Continuing Education In Emergency Medicine For Rural General Practitioners

Dr Helen Tolhurst, Dr Graeme Choat, Ms Jenny Williams
Hunter Rural Division of General Practice, Cessnock, N.S.W.

3rd National Rural Health Conference
Mt Beauty, 3-5 February 1995
Proceedings
Continuing Education In Emergency Medicine For Rural General Practitioners

Dr Helen Tolhurst, Dr Graeme Choat, Ms Jenny Williams
Hunter Rural Division of General Practice, Cessnock, N.S.W.

Introduction

Rural general practitioners who are involved in hospital work are required to manage any emergency, including severe and life threatening illness, without immediate availability of resident medical staff or support from specialists 1,2.

Research undertaken in the Hunter region1 has demonstrated that rural GPs are responsible for managing a very wide range of life threatening emergencies and that, while serious emergencies occur fairly frequently, particular skills may be needed infrequently. Even where transfer of a severely ill patient is appropriate and retrieval is available, the rural GP is usually responsible for resuscitation of the patient prior to transfer. Rural doctors thus require a wide range of technical and medical management skills in emergency medicine.

Therefore doctors working in rural practice need the opportunity to regularly maintain and upgrade their emergency medicine skills. However their access to appropriate training programmes is often restricted because the availability of suitable courses is limited and because of the difficulties which rural GPs have in obtaining locum cover to attend courses which are distant from where they practice.

Hunter Rural Division Of General Practice (HRDGP) Emergency Medicine Workshop Project

Members of the Hunter Rural Division of General Practice have been aware of a lack of suitable emergency medicine training in the Hunter region for some time. In order to develop a short course in emergency medicine for its members HRDGP applied for and was granted funding from DHSH for an educational project in emergency medicine.

The Aims Of The Project

1. To pilot and assess the effectiveness of a training program to help rural GPs to maintain the necessary skills to deal with life threatening emergencies.
2. To maximise co-ordination of treatment and transfer of severely ill patients to local community hospitals and where necessary to tertiary referral hospitals.
The project was developed in consultation with local GPs, nursing staff and ambulance officers and the content of the workshop was specifically designed to provide training appropriate for the common emergencies which the GPs would be likely to encounter.

**The Structure Of The Workshop**

The workshop was structured so as to be interactive and experimental rather than didactic, as this approach has been found to be most favoured by GPs in the past.

The workshop consisted of five half hour “hands-on” sessions in which two or three GPs participated at a time.

**The Topics Covered Were**

1. Basic and advanced life support skills
2. Paediatric emergencies
3. Airways management in emergency situations
4. Management of life threatening cardiac arrhythmia
5. Management of severe trauma

Each of these five subject areas had a nominated staff specialist who either took the GPs through an emergency scenario or demonstrated practical skills which the GPs also had the opportunity to practise.

The practical skills included intubation and CPR (practised on mannequins) and insertion of intraosseous needles (practised on chicken legs).

The scenarios included the management of patient with myocardial infarction and a number of arrhythmias; the management of a severely dehydrated and shocked child; and the management of patients with multiple trauma.

**The GPs Participating In The Workshop**

The Hunter Rural Division of General Practice has 150 GP members and its catchment area includes a number of rural towns in the Hunter region of NSW as well as Great Lakes and Taree.

The workshops were conducted at John Hunter Hospital, a teaching hospital in Newcastle, to which patients from rural areas who require tertiary services are referred. The workshops were attended by GPs from 2 distinct geographical areas, both of which are approximately one hour from Newcastle by road. Nelson Bay is a coastal tourist area 70 kms from Newcastle which has a small GP staffed hospital of 12 beds. Cessnock and Kurri Kurri are coal mining towns 10kms apart and 50 kms inland from Newcastle. They have GP staffed hospitals of 90 and 50 beds respectively.
The workshop was attended by all twelve of the Nelson Bay GPs and 10 of the 20 Cessnock/Kurri Kurri GPs. Six other GPs attended follow-up meetings.

Follow-Up Meetings

Follow-up meetings were held with nursing staff responsible for management of emergencies at the 3 local rural hospitals, local ambulance staff (at Nelson Bay) and between GPs from each area, and intensive care and emergency department staff from John Hunter Hospital.

At the meetings with the nursing staff, new knowledge acquired during the workshops, and ways in which this knowledge could be applied to improve management of emergencies at the rural hospitals, was discussed.

At the meetings with John Hunter Hospital staff previous difficulties encountered when transferring severely ill patients from rural hospitals to the John Hunter Hospital were discussed and ways to streamline transfers and to deal with difficulties were developed.

Local doctors met with local ambulance personnel to discuss difficulties which local GPs had experienced when rigid protocols were implemented in situations where individual patient problems meant that a more flexible approach would be preferable in dealing with the problems of an individual patient. It was agreed to discuss individual patient transport needs when necessary to overcome problems in the future.

Ambulance personnel also demonstrated the local ambulance vehicle layout and equipment that ambulance officers use in treating patients. The availability of various drugs and equipment to be carried by either doctors or ambulance personnel to roadside or home emergencies was also discussed.

Evaluation

The project was initially evaluated using a questionnaire completed by the GPs prior to and following the workshops. The GPs were asked to indicate their level of confidence in managing problems covered in the workshop.

The post-workshop questionnaire showed a much higher degree of confidence in managing emergencies than the pre-workshop questionnaire. The majority (up to 100%) of respondents reported an increase in their levels of confidence and this was significant for all workshops and both groups. It is clear from the self-reported evaluations that the impact of attending the workshop was positive with regards to facilitating better management of life-threatening scenarios.
Effect Of The Project Of Health Service Delivery

As well as increasing the confidence of the participating GPs in managing emergencies, the project brought about changes in the functioning of the rural emergency departments and the management of emergencies at the rural hospitals.

Because a high proportion of the doctors from the rural towns participated in the workshop and then formally discussed the project with nursing staff, the medical and nursing staff were more motivated as a group to make changes to management of emergencies than they would have been if only a small number had participated in this training.

Some actual practical changes included:

1. **The acquisition of new equipment and drugs for the rural emergency departments.** Equipment and drugs which these rural emergency departments did not previously stock and which has been acquired since the project includes intraosseous needles and equipment for “jet” ventilation, “stiff neck” cervical collars, minitrach kit for surgical cricothyroidotomy, laryngeal mask airways and intravenous sotolol.

2. **The ready availability of information needed for the management of emergencies in the rural emergency departments.** In order to streamline management of paediatric emergencies, which occur relatively infrequently, lists of the dosages of paediatric emergency drugs per kg weight and approximate weights for age have been attached to paediatric emergency trolleys.

3. **Improved access of rural GPs to senior ICU staff at John Hunter Hospital (JHH).** Information on how best to contact senior emergency and ICU staff at JHH has been distributed to the rural GPs and made available in the rural Emergency departments. Because of the positive interaction between the rural doctors and JHH specialists during the workshop, communication between rural doctors and JHH staff has improved with better streamlining of transfers.

4. Doctors and nurses at Cessnock and Kurri Kurri have realised the benefits of a **shared educational programme** and now have a regular educational meeting which is attended by both doctors and nurses.

5. **Extension of the project to other areas of the Hunter Region.** The doctors in the Upper Hunter region requested a similar workshop in their area. This workshop was developed with slight modification to the subject matter and format. The specialists visited the Upper Hunter to run this workshop and as part of the workshop there was a mock cardiac arrest in the hospital recovery ward which involved both doctors and nursing staff.
Conclusion

There are a number of aspects of this model of training in emergency medicine which have facilitated improvement in the medical care given to patients in rural areas of the Hunter region. The principles of this model could be used to develop medical education in other areas with similar benefits. The principles on which this model is based include:

1. The involvement of the participants in the development of the educational program so that the content and structure of the program is appropriate to meet their needs.

2. The program should be offered locally so that a high proportion of doctors and nursing staff can have access to it.

3. The program should be offered to the maximum number of doctors and nurses from a particular geographical area at one time, so that change in care provided to the patients is facilitated.

4. There should be the opportunity for doctors and nurses to share knowledge or actually participate in a joint educational program, so that co-ordinated care for patients is facilitated.

5. The specialists to whom the GPs normally refer patients should be involved in the provision of the educational program, so that a co-operative relationship between GPs and specialists is facilitated and care of patients is better co-ordinated.

The HRDGP has developed an innovative program for education in emergency medicine and is intending to extend it to other areas within its catchment area, as well as developing other educational programs using the principles of this model.

References

