A practice nurses' course — content and evaluation

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SUMMARY. Practice nurses need special training to extend knowledge and skills well beyond those of general professional training in order to function competently, with assurance, and with safety. The content and evaluation of one such programme is described.

Introduction

QUALIFIED nurses are increasingly being employed by general practitioners within their surgery premises to serve the nursing needs of the practice and to undertake many investigations and procedures which, though well within their capabilities, may not have been part of their previous professional training either before or after qualification.

In the main, general practitioners have had to devise their own training objectives, methods and standards, find background educational material, and undertake demonstration and instruction—all tasks for which few general practitioners have received training. Limitations of time, facilities, motivation, and knowledge of the possibilities have often meant that nurses' capabilities have not been used to the full, and their job satisfaction has not been complete.

Guidance on educational programmes specifically for 'practice' nurses (that is, nurses employed by general practitioners rather than 'attached' nurses, the content of whose work and training is under the control of district or area nursing officers) has been limited.

Hasler and colleagues (1972) and Leiper (1975) briefly listed the contents of courses run by them, and Reedy (1972) identified from the literature those treatment room activities known to have been carried out. Nurses in both courses were reported to have requested further practical training.

It was hoped that the Report of the joint working party of the Royal College of Nursing and the Royal College of General Practitioners (1974) would define appropriate training for nurses working in general practice but, having recognized the need, they left this task to a newly formed Advisory Panel of the Joint Board for Clinical Nursing Studies (1976).

Aim

I wished to derive the content of an educational programme specifically designed for practice nurses and in the absence of definitive material, I made use of all the sources mentioned above and Irvine (1973). I took into account the needs as perceived by both nurses and their employing doctors, and the facilities available in widely differing practices. The course attempted to involve the general practitioners in continuing education and training, so that new skills could be identified and used within the practice.

Method

The course

An eight-week, half-day release programme was devised by a group of experienced practice nurses and their employing doctors (members of the Norwich District Education Sub-Committee of the Royal College of General Practitioners), with the help and advice of a number of other nurses and members of the Area Health Authority.

It was not possible to fund the project through the local postgraduate centre or the Area Health Authority, and eventually a fee of £12 was charged for each participating nurse, the project being underwritten by the East Anglia Faculty of the Royal College of General Practitioners. The course ran from May to June at Norwich City College, where a number of pre-nursing and continued-training courses for community nurses and health visitors were already undertaken. All participants became registered students of the College for the duration of the course, with access to all facilities. One half-day was spent, mainly on suturing techniques and materials, at the nearby Norfolk and Norwich Hospital.

Demonstration material and special equipment was brought by each lecturer, who was asked to provide a

written summary of his talk. Each nurse was provided with A4 files and folders to hold handouts of educational material, reprints, and specially written lecture notes. It was hoped that these would become a handbook for practice reference.

Each half-day was designed to have a flow of theoretical and practical work, using different teaching methods including nurse participation. Each 40-minute session had careful delineation of educational objectives, the specific educational methods and techniques to be used, the resources required in terms of lecturers, visual aids, and materials and equipment for demonstration and practical work, with projected costs.

Social problems, the nurse's role in detecting and advising on them, the relationships between nurses and patients, doctors, and other staff, and possible future developments for the nurse in general practice, were also explored.

One doctor in each practice was asked to make himself aware of the content of each day's programme and continue education and supervision of newly learned skills to ensure competence.

Evaluation

A major problem in attempting such a course is evaluating the need for and results of the programme. Evaluation was undertaken in three parts:

1. A pre-course questionnaire was circulated to each of the 28 participating nurses and to each employing general practitioner. Both doctors and nurses were asked to state what duties the nurse performed, and to give their estimates of her competence in performing them on a five-part scale:

1. No experience: scored as 0.
2. Little experience: scored as 1.
3. Needs further training: scored as 2.
4. Fairly good: scored as 3.
5. Very competent: scored as 4.

The scores were tabulated, each column indicating the individual nurse's competence, and each row across showing the overall performance of that procedure, for example, vaccination, by all nurses. Total scores were converted to percentages of possible scores for the column or row (answers omitted were not scored, and the potential total score was thereby reduced). Section F scores, six questions related to attitudes and problems of patient behaviour, were not included in the computation.

In order to try to determine changes and the factors influencing them, nurses and doctors were asked to identify on a Yes/No basis:

a) Whether the necessary equipment or materials were available in the practice.
b) Whether the nurse wanted to perform the task.
c) Whether the doctor wanted the nurse to perform the task.

In this way we hoped to obtain the nurse's own perception of her role, the doctor's perception of her wishes for her role, and his own view of what she ought to be doing.

2. After six months, the same questionnaire was recirculated to all nurses and doctors.

3. During the last afternoon, nurses were given a six-page questionnaire asking for their immediate comments on the content of the course, its value in relation to each of the specific topics, and on organization, suggestions for improvement, the ability to follow up course work at the surgery, and the value of the educational material handed out.

Results

The course

The course, planned for 25 nurses, was over-subscribed. Twenty-eight state registered nurses (six with SCM, two Queen's Nurses, and with 14 additional certificates between them) joined the course. Eight were from Norwich City practices, four from the University of East Anglia Medical Centre, and 16 nurses from 13 country town or rural practices in the Norwich Health District, travelling up to 25 miles each week. Despite prior holiday and other commitments, 25 participants were awarded 'certificates of attendance' by Norwich City College, for which over 80 per cent attendance was required.

The content of the course is described elsewhere in this issue (Mourin, 1980).

Evaluation

Twenty-four doctors and 24 nurses completed pre-course questionnaires, and at the six-month follow-up, 25 of each returned usable post-course evaluation questionnaires, though two other nurses had left their practice employment.

Competence of individual nurses

Since doctors and nurses were explicitly asked to complete pre-course evaluations anonymously, to allow maximum honesty of opinion, it is not possible to compare before and after scores of individual nurses.

Total scores given by both doctors and nurses before and at six-month follow-up are shown in Table 1; mean

Table 1. Percentage scores of nurses' competence by doctors and nurses.

	0 to 24	*25 to 49*	*50 to 74*	*75 to 100*
Doctors				
Precourse	*1*	*6*	*16*	*1*
Follow-up	*0*	*0*	*15*	*10*
Nurses				
Precourse	*1*	*12*	*9*	*2*
Follow-up	*0*	*3*	*12*	*10*

scores rose from 56 per cent to 70 per cent by doctors, and from 54 per cent to 71 per cent by nurses.

Performance of specific skills

Before and after scores of nurses' competence for the performance of the 41 skills tested are shown in Table 2. Lower percentage improvement was shown where scores were high initially. Greatest improvements were noted in giving dietary advice (nurses, plus 40 per cent) making collars (nurses, plus 43 per cent; doctors, plus 20 per cent), performing and teaching breast examination (nurses, plus 30 per cent; doctors, plus 20 per cent), and taking blood (nurses, plus 30 per cent; doctors, plus 20 per cent), with caring for doctor's bag being rated highly by doctors (plus 32 per cent), less by nurses (plus 15 per cent). Knowledge of the Drug Tariff scored highest for both—nurses up from 40 per cent to 82 per cent, doctors' scores up from 31 per cent to 68 per cent.

Overall, the nurses' mean score for the 41 questions rose from 53 per cent to 68 per cent and in the doctors' estimations from 57 per cent to 70 per cent.

In the following results, which give details relating to individual skills, scores are given as the means of the doctors' and nurses' scores, unless there is a stated difference or the scorers are identified.

Table 2. Before and after scores of nurses' competence in performance of skills.

	Assessment of competence by Nurses		Doctors	
	Before	After	Before	After
Can nurse undertake:				
A. Preventive measures				
1. Vaccinate and immunize correctly?	68	93	84	96
2. Understand claim forms?	61	78	73	91
3. Give desensitizing injections?	58	77	67	83
4. Deal with hypersensitive emergencies?	31	56	40	51
5. Take a cervical smear?	47	68	50	63
6. Perform and teach breast examination?	28	58	34	58
B. Diagnostic tests				
7. Take blood samples from veins?	48	78	62	86
8. Complete specimen forms correctly?	83	78	82	94
9. Set up an ESR?	15	37	15	25
10. Centrifuge blood and separate plasma?	21	31	27	25
11. Take an ECG tracing?	39	53	52	65
12. Clean and maintain the ECG?	31	51	35	50
13. Measure the peak flow rate?	16	40	47	34
14. Measure the blood pressure?	82	91	95	95
15. Record results on flow sheets?	20	39	21	38
16. Perform the common tests on urine?	86	94	94	95
17. Advise on collecting MSU specimens?	88	95	88	97
18. Test urine for pregnancy?	43	58	48	63
19. Undertake audiometry?	18	24	12	23
C. Patient treatment				
20. Give therapeutic injections safely (e.g. gold)?	80	88	84	93
21. Dress varicose ulcers?	79	88	80	98
22. Treat wounds appropriately?	89	94	89	98
23. Use steristrip or dumbell sutures?	78	93	93	99
24. Insert stitches correctly?	39	51	42	53
25. Change pessaries?	46	52	47	58
26. Undertake and teach dry mopping of ears?	49	71	52	65
27. Syringe ears?	70	86	86	92
28. Prepare and apply cervical collars?	20	63	23	43
29. Apply simple splints?	55	63	57	63
30. Perform external cardiac massage?	50	63	42	53
31. Perform mouth-to-mouth resuscitation?	56	66	49	64
D. Patient care				
32. Record new patients' medical histories?	33	51	35	48
33. Run follow-up clinics (e.g. for blood pressure, diabetes, the Pill)	46	48	50	59
34. Give simple physiotherapy advice?	40	67	42	69
35. Give simple dietary advice?	66	83	67	84
36. Give advice on the management of cystitis?	61	83	59	70
E. Treatment room management				
37. Sterilize equipment?	92	95	94	98
38. Understand the Drug Tariff?	40	82	31	68
39. Maintain correct stocks of dressings and drugs?	80	87	80	91
40. Know how to check doctors' bags?	41	56	41	73
41. Lay up trolley/tray for suture work?	82	86	86	95

A. Preventive measures. Nurses scored 68 per cent initially in assessing their own competence at immunization and vaccination, both doctors' and nurses' assessments rising to about 95 per cent after the course. One doctor kept no immunizing sera, and four kept no drugs for emergencies. Claim form completion (both computer and other forms) improved by 18 per cent, though doctors were more happy (91 per cent) about this than nurses (78 per cent) even after the course; five had given further training, particularly where this was a new skill (five nurses), but obviously more is needed.

Nurses were keen to learn vaccination techniques, and how and when to perform intradermal injections; practical work (with sterile water) was very popular. Desensitization scored less than 60 per cent originally by nurses, though competence rose to 80 per cent, and one doctor had introduced a skin allergy testing clinic run by a nurse at the six-month follow-up. Three others had given further training.

Nurses claimed a competence of only 47 per cent for taking cervical smears, rising to 68 per cent; three nurses were undertaking this as a new procedure, and three received extra training. Breast examination and health education had been neglected, according to both nurses' (28 per cent) and doctors' (34 per cent) scores; both thought nurses' competence had risen to 58 per cent after the course, though only one doctor had given further training.

B. Diagnostic tests. Seven of the practice nurses had not previously been used to taking blood specimens, and for seven doctors this was a new nursing skill for which they were happy to continue training. Clear instructions from the senior phlebotomist from the Norfolk and Norwich Hospital, combined with practical work on each other (and the teaching staff!) raised their competence scores by between 25 and 30 per cent, and as a result the pathology department had an improvement in efficiency (83 to 94 per cent) in completing pathology request forms. Two doctors kept no materials—practitioners within city limits may find it easier to send the patient with a form to the pathology department.

Setting up erythrocyte sedimentation rates (ESRs) was not considered advisable because of hepatitis risks; scores for this remained low. Centrifugation of blood specimens fared even worse (25 per cent); nine practitioners did not have a centrifuge, although one nurse had taken over this new skill.

Similarly, at least four practitioners did not have an electrocardiograph (ECG) machine; an open-access cardiography service serves the area. Those nurses who took tracings felt their competence increased from 39 to 53 per cent, whereas the doctors scored it as 65 per cent; maintenance of the machine reached 50 per cent for both, while at six months four or five nurses were undertaking these tasks with additional instruction. Only three practitioners seemed to be without a peak flow meter, but they were little used by nurses, as were flow charts for sequential recording. This is surprising, since sphygmomanometry was a high level skill (93 per cent score), and nurses are used to charting blood pressures. Perhaps lack of suitable recording sheets (acknowledged by six doctors) influenced scoring (39 per cent).

Nurses felt happy with urine testing procedures (91 per cent), and the advising of patients on collection of midstream urine specimens (95 per cent); few undertook pregnancy testing, though six doctors saw this as a new skill for them to acquire.

Very poor scores related to simple audiometry both before (15 per cent) and after (24 per cent) the course. Does this reflect lack of instruments (at least six), instruction, or the pragmatic approach ("bring him back if you suspect any deafness") rather than the advocated routine screening after otitis media?

C. Patient treatment. A wide range of therapeutic injections and their hazards was considered, and nurses' competence rose by eight per cent to 90 per cent with three doctors using new skills on the part of nurses. Competence in treating ulcers likewise improved, though again doctors' views on nurses' capabilities were 10 per cent better than their own assessments. High competence was shown in treating wounds, though few nurses actually sutured in their practices (sometimes despite extensive previous experience). Two doctors had no equipment for suturing. Competence rose from 40 per cent to 52 per cent, with four nurses undertaking this task anew, with further training in two instances.

Changing pessaries seemed to be expected by patients to be done by nurses, yet their pre-course competence (despite several midwifery and family planning qualifications between them) was only 46 per cent, rising to 55 per cent; three nurses were practising further, two with extra training from their general practitioners.

The meticulous daily dry mopping of chronic otitis media, and teaching mothers how to care for this still present problem, attained just under 50 per cent competence, rising to 68 per cent; three doctors saw this as a new role. At syringing ears, nurses (70 per cent) felt less happy than their employers expected (86 per cent); an average score of 89 per cent was achieved, though again teaching was supplemented.

Making cervical collars was outside the scope of almost everyone's competence (20 per cent), yet after some enthusiastic teaching on methods and indications, nurses felt as happy at doing this as they did making splints, for example, cock-up plaster of paris splints for tenosynovitis (63 per cent). Five doctors had no equipment for making collars or splints, though three doctors were getting the nurse to make collars at six-month review.

Major resuscitation measures are required occasionally of nurses, who seem to have little opportunity to practise on manikins. Their scores rose by about 10 per cent to 64 per cent.

D. Patient care. These items were separated from 'Patient treatment' since they referred to more prolonged contact with patients, involving establishing rapport, patient management, eliciting and giving information, and health education. These were seen as further extensions of the nurse's professional role.

Oddly, the doctors seemed much more enthusiastic about this than the nurses. In each section, at least three doctors had seen these as new opportunities for nurses, and from two to five had given extra training. Only in history recording was there much resistance (three nurses, three doctors) to this idea; however, only one nurse in each section, except teaching minor physiotherapy (two), thought these were new skills being used.

Their ability to undertake counselling and patient management was generally low, though undoubted change took place. History-taking competence rose from 34 per cent to 50 per cent. Clinic management rose by nine per cent to 59 per cent in doctors' though only by two per cent to 48 per cent in nurses' assessments—five doctors were undertaking further training in this and were obviously defining their own requirements. Both sides saw marked improvement, from 40 per cent to 68 per cent, in teaching simple physiotherapy—breathing exercises, postural drainage, how to lift the hemiplegic and assist walking. Instructing about diets and the management of cystitis (a modification of the U & I Club leaflet was used) rose to over 80 per cent.

E. Treatment room management. High competence in sterilization of equipment was little improved by the course (93 to 96 per cent), though surprisingly two doctors found this a new skill for their nurses to use, while one did not want to use it, and one apparently had no equipment to sterilize.

A 40 per cent rise, to 82 per cent in nurses' views, was achieved in understanding of the Drug Tariff, an invaluable source of information about materials; five doctors had seized on the idea, with most discussing it further with the nurse. There was slight (one case each) resistance by both nurse and doctor—"Who does?" was one doctor's comment. However, stock management scored high before and after, though seven doctors found new ideas to discuss. Three doctors definitely did not want nurses checking the contents of their bags against pre-agreed check-cards, and maintaining equipment in clean and good condition. The nurses' capability for it improved from 41 to 73 per cent in the doctors' view—this seems a most useful function, preventing absence of appropriate forms of drugs, out-of-date samples accumulating, and so on, and relates to their high competence in stock management elsewhere.

As expected, the nursing skill of suture trolley preparation scored well over 85 per cent.

F. Nurses' attitudes. The questions on nurses' attitudes yielded little, and in view of the difficulties involved in assessing them, the results are not given.

Doctors' and nurses' perceptions of nurse's role

The responses to these questions must be interpreted with caution: individual answers were occasionally omitted, while on seven pre-course forms the doctor made no assessment of nurse's wishes; on nine occasions the nurse did not answer in the column "Does doctor want nurse to do this task?"

End-of-course comments

End-of-course comments written by the nurses emphasized the value of revision of current work procedures, the improvement of self-confidence, and the interest of comparing methods and conditions of work with their otherwise remote colleagues. More practical work ("It's fun and helps you learn") was widely wanted, as well as visits to hospital departments such as casualty, pathology laboratories, and physiotherapy. The handouts of educational material were generally appreciated. Everyone wanted to remain independently employed by a general practitioner, and did not wish to be part of area health authority staff, despite generally lower pay; variety, professional autonomy, convenience of hours, and personal relationships with doctors and patients were among factors quoted in support of this view. Many said they would resign rather than be "taken over by the NHS".

Discussion

It might perhaps have been expected that overall scores of greater than 75 per cent would be attained by the nurses. The content of the course, however, included only a few items (such as taking blood pressures) which would normally be included in SRN training; the majority are extensions of the nurse's professional role. Some scored badly because of lack of equipment (for example, audiometry, centrifugation), and setting up an ESR was abandoned. Hasler and colleagues (1972) included in their course for treatment room sisters treatment room organization, collection of pathology specimens, special equipment, management of emergencies, immunization and vaccination, basic physiotherapy, dressings, ear syringing, minor operations and suturing, and clinics for chronic disease, though how many of these procedures were specifically for nurses to undertake is not clear. Their sisters requested further training in taking ECGs, suturing, taking blood, assessing casualties, cervical smears, haemoglobinometry, and immunization.

The nurses have continued to meet as the Norfolk Practice Nurses Group, attracting new members, and selecting their own means for furthering their education. They continue to regard themselves as having a different role with different training requirements from their colleagues in district nursing. I hope this report will encourage others to organize similar courses and expand the areas of professional competence in new ways.

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Symptom prevalence and severity in a general practice population

The prevalence of symptoms in the community is sometimes used as an index of untreated morbidity. However, such an index can be very misleading unless it makes allowance for differences in symptom severity between declared and undeclared patients. Recent attenders at one health centre were compared with controls who had not seen their general practitioners for at least three months. Comparisons of symptom severity were made between attenders who had reported one or more of seven selected symptoms and non-attenders who said they were troubled by the same symptoms. For the symptoms selected, it was found that a high proportion of sufferers in both groups were of at least two months' chronicity. Prevalence rates of up to 33 per cent for backache and tiredness in older women were found in non-attending controls, but symptom severity was significantly less than in patients who had recently consulted their doctors with the same symptom. Symptoms were both more prevalent and more severe among women than among men. It seemed unlikely, however, that this difference could explain the higher consultation rates for women, because the same excess of women over men persisted among consulters. It seems that for these symptoms increasing severity is associated with an increasing probability of attending the surgery but that the symptom functions more often as a background factor than as a precipitant.

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