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A survey of nursing and medical staff views on the use of cardiopulmonary resuscitation in the hospice

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Abstract: Research evidence suggests that cardiopulmonary resuscitation (CPR) would be indicated in very few hospice patients. However, with the increasing access and expansion of specialist palliative care services the question of CPR is becoming more important. In order to develop a policy in our unit we felt it was important to assess the understanding, attitudes and experience of the health care professionals involved. A semi-structured questionnaire regarding CPR issues, including case scenarios, was distributed to doctors and registered nurses in a palliative care unit. Thirty-seven (80%) of the questionnaires were returned. Ten per cent of respondents identified patients for whom they felt CPR would have been indicated in the event of an unexpected cardiac arrest. Thirty-two per cent could foresee the number of patients in this category increasing in the future. The majority of respondents indicated that CPR should be discussed in certain cases, however 86% had never done so. The success rate of CPR was frequently overestimated. Some respondents felt vulnerable as there was no existing written policy. Factors thought important in making decisions regarding CPR orders included: prognosis; patient's wishes; quality of life; and legal issues. CPR in palliative care units raises many practical and ethical concerns. Our survey shows that staff are aware of the small, but increasing, need for its consideration in certain cases. There was a wide range of views regarding the role of CPR with an overestimation of the chances of success and concerns regarding discussion of the issue with patients. When introducing a CPR policy in a palliative care unit, adequate education and a framework for decision making is required.

Key words: cardiopulmonary resuscitation; hospices; medical futility; neoplasms; palliative care

Resumé: L'évidence des recherches suggère que la réanimation cardiopulmonaire (RCP) pourrait être indiquée pour un nombre limité de patients dans les établissements de soins palliatifs. Cependant avec l'accès et l'expansion croissants de services spécialisés de soins palliatifs, la question de la RCP prend de plus en plus d'importance. Pour définir une politique dans nôtre service, nous pensions qu'il était important d'évaluer la compréhension, les attitudes et l'experience des professionels médicaux impliqués. Un questionaire demi-structuré sur le sujet des RCP, y compris des scènarios de cas, fut distribué à des médecins et des infirmières qualifées d'un service de soins palliatifs. Trente-sept (80%) des questionaires fûrent retournés. Dix pour cent des interrogés identifièrent des patients pour lesquels ils pensèrent que la RCP aurait été indiquée en cas d'arrêt cardique imprévu. Trente-deux pour cent envisagaient un nombre croissant de patients dans cette catégorie dans l'avenir. La majorité des interrogés indiquaient que la RCP devrait être considérée dans certains cas, cependant

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86% ne l'avait jamais fait. Le taux de succès de la RCP était souvent surestimé. Certains interrogés se sentaient vulnérables parce qu'il n'existait aucune instruction écrite. Les facteurs estimés importants pour prendre des décisions concernant des instructions pour la RCP comprenaient: pronostic, les desirs des patients, la qualité de vie et les implications légales. La RCP dans les services de soins palliatifs soulève un nombre de problêmes pratiques et éthiques. Notre enquête montre que le personnel est conscient du besoin limité mais croissant d'être considéré dans certains cas. Il y avait un large créneau d'opinions concernant le rôle de la RCP avec une surestimation des chances de succès et des réserves pour les entretiens avec les patients sur leur cas. Quand une politique de la RCP est introduite dans un service de soins palliatifs, une formation adéquate et une structure pour prendre les décisions sont nécessaires.

Mots clés: réanimation cardiopulmonaire; établissements de soins palliatifs; futilité médicale; néoplasmes; soins palliatifs

Introduction

The Hippocratic Oath urges doctors not to go on treating those overmastered by their disease.[1] Cardiopulmonary resuscitation (CPR) could well be a case in point. First described in 1960[2] it has become established medical practice. However, the appropriateness of instituting CPR in all cases has been called into question.[3–7] 'Not for CPR' orders have been commonly used in hospital notes over the past 20 years. Their use was initially uncontrolled, and the need for guidelines was demonstrated in 1990 following a complaint from a family member to the Health Services Commissioner regarding a 'not for CPR' order being written in his mother's notes. This prompted the Chief Medical Officer to write to consultants in all specialties instructing them to ensure they had policies regarding CPR orders.[3,4]

Previous research looking at outcomes from CPR consists of a number of retrospective series. From these it would appear that the success rates in hospitals (as defined by discharge from inpatient setting) are in the order of 15%.[7–11] This figure will vary according to the selection of patients for CPR and the definition of success. The studies do not assess the degree of morbidity affecting survivors. Certain features are associated with almost no chance of success; these are: pneumonia, poor mobility, cancer, renal failure and hypotension.[7–11] The presence of ventricular fibrillation and a short duration of cardiac arrest are associated with improved chances.[8] CPR initiated in the community has less chance of success than when initiated in hospital.[10,12] In a review of nine papers including 1268 CPR attempts no patient with metastatic cancer survived to discharge from hospital.[8]

If this evidence is applied to the majority of patients in palliative care units the predicted chance of success from CPR would appear to be less than 1%, especially as the facilities in such a unit would only be adequate for basic CPR and hence more comparable to the community than to an acute hospital.

There have been calls for palliative care units to consider the role of resuscitation among their patients.[13] Although the above evidence indicates that CPR is likely to be futile, there may be reasons why a blanket 'not for CPR' order is not appropriate. As the role of palliative care units expands, cancer patients are admitted at an earlier stage in their illness, sometimes before secondary spread has occurred[14] and patients with nonmalignant disease are increasingly being admitted. CPR may be appropriate for these patients. Some units use invasive anaesthetic techniques which may require initiation of CPR should complications arise.

The British Medical Association (BMA) and the Royal College of Nursing (RCN) have produced guidelines for making decisions on CPR.[4] These guidelines state that CPR need not be initiated if it is futile; if it is against a patient's wish; or if it would not be associated with a length or quality of life that would be compatible with a patient's wishes. Discussion with the patient is not regarded as necessary if CPR is futile. Similar guidelines have been produced by the National Hospice Council for Hospice and Specialist Palliative Care Services (NCHSPC) and the Association for Palliative Medicine (APM).[15]

The absence of a written order or policy may lead to uncertainty in some situations and exposes nursing and medical staff to possible litigation.[16,17] The presence of a written policy, as requested by the Chief Medical Officer, would help to protect against this and clarify any uncertainties. It has been suggested that all health care professionals should be involved in making such a policy.[17,18]

In a 'stand alone' specialist palliative care unit, we were interested in the issues related to CPR. In order to develop a policy in our unit we felt it was important to assess the understanding, attitudes and experience of the health care professionals involved. This study aims to look at these factors in order to facilitate the formulation of such a policy.

Method

A questionnaire was constructed and piloted to investigate the views of doctors and nurses at a 30-bed specialist palliative care unit. It was then distributed to all the doctors and registered nurses at the unit. Nonresponders were re-contacted three weeks later.

We defined CPR as 'starting basic life support measures should a person's breathing or heart stop (i.e. if they were to have a respiratory or cardiac arrest)'. It was stated that this would be with a view to transfer to an acute unit, if appropriate, and that we would not envisage ongoing, acute medical care being continued in the hospice setting.

The areas covered by the questionnaire are shown in Table 1.

Fictional clinical scenarios depicting patients that could potentially be admitted to the unit were described (Table 2). The case scenarios were chosen to show variation in life expectancy, age and social situation. Prognosis referred to that of the underlying illness, not the possibility of surviving CPR. In each case respondents were asked:

1) Do you think CPR should be discussed with the patient by the health care team?
2) In the event of an unexpected deterioration, do you think CPR should be commenced?
3) What do you think would be the approximate success rate of CPR in this clinical scenario if it were performed in your unit?

For question 3, respondents were offered the following categories: <1%, 2–20%, 21–50%, 51–75%, >75%.

Results

Of the 46 questionnaires distributed, 37 were returned, giving a response rate of 80%. Six respondents were doctors and 31 were nurses.

The need for CPR in palliative care units

No respondents could recall performing CPR on a patient in the unit. However, two instances of CPR being performed on visitors were reported. Four (11%) respondents could identify some patients who had been at the unit where CPR would have been appropriate should the need have arisen. Twelve (32%) respondents could foresee the situa-

Table 1 Areas covered in the questionnaire

Respondents' views on the need for CPR in palliative care units
Respondents' views on the need for discussion of 'not for CPR' orders with patients
Factors respondents considered important in making 'not for CPR' orders
Respondents' understanding of the unit's policy regarding CPR
Respondents' views on the use of CPR for patients, and for staff and patients' relatives
Respondents' perceived competence to perform CPR and previous training in CPR
Access to equipment for CPR in the unit

Table 2 Clinical scenarios

Case 1	A 75-year-old patient, whose spouse has died, who has lung cancer with bone and liver metastases. The predicted prognosis is 1–2 months.
Case 2	A 30-year-old patient with two children who has advanced bowel cancer with metastases in the liver. The predicted prognosis is 1–2 months.
Case 3	A 28-year-old patient, married with two children, who has a newly diagnosed lymphoma and has been admitted for symptom control following initial treatment. The predicted chance of cure is 50%.
Case 4	A single 85-year-old patient with a malignant parotid tumour, who has been admitted for symptom control. The predicted 5-year survival is 75%.

tion changing such that a larger number of inpatients would need to be considered for CPR. Seven (19%) respondents made additional written comments. Four were in favour of CPR, for example:

> … where the diagnosis is not confirmed or the patient expressed a wish for this;
> … occasional time where it might be appropriate, for example following an invasive procedure.

Three were against, strongly so in one case:

> The philosophy of most hospices (peaceful death) would be greatly changed by the introduction of cardiopulmonary resuscitation for patients. Perhaps patients who consider themselves cardiopulmonary resuscitation candidates ought not be admitted to the hospice.

It was also felt by some respondents that the effect of observing a resuscitation attempt could be damaging to both patients and relatives and that CPR would damage the aim of a dignified death.

The need for discussion of CPR with patients

Six (16%) respondents recalled patients in the unit with whom they felt CPR should have been discussed. These cases were:

1) A 30-year-old patient with AIDS, who was mobile, but with a low CD4 count (showing advanced disease). Mentioned by two respondents.
2) A 50-year-old patient with only local spread of breast cancer, an ECOG (Eastern Co-operative Oncology Group) score of one, indicating good mobility and able to be fully self-caring. Mentioned by two respondents.
3) A 35-year-old patient with oesophageal cancer and liver metastases, but good mobility.
4) A 55-year-old patient with a recurrence of chronic myeloid leukaemia. Independently mobile.

When asked how many patients they had discussed CPR with in the unit, 32 (86%) respondents said none and five (14%) said very few. Six (16%) respondents made additional comments regarding discussion of CPR with patients: four (11%) were in favour and two (5%) against. Comments ranged from:

> We are presently making choices on behalf of our patients based on a limited amount of knowledge about them and their wishes, where possible this should be explored.

to less cautious opposition:

> It would be unfair/cruel to discuss CPR with patients as I feel it would add to their already vulnerable state and add more anxiety/stress to their current situation.

Factors important in making decisions regarding withholding CPR

The factors respondents felt important when making decisions about the initiation of CPR are shown in Table 3.

Table 3 Factors thought to be important in making decisions on CPR

	n = 37	%
Prognosis	36	97
Quality of life	36	97
Patient's wishes	35	95
Legal considerations	22	60
Moral belief of the respondent	7	19
Family circumstances	5	14
Age	4	11
Spiritual belief of the respondent	4	11

Presence and understanding of the unit's policy regarding CPR

Thirty-five (95%) respondents were aware that there was no CPR policy in the unit.

When asked whether there would be any situations in which they would initiate CPR in their unit, 13 (35%) felt they would. The circumstances mentioned were:

1) where the diagnosis is recent or unconfirmed;
2) at the patient's request;
3) where the prognosis is good;
4) if the patient is young;
5) if there is good quality of life.

All but one of the respondents (97%) could foresee situations where they would initiate CPR on staff and patients' relatives. All written comments indicated that every effort would be made to resuscitate staff and patients' relatives.

Level of competence and training in CPR

Twenty-one (57%) respondents felt competent to perform CPR; although, only five (14%) respondents had received training in the previous year. Fifteen (41%) had received no training for more than 3 years.

Equipment available for use in CPR

Only 10 (27%) respondents knew of access to an artificial airway. No respondents knew of access to an Ambubag or defibrillator.

Fictional clinical scenarios

Cases 1 and 2 compare two patients both with a short life expectancy due to advanced disease. Neither would be expected to survive CPR and most respondents agreed, with 36 (97%) against CPR for case 1 and 32 (92%) against CPR for case 2 (Table 4). Thirty (81%) respondents would not discuss CPR with case 1, and 24 (65%) would not discuss CPR with case 2 (Table 5). When asked about the likely success rate from CPR in case 1, 26 (70%) respondents felt the chance of success would be less than 1% compared with 19 (51%) for case 2 (Figure 1). Four (11%) respondents felt that case 2 would have between 21–50% chance of surviving CPR. It would appear that social factors and age are being taken into account in making these decisions.

Cases 3 and 4 had a longer prognosis, but again varied in their social situations and age. Because of the less advanced disease CPR would be more likely to be successful. This is reflected by the respondents with 26 (70%) believing that CPR should be initiated in case 3 although 21 (57%) were against CPR for case 4, despite a good chance of a 5-year survival. Only five (14%) respondents were against discussing CPR with case 3, but 16 (43%) would not discuss CPR with Case 4. The better prognosis is reflected in the predicted chances of success shown in Figure 1. For case 3, 12 (32%) respondents considered the success rate to be greater than 21%; a figure higher than research findings would suggest.

Table 4 Responses to the question of whether CPR should be commenced on the patient

	Case 1	Case 2	Case 3	Case 4
No	36 (97%)	34 (92%)	5 (14%)	21 (57%)
Yes	1 (3%)	1 (3%)	26 (70%)	5 (14%)
Unsure	0	2 (5%)	6 (16%)	11 (30%)

Table 5 Responses to the question of whether CPR should be discussed with the patient

	Case 1	Case 2	Case 3	Case 4
No	30 (81%)	24 (65%)	5 (14%)	16 (43%)
Yes	4 (11%)	6 (16%)	25 (68%)	13 (35%)
Unsure	3 (8%)	7 (19%)	7 (19%)	8 (22%)

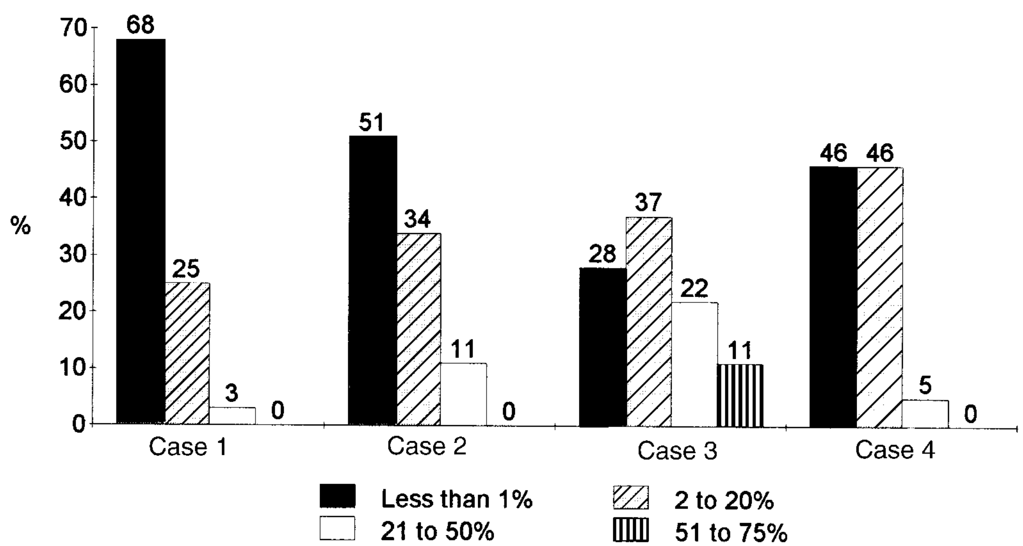

Figure 1 Predicted success from CPR for clinical scenarios

Discussion

The study reveals that health care professionals in this specialist palliative care unit, using both clinical experience and interpretation of clinical scenarios, do identify patients with whom CPR should be discussed and, if necessary, initiated. However, compared with previous research, the respondents overestimated the chances of success of CPR in the clinical scenarios. The most common factors considered important in decision making regarding the initiation of CPR were prognosis, quality of life and patient's wishes. The results suggest that, in line with the Chief Medical Officer's recommendation, it is appropriate to implement a CPR policy in specialist palliative care units. The study also highlights the need for training and equipment when implementing such a policy as few staff members in the unit knew of access to CPR equipment and the majority had not received CPR training in the past year.

Review of the literature suggests that poor outcomes from CPR are likely in patients in palliative care units. However, the respondents did identify a number of patients for whom they believed discussion and (potentially) implementation of CPR would be appropriate, although this must be balanced with the fact that respondents overestimated the successful outcomes from CPR. The changing hospice population could lead to an increase in this group of patients. The increased use of anaesthetic techniques and more interventional treatments may also increase the need for CPR; as may the expansion of day care and outpatient services.

When considering CPR in palliative care units there is a need for education and training, not only in the procedure itself, but also regarding ethical considerations, the discussion of CPR with patients and the likely outcomes.

Respondents appeared to vary in their willingness to initiate and discuss CPR according to social situation and age of the patient. However, when asked which factors were important in making CPR decisions only five (14%) felt that family circumstances were and only four (11%) thought that age was. This may indicate a decision based on emotional issues, as age and social factors have not been shown to influence the futility of CPR in these cases. However, it could also be argued that although age is not directly a poor prognostic indicator, indirectly it could be a guide to a patient's functional ability and hence influence respondent's decisions regarding outcome. The factors that were thought to be important were prognosis, patient's wishes and quality of life, which is in keeping with the research findings.

When considering the clinical scenarios, research would indicate that in cases 1 and 2, with advanced disease, the chances of success following CPR would be $<1\%$. In cases 3 and 4, the situation is not so clear. However, the success rate is still likely to be less than 10%. All were given unrealistic chances of surviving CPR by at least one-third of the respondents. Thus, even in cases of advanced malignancy, our respondents showed an over-expectation of success. Previous studies have also demonstrated this.[6,19–21] Previous research has defined success as survival until discharge. Although we did not formally define success in our questionnaire this still demonstrates an over-expectation of what CPR might achieve in these cases. The overestimation of success is surprising, but such a misconception could result in discontent when CPR is not offered to patients and difficulties for staff in discussing such issues.

The BMA/RCN, NCHSPC and APM[4,15] guidelines indicate the importance of discussion regarding CPR in some situations. This study demonstrates that staff are currently reluctant to discuss CPR with patients despite research showing that patients may find such discussion beneficial.[22] Respondents showed a discrepancy between what they felt should be done in the case histories and their own practice. This could be due to uncertainty in discussing such a sensitive issue, and training would be required to overcome this uncertainty.

Although 57% of respondents felt competent to initiate CPR, very few had received training in the previous year. As this is a skill which needs regular use to maintain, it is unlikely that respondents are as competent as they believe. Equipment was also shown to be very scarce. Thus, resources would have to be found for training of health care professionals and provision of equipment if CPR were to be offered at this unit. This would have resource implications.

In considering factors important in making decisions regarding withholding CPR, legal considerations were reported as an issue by 60% of respondents. This increased awareness of litigation and the public's expectation, reinforced by the media, indicates that a policy is important in order to protect health care professionals. The written policy is in line with the directive given by the Chief Medical Officer and also the United Kingdom Central Council for Nursing, Midwifery and Health Visiting.

The study highlights a number of ethical dilemmas regarding decision making in CPR in palliative care. The definition of futility is vague and a matter of degree. What may appear futile from the point of view of the health care professional may not appear futile for the patients and their families. A few extra days, or even hours, of life may be important to the individual whatever the quality. Respect for patient autonomy is fundamental to the practice of palliative care, but other factors have also got to be considered in such a situation. Our survey showed a broad range of views among some respondents, with some very concerned about the introduction of CPR. They felt it could be construed as giving a double message to patients, on the one hand palliating and on the other offering active treatment. Some also felt that CPR could damage the aim of a dignified death.

The formulation of a CPR policy is complex and cannot be based entirely on literature findings; it has also to take into account staff attitudes and beliefs. No policy regarding CPR existed in the unit at the time the research was carried out, consistent with the finding that 95% of respondents were not aware of one.

Using the results of this study we aim to develop a policy regarding CPR taking into account the following considerations:

1) As with any medical treatment, CPR should only be performed if there will be overall benefit for the patient.
2) In these rare circumstances it would appear correct to discuss this with the patient to ensure that they would want CPR.
3) If CPR is believed to be futile then initiating discussion around CPR is not required.
4) Palliative care units would not be appropriate settings for acute ongoing medical care such as may be required post-CPR, so transfer to an acute unit would be required.

Local policy should decide how these decisions are to be made and which patients should be included. It may be that some units would want to put a blanket ban on CPR, so as to prevent harm to other patients (a view supported by some of our respondents), but this may exclude some patients from receiving specialist inpatient palliative care.

As we have discussed, such a policy requires ongoing education and training regarding prognostic indicators, outcome rates, training and discussion of CPR. The fears relating to the use of CPR in palliative care units, as expressed in our results, should be explored. Such education may improve understanding and acceptance of the policy and may also improve discussion of this topic with patients.[23]

Conclusion

This survey highlights the problems surrounding the use of CPR in palliative care units. We believe that a written policy is not only a requirement to provide protection to staff, but can also be used to help clarify some of these difficult areas.

Using the results of the survey and the literature search we shall develop a policy which is to be implemented in our unit. This policy will take into account, not only the literature findings described in the introduction, but also the issues raised by our respondents; in particular, the moral and legal considerations, the overestimation of success of CPR, the difficulties in discussing CPR with patients and the factors that are important in making these decisions.

In addition the study highlights the need for education and training in this area and reflects the importance of discussing this issue as it was felt by our respondents that the need for CPR is likely to increase.

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