric diagnoses. Surveys conducted in the UK and elsewhere have identified an overall prevalence of psychiatric disorder amongst adolescents of around 12%, including 5% with an emotional disorder (depression and anxiety) (Green *et al.* 2005). Although there is increasing recognition and attention directed to emotional disorders in children and young people, there is uncertainty about whether the extent of these problems has increased in recent years. Evidence from a systematic review of international studies indicates that the prevalence of depression does not appear to have increased in this population over the past 30 years (Costello *et al.* 2006). However, growing awareness of the importance of the mental health of children and young people has been associated with a policy drive in the UK and elsewhere to improve service quality (World Health Organization, 2005). The National Service Framework for Children, Young People and Maternity Services (Department of Health, 2004), a 10-year plan for England's health, social and educational services, promotes a child-centred approach to coordinated service delivery which explicitly outlines requirements for mental health provision. It emphasizes that all staff working directly with children and young people should have 'sufficient knowledge, training and support to promote psychological well-being and to identify early indicators of difficulty', a requirement that is noted in policy documents for other UK countries (Scottish Executive, 2003, Welsh Assembly Government, 2005).

Clinical guidelines for the management of depression in a number of countries emphasize the role of primary care staff in the recognition and initial management (Zuckerbrot *et al.* 2007). The UK National Institute for Health and Clinical Excellence (NICE) guideline for depression in children and young people recommends integrated working across levels of care to manage depression, noting that: 'Healthcare professionals in primary care, schools and other relevant community settings should be trained to detect symptoms of depression, and to assess children and young people who may be at risk of depression' (National Institute of Health and Clinical Excellence 2005).

School nurses have an extensive role with regard to children's physical and mental health. Participating in child protection activity and delivering immunization programmes are likely to constitute the most time-consuming activities, followed by individual appointments with pupils, health promotion and screening activities (Ball & Pike 2005). School nurses also play a much wider role in supporting the links between schools and pupils and a range of other helping agencies and professionals, including health visitors, social services, child protection coordinators, special education needs staff, and specialist child and adolescent mental health services (CAMHS).

There is limited published research concerning the mental health aspects of the school nurse role. Most papers addressing this topic are editorial, discussion or commentary pieces, and reveal that interest in this aspect of the school nurse's role is neither a local nor purely a contemporary concern. Works originate from the United States of America (USA), Australia, Japan, UK, and other European countries, and date from the 1950s (Spock 1950, Cook 1969). Although there is a sizeable evidence base concerning school-based mental health preventive and clinical interventions (Hoagwood & Erwin 1997, Bower *et al.* 2001, Browne *et al.* 2004, Horowitz & Garber 2006), few approaches specifically involve school nurses (Hootman *et al.* 2002, Beardslee *et al.* 2003, Chipman & Gooch 2003, Clarke *et al.* 2003, Puskar *et al.* 2003, Day 2005, DeSocio *et al.* 2006, O'Donnell *et al.* 2007, Stallard *et al.* 2007).

National surveys of school nurses' work have been undertaken in Sweden, Scotland, and Wales, with staff responses emphasizing that involvement in mental health work forms a key part of their role (Merrell *et al.* 2007, Clausson *et al.* 2008, Wilson *et al.* 2008). These findings accord with DeBell's (2006) scoping review of UK school nursing practice; this indicated that mental health is amongst four main focuses of health need amongst young people which inform the practice of school nurses. School nurses routinely provide advice, support and counselling on a range of issues from bullying, mental health and substance misuse, with these issues being common across all education sectors. Increasingly, school nurses are involved in broader health promotion work pertinent to emotional health and well-being. However, consistent themes emerging from staff surveys are concerns about the lack of specialist mental health training and supervision for this area of work (Leighton *et al.* 2003), the high incidence of these problems and consequent workload demands, and limited local accessible specialist support (Wilson *et al.* 2008).

The study

Aim

The aim of this survey was to identify school nurses' views concerning the mental health aspects of their role, training requirements and attitudes towards depression in young people.

The specific objectives were to:

- Describe the extent of school nurses' involvement with emotional and psychological problems in children and young people.
- Describe the extent of previous staff training and perceptions of training needs related to this area of practice.
- Measure the attitudes of school nurses concerning depression in children and young people.
- Explore and compare the attitudes of school nurses who work in a senior role and those with specialist practitioner qualification with those with basic training and roles.
- Explore and compare the attitudes of school nurses who have completed mental health training with those who have not.

Design

A survey of a representative sample of school nurses from throughout the UK was conducted. This study forms part of the consultation and scoping phase of a wider project called QUEST – improving school mental health: a quality improvement evaluation for school nurses and teachers, which is supported by the Health Foundation's Engaging with Quality in Primary Care programme (http://www.health.org.uk/current_work/demonstration_projects/ewq_pc.html).

Sample size

There are approximately 3600 school nurses in England, including nurse modern matrons, school nurse managers, school nurses, and other first level and second level school nursing staff (The NHS Information Centre for Health and Social 2009). Data from the other UK countries (Wales, Scotland and Northern Ireland) indicates a UK school nurse workforce of around 4200 (Turner *et al.* 2004, IDS, 2008).

This survey was designed to obtain measures of both categorical variables (such as experience of postqualification mental health training) and continuous variables [the Depression Attitude Questionnaire (DAQ) individual item responses and factor scores]. Prior investigation of district nurses' attitudes to depression provided mean and standard deviation values on which to base estimates for the attitude scores (Haddad *et al.* 2005), and indicated a sample of 128 to be sufficient to estimate the population mean value for DAQ item scores (0–100) within a 95% confidence limit of

+/-5; whilst for other questionnaire items, applying the most conservative estimate of variance, a sample of 352 was required for 5% precision in the 95% confidence interval of proportions responding. To allow for a potential 50% non-response level, questionnaires were sent to a random sample of 700 school nurses.

Participants

We sought responses from school nurses working in state and independent (fee-paying) schools and school nurse team leaders. The membership lists of the three key professional organizations that UK school nurses may join were used to produce the sampling frame: the Royal College of Nursing (RCN) School Nurses' Forum, Community Practitioners' and Health Visitors' Association (CPHVA), and School and Public Health Nurses' Association (SAPHNA). Their staff organized the mailing, and selection was by the random sort function for spreadsheets for each membership dataset to identify a total of 700 potential participants (see Sample Size).

Measures

The questionnaire comprised 31 items in total. Eleven items concerned respondent characteristics and perceived needs in relation to the mental health aspects of the school nurse role; the remainder of the questionnaire was the DAQ (Botega *et al.* 1992). This is a 20-item self-report measure of staff attitudes which are graded between 'strongly disagree' and 'strongly agree' by means of a visual analogue scale, where responses are scored between 0 and 100. The DAQ was developed to measure general practitioners' (GPs') attitudes to depression and its management, and has subsequently been used in more than 20 studies with GPs, psychiatrists, in-patient doctors and nurses, and practice and district nurses. Despite its use with a range of healthcare professionals there are some inconsistencies in reports of the DAQ's factor structure. Examination of its characteristics based on a nurse sample has revealed adequate although modest internal consistency (Haddad *et al.* 2007). Minor changes were made for its use with school nurses, involving: item 11, originally worded 'Becoming depressed is a natural part of being old'—*being old* was changed to *adolescence*. For item 12, *practice nurse* was altered to *school nurse*, and *people* were altered to *young people* in several item statements.

Data collection

A letter of invitation containing information for recipients, together with a letter of endorsement from the RCN, CPHVA or SAPHNA and a questionnaire, was sent to randomly selected nurses. A postpaid return envelope was included. Responses were requested within 1 week and a reminder was sent after 10 days. A small number of nurses may have been members of more than one organization and, as no mechanism was available for cross-checking, a sentence on the invitation letter noted the possibility that two questionnaires had been sent and emphasizing that only a single response was sought.

Ethical considerations

The study was approved by the appropriate research ethics committee.

Data analysis

Data were analysed using the Statistical Package for the Social Sciences/PC+, version 15-0 (SPSS, Inc., Chicago, IL, USA). Standard descriptive statistics (mean and 95% confidence interval) were used to summarize the variables. This being the first use of the DAQ with school nurses, the scale was submitted to exploratory factor analysis after reverse coding of relevant items. Principal Components Analysis was used with Varimax rotation: those items with individual measures of sampling adequacy of <0.5 were excluded, and eigen scores in excess of 1 and scree plots were used to guide component selection. As in a previous examination of DAQ responses of district nurses, this procedure indicated three factors which explained 32% of the variance.

Examination of normal probability plots and Kolmogorov-Smirnov tests for the attitude factors demonstrated sufficiently normal distributions for the application of parametric statistical methods. The relationships between respondents' attitudes and their training and role were tested by ANOVA.

Results

Demographics

A total of 700 questionnaires were sent out and 258 responses were received. All respondents were nurses working in schools; however, as shown in Table 1, their job titles reflected the differing posts

and levels of training within the school nursing workforce. Half of the respondents categorized themselves as school nurses, with school nurse specialist practitioners (24%) and school nurse team leaders (18%) comprising the bulk of other roles noted.

Table 1. Respondents' job titles

Current post	Frequency N (%)
School nurse	129 (50%)
School nurse specialist practitioner	62 (24%)
School nurse team leader	46 (18%)
Special needs school nurse	7 (3%)
Other	4 (2%)
Missing	10 (4%)
Total	258

All practising nurses in the UK must register with the Nursing and Midwifery Council (NMC). Nurses who are registered on Part 3 have undergone further specialist community public health nurse training involving a BSc or postgraduate diploma programme, typically undertaken over 1-year full-time or 2 years part-time and funded by regional services; 38% of school nurse respondents noted that they were entered on Part 3 of the NMC register.

UK school nurses commonly work in several schools, and respondents reported working in primary (70%) and secondary schools (74%), and also in special needs schools (22%), pupil referral units (18%) (establishments for pupils who cannot attend normal schools because of social or behavioural problems), and sixth form colleges (10%); 23% of respondents worked in the independent sector.

Mental health work and specialist training

In response to being asked if helping pupils with psychological and emotional problems was a key part of their work, 63% strongly agreed and a further 30% agreed.

Fifty-five per cent noted that more than a quarter of their time was spent on dealing with these types of problems, and nearly a quarter (23%) indicated that they spent more than half their time working with young people experiencing these problems.

Around half of respondents (46%) noted that they had not completed any specific postregistration training for the mental health aspects of their role.

Respondents were also asked additional questions about what might help with the mental health aspects of their role and about the need for further training. They answered on a five-point scale of usefulness ranging from '*very useful*' to '*not at all useful*'. As may be seen in Table 2, additional specialist training, together with improved support from their local CAMHS teams, were likely to be the most useful of the options provided.

Table 2. School nurse respondents' views on usefulness of approaches and training topics to assist mental health work

Resources and support that might assist school nurses' mental health role	Frequency and proportion (%) selecting 'very useful'
Training sessions (for school nurses)	219 (85%)
More support from Child and Adolescent Mental Health Services specialists	203 (79%)
Better details of local relevant resources	184 (71%)
Clinical guidelines	154 (60%)
Self-help materials (for children and young people)	126 (49%)
Training topics	
Managing self-harm	210 (81%)
Recognition of depression and anxiety disorders	181 (70%)
Brief psychological interventions	175 (68%)
Assessing suicide risk	167 (65%)
Brief assessment of psychological problems	166 (64%)

Regarding training needs, respondents selected managing self-harm, recognizing depression and anxiety, and delivering brief psychological interventions as the most useful topics for training.

Space was provided for staff to note further responses to the question, 'Are there any other things that would help this part of your work?' Most frequently noted were issues related to inadequate time and staffing levels to enable appropriate engagement in this area of practice. Respondents also commented on the need for improved support and communication with their CAMHS teams, and that additional training sessions would assist. A desire for supervision from CAMHS specialists for this part of their work was noted, and assessment tools, guidelines and printed resources were also mentioned.

Attitudes to depression and its management

The DAQ was used to explore staff attitudes to depression. The responses to the 20 items of the DAQ are shown in Table 3.

Table 3. Responses to Depression Attitude Questionnaire: mean scores (95% CI) of school nurses expressing agreement with individual statements

	Statement	Mean (95% CI)*
1	During the last 5 years, I have seen an increase in the number of pupils presenting with depressive symptoms	64.7 (61.9, 67.5)
2	The majority of depression seen in schools originates from young peoples' recent misfortunes	45.0 (42.4, 47.6)
3	Most depressive disorders seen in school improve without treatment	33.0 (30.6, 35.4)
4	An underlying biochemical abnormality is at the basis of severe cases of depression	46.3 (43.6, 48.9)
5	It is difficult to differentiate whether pupils are presenting with unhappiness or a clinical depressive disorder that needs treatment	56.7 (53.9, 59.6)
6	It is possible to distinguish two main groups of depression: one psychological in origin and the other caused by biochemical mechanisms	40.8 (38.2, 43.4)
7	Becoming depressed is a way that young people with poor stamina deal with difficulties	26.8 (24.1, 29.5)
8	Depressed people are more likely to have experienced deprivation in early life than other people	38.6 (35.5, 41.7)
9	I feel comfortable dealing with depressed pupils' needs	40.4 (37.3, 43.4)
10	Depression reflects a characteristic response which is not amenable to change	26.9 (24.6, 29.2)
11	Becoming depressed is a natural part of adolescence	20.5 (18.3, 22.6)
12	The school nurse could be a useful person to support depressed pupils	76.1 (73.4, 78.7)
13	Working with depressed pupils is heavy going	69.7 (66.8, 72.6)
14	There is little to be offered to those young people with depression who do not respond to what GPs do	40.4 (36.6, 44.2)
15	It is rewarding to spend time looking after young people who are depressed	63.5 (61.0, 66.1)
16	Psychotherapy tends to be unsuccessful with young people who are depressed	36.0 (33.7, 38.4)
17	If young people with depression need antidepressants, they are better off with a psychiatrist than with a general practitioner	66.4 (63.1, 69.6)
18	Antidepressants usually produce a satisfactory result in the treatment of young people with depression	42.0 (39.7, 44.4)
19	Psychotherapy for young people with depression should be left to a specialist	69.2 (66.2, 72.2)
20	If psychotherapy were freely available, this would be more beneficial than antidepressants, for most young people with depression	74.6 (72.3, 77.0)

*Visual Analogue Scale: 0 = strongly disagree to 100 = strongly agree.

Attitude factor measures

Principal Components Analysis was used to examine the DAQ structure with this professional group, and in common with previous use of this measure with district nurses, a three-factor model was identified, the factors comprising:

- Factor 1 – professional ease and confidence (items 9, 12, 15). Agreement with these items is indicative of feeling comfortable and finding it rewarding working with depressed school pupils, and school nurses' responses revealed a generally confident attitude – the mean score for this factor was 60.1 (95% CI: 58.0–62.1).
- Factor 2 – pessimistic attitude towards depression (items 7, 8, 10, 11, 16). Agreement with these statements indicates a view that depression is a natural phenomenon in young people that is not amenable to change. The survey indicated substantial disagreement with this view: mean score 30.0 (95% CI: 28.4–31.6).

- Factor 3 – tendency to defer to psychiatric experts (items 17, 19, 20). Agreement with this set of statements indicates that respondents feel that depression management is best delivered by specialists. Responses showed that school nurses to consider specialist management for depression to be appropriate – the mean score was 70.2 (95% CI: 68.8, 72.3).

Associations between attitude factors, school nursing role, specialist registration (Part 3 of the NMC register), and post-registration mental health education

It was considered likely that an association between attitudes measured by the DAQ and more senior and specialist practitioner school nurse roles and prior mental health education would be evident. Examination of the mean scores for the DAQ attitude factors indicated that prior mental health education, a more senior role and specialist practitioner status were all linked to improved confidence in working with depressed young people (Factor 1); however, testing by ANOVA revealed that the only statistically significant association with this aspect of attitude was for specialist practitioner registration: $F(1, 212) = 7.71, P = 0.008$. The effect size for this association was small (partial eta-squared = 0.032).

Although they exerted no independent effects, there were interactions between the other variables and professional confidence, with statistically significant combined effects for having received mental health education and NMC specialist registration [$F(1, 212) = 6.93, P = 0.009$], and for mental health education together with senior post [$F(1, 212) = 4.75, P = 0.03$].

Discussion

Study limitations

There are a number of limitations to this study that relate to the methods of recruitment and the response rate. Participants were accessed by means of their membership of relevant UK professional organizations. The proportion of school nurses belonging to these organizations is uncertain, and excluding those school nurses who were not members of professional organizations may have introduced bias and affected the representativeness of the findings.

The survey response rate was lower than anticipated; although meeting prespecified sample size requirements for the attitude measure findings, it provided a lower level of precision than planned. This response level also somewhat limits the generalizability of the survey findings.

Role in mental health-related work

These limitations notwithstanding, we systematically addressed, in a UK-wide sample of school nurses, an issue of key public health importance, namely the mental health component of their role, their training requirements and their attitudes to depression in the young people they encounter in school settings. The survey responses revealed that, in common with other primary care professionals, school nurses encounter a variety of mental health problems in their daily work, and play an important role in identifying and assisting in managing the mental health needs of young people. This facet of their work encompassed a considerable proportion of their time – for most respondents in excess of a quarter of their work time. Importantly, this study showed that whilst only half (54%) of school nurses surveyed had undertaken any postregistration training for the mental health aspects of their role, there was near-unanimous agreement that this formed an important part of their work. Although these findings indicate a higher level of involvement than identified in other studies, the consistent theme was school nurses' recognition of their need for specific mental health training and support (Leighton *et al.* 2003, Wilson *et al.* 2008).

The overwhelming majority of staff indicated that they required more training to enhance their knowledge and confidence in assisting with mental health problems in young people, particularly in recognizing depression and anxiety, and in managing self-harm. Although evidence-based approaches for these problems are relatively well-developed, there is very limited evidence to guide the specific role of school nurses in relation to these conditions. There may also be tensions between the increasing public health role of school nurses and other community nurses, with its emphasis on health education and preventive work, and the important clinical nursing activity that forms a key part of these nurses' mental health practice.

It is noteworthy that recent school-based studies suggest that self-harm amongst adolescents is increasingly prevalent with rates of 6–7% amongst secondary school pupils (Hawton *et al.* 2002, De Leo & Heller 2004). The high prevalence of psychological problems in young people, coupled with the range of severity and variable course of these conditions provides a strong imperative for the enhancement of primary care clinicians' skills in disorder detection, initial management and ongoing

support (Zuckerbrot *et al.* 2007). Many of these problems are encountered in schools and primary care and are most appropriately managed in these settings by front-line professionals such as school nurses and their primary care colleagues. Reviews, guidelines and initiatives in Australia (<http://www.beyondblue.org.au>), Canada (Zuckerbrot *et al.* 2007), the USA (Olin & Hoagwood 2002) and the UK (National Institute for Health and Clinical Excellence 2005) recommend developing the capacity and quality of primary care-based support for common mental disorders.

The three factors obtained from factor analysis of the DAQ replicate the factors identified in an earlier study of district nurses' attitude to depression (Haddad *et al.* 2007), indicating that these are common themes in attitudes amongst nursing staff working with people who are depressed. School nurse responses to DAQ items are comparable to those in earlier studies involving GPs, psychiatrists, and NHS Direct nurses (Kerr *et al.* 1995, Payne *et al.* 2002). School nurses' responses reveal that they are as comfortable working with depression as district nurses and NHS Direct staff (although less so than GPs), and that they find this work more rewarding than was indicated by other nurses and by GPs.

Our findings examining the relationship between staff characteristics and attitudes as measured by DAQ factors were inconclusive, showing limited associations between registration status, role, and previous training. The trend towards increased professional ease in working with depression was in the expected direction, with nurses in more senior roles and those having undertaken additional training in mental health topics showing a modest but statistically non-significant increase in confidence in such working. The absence of a clear link between previous training in mental health practice and related attitude components was unexpected, and may be related to the wide variability of training with regard to content, duration, and how long ago this was undertaken.

Specialist public health practitioner education and professional registration was statistically significantly associated with enhanced attitudes, namely a modest increase in confidence and ease in working with individuals with depression. This education is broad-based and, although it includes mental health content, typically involves modules in research, clinical assessment, health promotion, public health, innovation and leadership, and evidence-based practice. These courses involve practical and theoretical learning in a range of different settings and areas of practice, and it is likely that the duration, intensity, and quality of this education (the NMC sets and maintains the standards for educational programmes and practitioner proficiency for registration) is related to the attitude score differences identified in this study.

Conclusion

Our results raise questions that could be examined in future work. Some indication of a relationship between staff attitudes and education was evident, but obtaining a clearer understanding of the links between professional development, attitudes, clinical behaviour and health benefits requires refinement of measures and further development of theoretical understandings. Determining the best approaches for enhancing school nurses' confidence and skills in managing common mental health problems and evaluating the effects of such interventions needs a combination of approaches, with experimental studies building on observational designs, ideally with clinical outcome measurement. This study provides added support and direction for the development and rigorous evaluation of educational and service development innovations for the mental health role of school nurses.

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Conflicts of interest

No conflict of interest has been declared by the authors.

Author contributions

MH and AT were responsible for the study conception and design. MH and GB performed the data collection. MH and GB performed the data analysis. MH and GB were responsible for the drafting of the manuscript. MH and AT made critical revisions to the paper for important intellectual content. MH and GB provided statistical expertise. MH and AT obtained funding.

DeBell D. (2006) School nurse practice: a decade of change. *Community Practitioner* 79, 324–327.

Department of Health (2004) National Service Framework for Children, Young People and Maternity Services and Maternity Services. Department of Health, London.

DeSocio J., Stember L. & Schriinsky J. (2006) Teaching Children About Mental Health and Illness: a School Nurse Health Education Program. *The Journal of School Nursing* 22, 81–86.

Evans E, Hawton K, Rodham K & Deeks J (2005) The prevalence of suicidal phenomena in adolescents: a systematic review of population- based studies. *Suicide & Life-Threatening Behavior* 35, 239–250.

Ford T., Hamilton H., Meltzer H. & Goodman R. (2007) Child mental health is everybody's business: the prevalence of contact with public sector services by type of disorder among british school children in a three-year period. *Child and Adolescent Mental Health* 12, 13–20.

Garland A.F., Lau A.S., Yeh M., McCabe K.M., Hough R.L. & Landsverk J.A. (2005) Racial and ethnic differences in utilization of mental health services among high-risk youths. *American Journal of Psychiatry* 162, 1336–1343.

Gould M.S., Greenberg T., Velting D.M. & Shaffer D. (2003) Youth suicide risk and preventive interventions: a review of the past 10 years. *Journal of the American Academy of Child and Adolescent Psychiatry* 42, 386–405.

Green H., McGinnity A., Meltzer H., Ford T. & Goodman R. (2005) Mental Health of Children and Young People in Great Britain, 2004. Department of Health, London.

Haddad M., Plummer S., Taverner A., Gray R., Lee S., Payne F. & Knight D. (2005) District nurses' involvement and attitudes to mental health problems: a three-area cross-sectional study. *Journal of Clinical Nursing* 14, 976–985.

Haddad M., Walters P. & Tylee A. (2007) District nursing staff and depression: a psychometric evaluation of Depression Attitude Questionnaire findings. *International Journal of Nursing Studies* 44, 447–456.

Hawton K, Rodham K, Evans E & Weatherall R (2002) Deliberate self harm in adolescents: self report survey in schools in England. *BMJ* 325, 1207–1211.

Hoagwood K. & Erwin H.D. (1997) Effectiveness of School-Based Mental Health Services for Children: a 10-Year Research Review. *Journal of Child and Family Studies* 6, 435–451.

Hootman J., Houck G.M. & King M.C. (2002) A program to educate school nurses about mental health interventions. *Journal of School Nursing* 18, 191–195.

Horowitz J.L. & Garber J. (2006) The prevention of depressive symptoms in children and adolescents: a meta-analytic review. *Journal of Consulting & Clinical Psychology* 74, 401–415.

IDS (2008) NHS Scotland Workforce Information. Information Services Division, NHS National Services Scotland, Edinburgh.

Kerr M., Blizard R. & Mann A. (1995) General practitioners and psychiatrists: comparison of attitudes to depression using the depression attitude questionnaire. *British Journal of General Practice* 45, 89–92.

- Leighton S., Worraker A. & Nolan P. (2003) School nurses and mental health, part 1. *Mental Health Practice* 7(4), 14–16.
- Maughan B. & Kim-Cohen J. (2005) Continuities between childhood and adult life. *British Journal of Psychiatry* 187, 301–303.
- Merrell J., Carnwell R., Williams A., Allen D. & Griffiths L. (2007) A survey of school nursing provision in the UK. *Journal of Advanced Nursing* 59, 463–473.
- National Institute of Health and Clinical Excellence (2005) *Depression in Children & Young People. Identification and Management in Primary, Community and Secondary Care.* NICE, London.
- O'Donnell D.A., Joshi P.T. & Lewin S.M. (2007) Training in developmental responses to trauma for child service providers. *Psychiatric Services* 58, 12–14.
- Olin S.C. & Hoagwood K. (2002) The Surgeon General's National Action Agenda on Children's Mental Health. *Current Psychiatry Reports* 4, 101–107.
- Payne F., Harvey K., Jessopp L., Plummer S., Tylee A. & Gournay K. (2002) Knowledge, confidence and attitudes towards mental health of nurses working in NHS Direct and the effects of training. *Journal of Advanced Nursing* 40, 549–559.
- Puskar K., Sereika S. & Tusaie-Mumford K. (2003) Effect of the Teaching Kids to Cope (TKC) program on outcomes of depression and coping among rural adolescents. *Journal of Child & Adolescent Psychiatric Nursing* 16, 71–80.
- Rickwood D.J., Deane F.P. & Wilson C.J. (2007) When and how do young people seek professional help for mental health problems? *Medical Journal of Australia* 187, S35–S39.
- Scottish Executive (2003) *A Scottish Framework for Nursing in Schools.* Scottish Executive, Edinburgh.
- Spock B. (1950) Schools are a fertile field for mental-health efforts. *Child* 15, 10–11.
- Stallard P., Simpson N., Anderson S., Hibbert S. & Osborn C. (2007) The FRIENDS emotional health programme: initial findings from a school-based project. *Child and Adolescent Mental Health* 12, 32–37.
- The NHS Information Centre for Health & Social Care (2009) *NHS Hospital and Community Health Services Non-Medical Staff Census England – 2008.* The NHS Health and Social Care Information Centre, Leeds.
- Turner J., Lazenbatt A., Poulton B., Patton L. & Curran C. (2004) *Community Health Nursing: Current Practice & Possible Futures.* Department of Health, Social Services and Public Safety, Belfast.
- UNICEF (2007) *An Overview of Child Well-Being in Rich Countries: A Comprehensive Assessment of the Lives and Well-Being of Children and Adolescents in the Economically Advanced Nations.* Innocenti Research Centre, Report Card 7, UNICEF, Florence.
- Welsh Assembly Government (2005) *National Service Framework for Children, Young People & Maternity Services.* Welsh Assembly Government, Cardiff.
- Wilson P., Furnivall J., Barbour R.S., Connelly G., Bryce G., Phin L. & Stallard A. (2008) The work of health visitors and school nurses with children with psychological and behavioural problems. *Journal of Advanced Nursing* 61, 445–455.
- World Health Organization (2005) *Child and Adolescent Mental Health Policies and Plans.* World Health Organization, Geneva.

Zuckerbrot R.A., Cheung A.H., Jensen P.S., Stein R.E. & Laraque D. (2007) Guidelines for Adolescent Depression in Primary Care (GLAD-PC): I. Identification, assessment, and initial management. *Pediatrics* 120, e1299–e1312.