National survey of the level of nursing involvement and perceived skills and attributes required in cardiac rehabilitation delivery

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Background

The Scottish Intercollegiate Guidelines Network (SIGN) 2002 acknowledge the multiprofessional membership of cardiac rehabilitation (CR) teams required to deliver comprehensive CR.[1] The clinical groups chiefly involved in delivering CR in the UK are nurses followed by physiotherapists.[2] The participation, skills and attributes of physiotherapists in the UK have already been identified.[3] This paper reports on the findings of a similar survey for nurses. The survey was piloted and then sent to all registered centres on the British Association for Cardiac Rehabilitation (BACR) and the Scottish CR Interest Group databases (CRIGS).

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Methods

The survey questionnaire was divided into two sections: i) characteristics and involvement of the nurses in their CR programme and ii) skills and attributes.

Characteristics of the CR nurses to be recorded were identified as:

- Grade
- Number of hours involved in CR
- The phases of CR involving nursing input
- Whether post was rotational or static
- Length of time involved with CR.

The skills and attributes perceived by the nurses as necessary in the delivery of CR were assessed in the questionnaire by 65 questions, which were grouped into four sections:

- General issues (11 questions)
- Psychological and risk factor management (22 questions)
- Professional issues (17 questions)
- Measurement (15 questions).

One response was required to each question.

From the databases of the British Association for Cardiac Rehabilitation (BACR) and the Cardiac Rehabilitation Interest Group Scotland (CRIGS), 298 centres were identified in the UK. There was a response from 261 (88%) centres.

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Nurses' characteristics and involvement in cardiac rehabilitation

In this survey the CR nurses were closely involved with all of the first three phases of CR. Of 261 nurses, 200 (76.6%) were involved in phase I, 185 (70.9%) were involved in phase II and 228 (87.4%) were involved in phase III. As patients move from different care situations, the CR nurse provides a vital link and consistency of personnel for the patient and his/her significant other. The Scottish Intercollegiate Guidelines Network (SIGN)/BACR guidelines suggest[1] that for a caseload of 500 patients, three WTE equivalents at grade G are required. This suggests that nurses working in CR need specialist knowledge and experience. This was reinforced by the survey findings, which showed that 198 (75%) of nurses were at grade G or above. In addition, the majority of nurses 179 (68%) responded that they were involved in CR for more than 23 hours a week, with a further 23% involved for periods of 10–22.5 hours. The involvement of CR nurses is significantly better than for CR physiotherapists, where 74% were involved for fewer than 18 hours a week. Almost 52 (20%) of the nurses in the survey had worked for more than 10 years in CR, and 179 (68%) indicated that they had worked in CR for more than three years (with the average length of service being five years and seven months). This indicates considerable experience; the fact that 247 (95.4%) of posts were static contributes to the experience of the CR nurses.

Perceived skills and attributes

Psychological and risk management

Table I summarises the perceived skills and attributes that were rated essential by more than 50% of respondents. The 'psychological and risk management' category had the highest number of respondents rating it essential. These skills and attributes clearly highlight the educational aspects of the role, with particular focus on the importance of diagnosis and treatment. For example, the following numbers of respondents rated these areas as essential:

- Patient education on chest pain: 252 (96.6%) respondents

Table 1. Skills and attributes rated as essential for cardiac rehabilitation nurses

Question	Rated essential by more than 50% of respondents
Professional	
1. Two years' clinical experience at E grade	169 (64.8%)
2. Experience in cardiology /CCU	178 (68.2%)
3. Basic life support certification	245 (93.9%)
4. Conversant with practice guidelines e.g. SIGN, CSBS and NSF	200 (76.6%)
5. Audit clinical practice	157 (60.2%)
6. Set clinical standards, develop and record clinical outcomes	154 (59.0%)
Psychological and risk factor	
1. Evidence of ability to risk stratify patients correctly	187 (71.6%)
2. Patient education on management of chest pain and symptoms	252 (96.6%)
3. Patient education on dietary management for hypercholesterolaemia	176 (67.4%)
4. Patient education on dietary management for weight reduction	144 (55.2%)
5. Make decisions re a person's suitability for aspects of rehabilitation 'menu'	194 (74.3%)
6. Use motivational interviewing/ brief negotiation skills to make lifestyle changes	135 (51.7%)
7. Assessing and advising in detail about risk factor modification for CHD	226 (86.6%)
8. Give advice on health-related exercise	152 (58.2%)
9. Design and deliver education programmes to patients and significant others	212 (81.2%)
10. Refer patients completing CR to other exercise agencies e.g. leisure centre GP referral schemes	154 (59.0%)
11. Explain and correct cardiac misconceptions	221 (84.7%)
12. Give advice on vocational and sexual issues	176 (67.4%)
13. Supervise phase III exercise class	148 (56.7%)
Measurement	
1. Interpretation of 12-lead ECG for abnormal/normal responses (ST-T changes)	133 (51.0%)
2 Interpret ECG (arrhythmias)	131 (50.2%)
3. Measuring blood pressure	235 (90.0%)
4. Perform psychological assessment/s e.g. HADS	168 (64.4%)
5. Take heart rate	235 (90.0%)
6. Measure BMI	208 (79.7%)
General	
1. Undertake individual assessments of cardiac rehabilitation patients	251 (96.2%)
2. Identify cardiac medications and describe their actions and effects	238 (91.2%)
3. Patient education on medications	226 (86.6%)
4. Managing patients who have become acutely unwell	189 (72.4%)
5. Refer patients to other health professionals	177 (67.8%)
6. Co-ordinate/liaise with primary care	185 (70.9%)
7. Organise, administer and co-ordinate comprehensive cardiac rehabilitation programmes	224 (85.8%)

Key: CCU = coronary care unit; SIGN = Scottish Intercollegiate Guidelines Network; CSBS = Clinical Standards Board for Scotland; NSF = National Service Framework; CHD = coronary heart disease; CR = cardiac rehabilitation; GP = general practitioner; ECG = electrocardiogram; HADS = Hospital Anxiety and Depression Scale; BMI = body mass index

- Patient education on risk factor modification: 226 (86.6%) respondents
- Explain cardiac misconceptions: 221 (84.7%) respondents
- Risk stratification: 187 (71.6%) respondents.

Where the questions cover skills and attributes that could be seen to fall within the remit of other professional groups, the percentages rating these as essential fall. This may be a reflection of the differing support that programmes have from other health professionals and the need for multi-skilling in CR to fill gaps in provision. For example, only the following numbers of respondents rated these areas as essential:

- Patient education on dietary management of hypercholesterolaemia: 176 (67.4%) respondents
- Advice on health-related exercise: 152 (58.2%) respondents
- Supervision of phase III exercise class: 148 (56.7%) respondents
- Patient education on dietary management for weight reduction: 144 (55.2%) respondents.

General issues

The category that had the next highest number of responses rating it as essential was the general section. This reflects the co-ordination role that nurses often have to take and 251 (96.2%) of nurses rated assessment of patients as essential. Furthermore, 224 (85.8%) also felt that it was essential that they should organise, administer and co-ordinate CR programmes. Some 185 (70.9%) respondents were involved in the co-ordination and referral to primary care. Since nurses are

involved in the first three phases of CR, they are well placed to co-ordinate the service.

Professional issues

There was almost unanimous agreement from 245 (93.9%) respondents that basic life support certification was essential, with knowledge of guidelines scoring higher 200 (76.6%) than the audit of them 157 (60.2%). This may reflect the current staffing levels and priorities within many programmes.

Measurement

In the section on measurement, from the original 15 questions asked in the questionnaire, responses showed that six were seen to be essential. These included measurement of blood pressure, heart rate, body mass index (BMI), and psychological assessment, which were rated as essential by 235 (90%), 235 (90%), 208 (79.7%) and 168 (64.4%) of respondents, respectively. This links strongly with the focus on risk factor modification that we have seen in the psychological and risk management section.

Conclusion

The findings of this survey indicate that nurses are involved in all phases of CR but primarily in the first three phases. The majority of nurses in CR are at grade G or above, are primarily in static posts and have a wealth of experience and knowledge. The number of hours dedicated to CR varies and is considerably higher than that known to exist among physiotherapists[3] but this may not be achieving recommended guidelines for staffing.

The key aspects of the CR role that nurses appear to identify as essential are: patient education on diagnosis, treatment and risk factor modification, and the management of CR programmes, including referral to other agencies.

Many aspects of CPD (continuing professional development) and professional issues were rated highly by CR nurses, with an emphasis on the benefits to the patient.

Key messages

- Nurses are mainly involved in the first three phases of CR and are primarily grade G and above
- The majority of nurses are in static posts with dedicated hours to CR of 23 and above
- Nurses in CR identify 32 essential skills and attributes required in the delivery of CR. Psychological and risk management issues are rated essential the most often

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Conflict of interest

None declared.

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