



Does structured clinical supervision during psychosocial intervention education enhance outcome for mental health nurses and the service users they work with?

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This study aimed to assess whether clinical supervision provided by workplace-based supervisors can enhance outcomes for mental health nurses attending a psychosocial intervention education programme and the service users whom they work with. A quasi-experimental controlled design was used. The main outcome measure was student knowledge and attitudes towards individuals with psychosis and their caregivers. Secondary outcome measures for service users included the KGV (M) symptom scale and the Social Functioning Scale. Students in the experimental group demonstrated a significant increase in knowledge of psychological interventions compared with the control group. Service users seen by the students in the experimental group showed significantly greater reductions in positive psychotic symptoms and total symptoms compared with those seen by students in the control group. Workplace clinical supervision may offer additional benefit to nurses attending psychosocial intervention courses. Further research adopting more robust designs is required to support these tentative findings.

Keywords: clinical supervision, nurse education, psychosocial intervention

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Background

The training of mental health nurses post qualification in a range of psychosocial interventions (PSI) for individuals with severe and enduring mental health problems is now widely established in the UK (O'Carroll *et al.* 2004). These educational programmes typically help students to develop skills in family intervention and cognitive behavioural therapy, both of which have been found to be effective in the treatment of psychosis (Pilling *et al.* 2002).

Early evaluations of PSI education for mental health nurses found it to enhance knowledge about schizophrenia

and family work and result in more positive attitudes (Lam *et al.* 1993, Gamble *et al.* 1994). Other studies have reported enhanced outcomes for individuals with a diagnosis of schizophrenia and their caregivers (Brooker *et al.* 1992, 1994, Lancashire *et al.* 1997) and enhanced clinical skill acquisition in mental health nurses (Brooker & Butterworth 1993).

The curricula of such courses, usually though not always accredited by the Thorn Initiative (Gamble 1995), have remained largely unchanged since the studies cited above. Core modules normally include case management, family intervention and psychological management. The

broad aim of these programmes has been to train nurses and more recently other mental health professionals in a range of evidence-based interventions for individuals with psychosis and their caregivers.

Clinical supervision on PSI courses has traditionally been provided in small groups facilitated by one member of the programme team. Students are required to undertake case presentations for the service users whom they are working with, and normally receive feedback upon their skill acquisition via the submission of audio tapes of 'real life' clinical sessions (O'Carroll *et al.* 2004) rated by the course tutors against standardized scales such as the cognitive therapy scale for psychosis (Haddock *et al.* 2001) or the Schizophrenia Family Work Scale (D.H. Lam, unpublished). This model demands a high staff/student ratio, and students often have difficulty continuing to receive supervision once they have graduated from the education programme. However, the increasing number of graduates from PSI education programmes working in routine practice settings (Bradshaw *et al.* 2003, O'Carroll *et al.* 2004) offers the potential to explore the provision of supervision external to the provision of the education programme. The potential advantages of this model of clinical supervision include workplace support during training and the facilitation of PSI implementation upon graduation.

The formative function of clinical supervision, the development of knowledge and skills, has been recognized by Proctor (1991), who discriminated between this function and those of restoration, the supporting of personal well-being and a normative function; organizational responsibility.

However, there is limited evidence that the provision of clinical supervision enhances knowledge and skill acquisition. Studies that have evaluated clinical supervision outside of educational settings (e.g. Hallberg 1994, Palsson *et al.* 1994, Butterworth *et al.* 1997) have relied upon supervisees' self-report of enhanced knowledge and skill rather than upon more objective standardized measures to assess changes in knowledge and skill. No published studies have reported upon the added benefits of providing clinical supervision during PSI training.

This study is the first to investigate whether the provision of clinical supervision from PSI-educated practitioners in the student's own workplace adds value to PSI education. Outcomes for students who received education plus workplace clinical supervision were measured against those who received input from the education provider only. In order to assess whether any changes observed in students' knowledge about psychosis transferred into meaningful clinical change, outcomes for the service users whom each student worked with were also measured.

The study

Aim

The aim of the study was to evaluate the effect of the implementation of workplace-based clinical supervision for an experimental group of mental health nurses undertaking a programme of PSI education. Outcomes of education for the experimental group were compared with those of a similar comparison group of nurses undertaking PSI education who were not exposed to workplace clinical supervision.

The study aimed to evaluate whether PSI education plus participation in workplace-based clinical supervision resulted in:

1. enhanced knowledge outcomes for students;
2. positive attitude shifts for students; and
3. improvements in symptoms and social functioning for individuals with psychosis whom the students worked with.

The education programme

Students in both groups attended the University of Manchester 1 day a week for 9 months, completing 36 whole days of formal teaching in PSI. The education programme was divided into three modules: case management, family intervention and psychological intervention with psychotic symptoms. Students in both groups also received clinical supervision in small groups led by a member of the programme team. This is the model of supervision traditionally employed on PSI education programmes, which has been described earlier. Only nurses in the experimental group attended the additional workplace supervision.

Supervisors

Supervisors were graduates of the Thorn Nurse Diploma (Gamble 1995) who were working in local mental health services. All supervisors completed a 2-day course about clinical supervision, which was delivered by the first author. The course included an overview of the proposed model of supervision and training in the assessment of students' skills using the cognitive therapy scale for psychosis (Haddock *et al.* 2001).

Model of clinical supervision

Supervision sessions were conducted in groups of three: two students to one supervisor. Sessions were held every fortnight in the student's own workplace and lasted between 60 and 90 min. The process of clinical supervision was said to 'parallel' that of therapy, with the sessions

being structured and following a collaboratively set agenda (Padesky 1996). Supervisors' fidelity to the model of clinical supervision was assessed via monthly meetings with the first author.

Supervision focused on the discussion of PSI work and at each session, one student was expected to present a client whom he/she was working with. The presentation was to include a description of the student's assessment of the client's problems, the problem list they had identified and their preliminary formulation. Between sessions, the supervisor would listen to an audio tape of the student's work in full to assess the skills identified earlier. Feedback on this tape would form part of the agenda at their next meeting.

Study design

As only one group of approximately 16 students were recruited to the PSI education programme each year, it was not feasible to divide the group and expose only half of the students to the new model of workplace clinical supervision. Therefore, a pragmatic quasi-experimental controlled design was adopted to compare outcomes for the current intake of students who were exposed to the model of workplace clinical supervision (experimental group) with outcomes for a retrospective control group consisting of students who had attended the programme the previous year and did not receive workplace clinical supervision.

Participants

The participants were all qualified mental health nurses ($n = 23$) who were undertaking a 1-year part-time post-registration diploma in higher education in PSI. Students on the education programme were recruited from services across the North West of England and North East Wales. The entry criteria for the programme were that the nurses had a minimum of 1-year post-qualification experience, that they needed a letter of support from their manager, and that they had to be working with individuals with psychosis and their caregivers. The sample for the study was drawn from two groups of students recruited to the programme in consecutive years. All students entering the programme agreed to participate in the study.

Main outcome measures

Student data

Data were collected from both groups of nurses on the first day and the last day of the education programme. Knowl-

edge and attitudes about schizophrenia and PSI were assessed using five multiple-choice question (MCQ) papers. These papers were developed by researchers at the University of Manchester and the Institute of Psychiatry in London, and have been used in other PSI education evaluation studies (Lam *et al.* 1993, Gamble *et al.* 1994, Lancashire *et al.* 1997). Multiple-choice question (MCQ) 1 tested knowledge about case management, MCQ 2 psychological interventions for psychotic symptoms, MCQ 3 family intervention, MCQ 4 assessed attitudes about schizophrenia and schizophrenia family work, and MCQ 5 assessed general knowledge about schizophrenia and PSI. The papers were administered together under examination conditions, and took the students on average 52 min (range 40–70) to complete.

Service user data

Each nurse attending the PSI education programme was instructed to recruit six service users with a diagnosis of schizophrenia whom they would work with using psychosocial intervention while attending the education programme. Outcomes for service users were assessed using a modified version of the Krawiecka, Goldberg and Vaughan symptom scale [KGV (M)] (Krawiecka *et al.* 1977, modified by S. Lancashire unpublished) and the Social Functioning Scale (SFS, Birchwood *et al.* 1990). Data were collected by the nurses interviewing service users whom they worked with at the start and end of the education programme.

The KGV (M) symptom scale (Krawiecka *et al.* 1977) was developed as a brief measure of psychiatric symptoms for use with individuals experiencing psychotic symptoms. The KGV (M) has been widely used in previous evaluations of outcomes of PSI education programmes (Brooker *et al.* 1992, 1994, Lancashire *et al.* 1997). The version that the nurses were trained to use was modified by Lancashire in 1998, which incorporates 13 items and uses 5-point severity scales to assess positive psychotic symptoms such as hallucinations and delusional beliefs; negative symptoms such as psychomotor retardation; and affective symptoms such as anxiety and depression. The nurses in the study were trained to use the KGV (M). Inter-rater reliability was assessed using Kendall's \bar{W} , and good levels of reliability were demonstrated ($\bar{W} = 0.806$, $P < 0.001$) for six recorded interviews.

The SFS (Birchwood *et al.* 1990) is a semi-structured interview, which assesses seven domains of social and personal functioning, and the scale is easy to use and only takes 10–15 min to administer. The scale has been used widely in previous research that has investigated the effects of PSI on the functioning of patients who suffer from schizophrenia (TARRIER *et al.* 1988, Brooker *et al.* 1992, Lancashire *et al.* 1997).

Ethical considerations

This study formed part of a larger research trial that was being undertaken to evaluate the outcomes of PSI education, which has been reported elsewhere (Baguley *et al.* 2000). Students attending the PSI education programme were required to apply for and receive ethical approval from the Local Research Ethics Committee that covered the NHS trust in which they worked.

Data analysis

All data were analysed using SPSS for Windows version 10.1. Comparison of the groups at baseline was undertaken using independent-sample *t*-tests. Pre–post changes within groups were tested for using paired-sample *t*-tests, and between-group comparison of the knowledge and attitudes of students in each group and the outcomes for service users post training were assessed out using independent-sample *t*-tests. Analyses of data ignored the potential effects of clustering that can arise when participants are drawn from the same source, that is, each nurse's caseload.

Results

The participants

There were 12 mental health nurses in the control group and 11 in the experimental group. Nurses in the control group submitted assessments for an average of five service users each, while those in the experimental group submitted data for three service users each.

Demographics

The demographic characteristics of the students have been illustrated in Table 1. A total of 75% of the students in the

control group were female, compared with 45.5% in the experimental group. However, comparison of the two groups showed that the only significant differences between them were that students in the experimental group were significantly older and had been qualified longer than those in the control group.

Fidelity to the model of clinical supervision

A feedback questionnaire completed by the experimental student group confirmed that 82% of students reported that their clinical work had been listened to in supervision and they had received feedback on at least 50% of occasions. Students also reported that the majority of the discussions taking place in clinical supervision related to their PSI practice.

Knowledge about serious mental illness

All 23 students completed the five MCQ papers on both the first and last day of the PSI education programme. There were no significant differences between the scores of the two groups prior to commencing the programme on any of the five MCQ papers (Table 2).

At the end of the education programme, students in both groups showed significant increases in their knowledge about case management and small but none significant positive changes in their attitudes towards schizophrenia and schizophrenia family work. Only students in the experimental group showed significant increases in knowledge about psychological interventions and general knowledge about schizophrenia.

Comparison of differences between the groups showed that students in the experimental group achieved significantly greater increases in knowledge about psychological

Table 1
Demographic characteristics of the sample

	Control group	Experimental group	<i>t</i> -value	d.f.	<i>P</i> -value (two-tailed)
Number of students	12	11			
Age (SD)	31.8 (4.6)	36.6 (4.1)	−2.65	21	0.02
Years qualified (SD)	5.8 (4.1)	9.8 (4.8)	−2.16	21	0.04
Gender					
Male	3 (25.0%)	6 (54.5%)	1.45	21	0.16
Female	9 (75.0%)	5 (45.5%)			
Grade					
E	6 (50.0%)	2 (18.2%)	−1.36	21	0.19
F	3 (25.0%)	3 (27.2%)			
G	1 (8.3%)	4 (36.4%)			
H	2 (16.7%)	2 (18.2%)			
Work setting					
Community	8 (66.6%)	8 (72.7%)	1.46	21	0.16
Ward	1 (8.3%)	2 (18.2%)			
Other	3 (25.0%)	1 (9.0%)			

Table 2
Students' knowledge at baseline

	Mean	SD	95% CI of difference in means		t-value	d.f.	P-value (two-tailed)
			Lower	Upper			
MCQ 1 – case management							
Control	55.4	11.8	-17.9	1.5	-1.76	21	0.09
Experimental	63.6	10.5					
MCQ 2 – psychological							
Control	65.0	11.3	-10.3	6.7	-0.445	21	0.67
Experimental	66.8	7.8					
MCQ 3 – family intervention							
Control	80.8	9.8	-8.2	8.0	-0.019	21	0.99
Experimental	80.9	8.9					
MCQ 4 – attitudes							
Control	71.5	6.2	-5.8	5.5	0.076	21	0.94
Experimental	71.3	5.9					
MCQ 5 – general knowledge							
Control	76.3	6.4	-4.7	6.3	0.29	21	0.77
Experimental	75.5	6.3					

MCQ, multiple-choice question.

Table 3
Knowledge changes for students before and after attending the education programme

	Control group		Experimental group		t-value	d.f.	P-value (two-tailed)
	Pre	Post	Pre	Post			
MCQ 1 – case management							
Mean	55.4	70.0	63.6	75.0	-1.13	21	0.27
SD	11.8	11.5	10.5	9.5			
MCQ 2 – psychological							
Mean	65.0	71.7	66.8	81.4	-4.66	21	0.00
SD	11.3	5.4	7.8	4.5			
MCQ 3 – family intervention							
Mean	80.8	83.8	80.9	83.2	0.23	21	0.82
SD	9.7	5.7	8.9	6.0			
MCQ 4 – attitudes							
Mean	71.5	72.7	71.3	73.1	-0.13	21	0.90
SD	6.2	7.2	5.9	8.6			
MCQ 5 – general knowledge							
Mean	76.3	77.7	75.5	80.2	-1.12	21	0.28
SD	6.4	5.3	6.3	5.6			

MCQ, multiple-choice question.

intervention compared with those in the control group (Table 3).

Service user outcomes

Fifty-five complete pre- and post-KGV (M) and SFS assessments were submitted by the students in the control group, and 38 KGV (M) and 34 SFS assessments were submitted by students in the experimental group. Analysis of the baseline assessments showed no significant differences between the social functioning and symptomatology of service users who worked with the students in either group (Table 4).

At the end of the education programme, service users who worked with students in both groups demonstrated

significant reductions in affective and positive symptoms, but no significant effect was shown for negative symptoms. Comparison of between-group differences in the outcomes for service users showed that those who worked with students in the experimental group achieved significantly greater reductions in positive symptoms and total symptoms than those who worked with students in the control group (Table 5). No significant differences were shown in outcome between the groups in relation to affective or negative symptoms.

Service users who worked with students in both groups demonstrated significant improvements in social functioning. Comparison of differences between group showed no significant differences in social functioning for service users who worked with students in either group (Table 5).

Table 4
Symptomatology and social functioning at baseline for service users recruited by students

	No. of service users	Mean	SD	95% CI of difference in means		t-value	d.f.	P-value (two-tailed)
				Lower	Upper			
Affective symptoms								
Control	55	4.6	2.9	-1.9	0.8	-0.81	89	0.42
Experimental	34	5.1	3.3					
Positive symptoms								
Control	55	4.7	3.1	-1.5	1.1	-0.28	89	0.78
Experimental	34	4.9	3.1					
Negative symptoms								
Control	55	2.1	2.3	-0.8	0.9	0.23	89	0.10
Experimental	34	1.9	1.6					
Total KGV symptom score								
Control	55	13.5	6.9	-3.7	1.9	-0.65	89	0.52
Experimental	34	14.4	6.0					
SFS score								
Control	55	116.8	27.4	-14.8	8.9	-0.56	85	0.58
Experimental	32	120.0	23.6					

SFS, Social Functioning Scale.

Table 5
Symptomatology and social functioning at follow up for service users recruited by students

	No. of service users	Mean	SD	95% CI of difference in means		t-value	d.f.	P-value (two-tailed)
				Lower	Upper			
Affective symptoms								
Control	55	3.5	2.6	-0.3	1.8	1.4	91	0.16
Experimental	38	2.7	2.4					
Positive symptoms								
Control	55	3.7	3.5	0.1	2.8	2.2	91	0.03
Experimental	38	2.2	2.5					
Negative symptoms								
Control	55	1.6	1.8	-0.6	0.9	3.7	91	0.71
Experimental	38	1.5	1.6					
Total KGV symptom score								
Control	55	9.8	5.9	0.3	4.9	2.2	91	0.03
Experimental	38	7.2	4.8					
SFS score								
Control	52	126.7	135.4	-19.5	2.3	-1.6	84	0.12
Experimental	34	26.0	22.9					

SFS, Social Functioning Scale.

Discussion

The findings of this study suggest that the provision of workplace clinical supervision facilitated by a more experienced practitioner may enhance the outcomes of PSI education and university-based supervision both for students and for the individuals with psychosis whom they work with. While enhanced knowledge outcomes were observed for both groups of students following PSI education, they were significantly higher in the experimental group. Clinical improvement was observed in service users treated by the students in both groups, but again this was significantly greater for those service users who worked with students in the experimental group. Improvements in social functioning were observed in service users treated by the students in

both groups, but there was no significant difference in this outcome between the two groups.

The findings confirm those of previous studies (Lam *et al.* 1993, Gamble *et al.* 1994) that participation in PSI education is associated with enhanced knowledge about psychosis and its management. Whether this can be attributed solely to the education programme cannot be determined, because the study did not include a control group who did not receive PSI education with whom to compare knowledge gains. Furthermore, the results of this study suggest that the provision of workplace clinical supervision in addition to PSI education further enhances knowledge gains compared with education alone, particularly in relation to knowledge about positive symptoms. The significant difference between groups found upon completion of the education pro-

gramme suggests that additional clinical supervision, at least in this educational context, does fulfil a formative function, although the differences observed at baseline between the age and experience of students in the two groups mean that we cannot rule out the influence of these factors on outcome.

In order to assess whether this gain in knowledge outcomes for students influenced their practice, we also assessed service user outcomes. The results showed that outcomes for service users in relation to symptoms and social functioning were enhanced. A small number of studies have shown similar findings (Brooker *et al.* 1992, 1994, Lancashire *et al.* 1997). Significantly greater improvements in positive symptoms were observed for those service users who were treated by students in the experimental group. This finding is important given that persistent positive symptoms of psychosis, such as the experience of distressing hallucinations and delusional beliefs, are associated with higher levels of anxiety and depression (Tarrier *et al.* 1988, Mueser *et al.* 1991) and increased vulnerability to relapse and hospitalization (Gould *et al.* 2001).

These findings suggest that the provision of workplace clinical supervision in PSI curricula potentially adds value to enhancing both student and service user outcomes. However, there are several limitations of the current study that need to be highlighted before considering the implications of these findings.

Limitations

The primary limitation of the study was the adoption of a retrospective comparison group. The experimental group participated in education and supervision 1 year after those students in the control group had completed the course. While the curriculum did not change during this time, it is not possible to completely discount that the differences observed may be due to minor changes in the delivery of the education.

One advantage of the pragmatic design adopted is that it minimized social threats that can arise when the performance of experimental and control groups is influenced by their knowledge of differences in allocation. These threats could have been magnified here given that students themselves collected the pre and post data from the service users whom they worked with. Clearly, this aspect of the study introduces a potential bias in that students may be keen to demonstrate progress and enhanced clinical outcome for the service users whom they work with.

We have already noted the differences in characteristics between the two groups. The nurses in the experimental group were older and had been qualified longer than those in the control group, and it is possible that this may have contributed to the outcomes observed.

However, given that there were no significant differences between the baseline measures of knowledge of the groups, it would seem unlikely that superiority of age and experience alone would have enabled the experimental group to learn more while studying on the programme.

In addition to the differences observed between groups, it is important to acknowledge the small sample involved in this study. Even if we assume that the sample is representative and we can only speculate about this, the small size of the sample means that we cannot confidently reject the null hypothesis. So we can only tentatively speculate regarding the benefits that clinical supervision provides for students and service users.

There may also have been a clustering effect present in the data due to students identifying which service users they worked with from their existing caseloads. That is, they may have selected service users whose characteristics were more similar than different, and this potential bias was ignored in the analysis.

Despite the weaknesses of the study described above, the findings tentatively support the provision of workplace-based clinical supervision within PSI curricula. Supervision provided for and by nurses does appear to add value to the provision of PSI education both for students and for the service users they work with.

Implications for future research

Future research in this area will need to overcome the limitations described above. A more robust design in which both groups of students simultaneously complete the PSI course would reduce potential biases arising from differences in the delivery of PSI curricula. The outcomes of providing workplace clinical supervision instead of university-based supervision should also be assessed.

A larger representative sample will be required, and any clustering due to student or service user factors should be considered in the data analysis.

Future studies should consider using an independent evaluator blind to allocation to conduct the measurement of outcomes that go beyond the measurement of symptoms and social functioning.

Fidelity to the model of supervision could be more rigorously assessed via the recording of supervision sessions. Such recording may also assist in exploring some of the issues regarding the process of supervision and how it enhances the provision of education.

Implications for practice

Evidence suggests that nurses may experience significant problems in implementing psychosocial interventions

once they have completed PSI courses (Mairs & Bradshaw 2005). It has been proposed that this is due, at least in part, to difficulties in accessing supervision after training (Brennan & Gamble 1997). Many providers of education programmes in PSI still deliver supervision in a small group format usually facilitated by one of the course tutors. One of the problems with this model is that supervision ends upon completion of the course. The model that we have described and evaluated in this paper uses practitioners in the student's own workplace to deliver supervision, and an additional advantage of this model may be that students will be more likely to continue to have access to supervision once the PSI course has ended, thus enhancing the potential for the implementation of PSI in routine practice.

Conclusion

The findings of this study support those published previously, that PSI education can enhance knowledge outcomes for nurses who complete such courses and outcomes for the service users whom they work with. It is the first study to find that the provision of workplace-based clinical supervision in addition to PSI education enhances these outcomes further. The provision of clinical supervision in small tutorial groups has traditionally been an integral component of PSI education programmes. This study provides tentative support for the development of new models of workplace-based clinical supervision. Further research attempting to replicate these findings is justified, but future studies will need to reflect the changing profile of students accessing such post-registration education, which is now multidisciplinary.

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