



0959-8049(95)00494-7

Multidisciplinarity and Multimedia in Quality of Care—Education

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Quality of care and quality of life are patient-centred, whereas medical education tends to be disease-centred. More patient-centred models will be necessary to optimise the quality of care for cancer patients. This demands new priorities in medical education, new concepts for structuring and organising responsibilities in medical care, and new complementary task definitions for the players involved. Goal setting and functional care models are conceptual innovations that can help introduce the patient-centred approach into medical practice. In the care of patients with cancer, the goals of the physician, nurse, patient, and family may change and diverge as the disease progresses, necessitating open discussion and bargaining. Functional care models stress that the quality of care can be defined differently at the four different levels of care—medical, nursing, cleaning/providing, and support from family and friends. Instruments that maintain the focus of care on the patient's quality of life can help formalise the goal-setting process. Quality of life measuring instruments should be adapted to the priorities of the clinical situation and implemented in basic practice routines. There is no single objective quality of life level or score, and measuring instruments must take into account different quality of life options. Multidisciplinarity and multimedia education means the appropriate learning instruments at the appropriate time for all those concerned.

Eur J Cancer, Vol. 31A, Suppl. 6, pp. S11–S14, 1995

INTRODUCTION

IN THE past, general practitioners played only a limited role in the treatment of patients with cancer. And indeed, as long as cancer treatment focuses on sophisticated, high-tech interventions, specialisation is an advantage. More recently, however, we have come to recognise that the general practitioner can make an invaluable contribution to the care of cancer patients during the follow-up phase, when it is not yet certain whether radical therapy has been successful, as well as during the palliative phase, when cure is no longer possible.

The more patient-centred focus of the modern general practitioner not only contrasts with, but also complements the more disease-centred approach of the specialist. In general practice, the central denominator is the individual with all his problems, questions and, of course, his diseases. General practitioners strive to maintain knowledge and skills in a broad range of medical problems and, in addition, have an interest and skills in working with individuals over the long term. This affords a very personal approach to the management of patients with relatively uncomplicated medical problems.

Specialists, on the other hand, tackle the variety and complexity of individual problems by means of "multidisciplinarity", that is, an organised combination of highly specialised disciplines. Although this system may seem a reasonable alternative, in practice it is no simple matter to integrate the efforts of oncology surgeons, medical oncologists, oncology nurses and oncology psychiatrists. The multidisciplinary team

approach can lead to expensive, perfunctory, and poorly integrated care and also carries the risk of reducing the patient to his cancer problem.

Although the complexities of cancer treatment require the experience and expertise of multiple specialists, once the treatment has been completed and cure or remission achieved, the patient may benefit from less narrowly focused follow-up care. Indeed, there may be important advantages to an alternative approach in which such patients are followed up by their own general practitioner, who has been briefed by and works in close collaboration with the oncology team.

Alternative team formations may also be particularly valuable for patients who require palliative care. In experimental palliative care programmes in Belgium, general practitioners working together with the home nursing team assume responsibility for the care of the dying patient, with hospital coverage and support available in difficult or emergency situations. Patients often prefer to be cared for by one familiar medical professional whom they know and trust will be able to address their fears and questions.

More patient-centred models are necessary if we want to guarantee the quality of care in cancer treatment (Table 1). This demands new priorities in medical education, new concepts for structuring and organising responsibilities in medical care, and new complementary task definitions for the players involved. As the needs of the cancer patient evolve during the course of his illness, so do the goals of care. These changing goals provide a good opportunity for learning to implement new models of care. Instruments that maintain the focus of care on the patient's quality of life can help to formalise this goal-setting process.

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Table 1. *Quality of care, quality of life: basic axioms**Patient-centred focus*

Quality of care and quality of life are patient-centred, whereas medical education is mainly disease-centred.
As long as we consider a missed diagnosis less acceptable than a false-positive diagnosis, the patient-centred focus will be impaired.

Goal orientation and functional care models

Goal orientation and functional care models are conceptual innovations that can help introduce the patient-centred approach into medical practice.
Goal-oriented medical care will put more emphasis on outcome evaluation as an operational instrument.
Functional care models stress that the quality of care can be defined differently at different levels of care.
Caring for the patient with cancer provides a good context for the application of flexible new care models and goal setting.
Caring for cancer patients is a good training area for working with variable concepts and priorities that change over time.

Quality of life evaluation

Quality of life instruments adapted to the priorities of the clinical situation can help maintain focus on the patient's goals and teach flexibility in using models over time.
Don't just preach concepts. Choose or create clinically adapted instruments and implement them in basic practice routines.
There is no single quality of life level or score. Evaluation must take into account different quality of life options and priorities.

Multidisciplinarity and multimedia education

Multidisciplinarity and multimedia education means the appropriate learning instruments at the appropriate time for all those concerned.

PATIENT-CENTRED CARE

Optimal quality of medical intervention should necessarily result in optimal patient quality of life and the success of medical interventions should, therefore, be evaluated in these terms. Quality of life and quality of care are both patient-centred elements, however, and neither is a main concern in medical education, which is largely disease-oriented. In fact, the patient is virtually absent from university teaching programmes, where the research interests and educational priorities are aetiology and pathophysiology and the clinical emphasis is on the diagnosis and all the technology that leads to a diagnosis. Interventions and treatment schemes are the principal skills taught in these programmes. Even the clinical segments of the medical school curriculum do not focus at all on the patient's quality of life. All too often, in fact, the medical student's only real exposure to the patient's problems, fears, and sorrow comes from contact with the nurses on the medical wards. Medical students frequently consider the patient's emotional and psychological response to disease to be a marginal issue and do not regard the nurses as teachers or role models.

Encouragingly, many educational programmes are now beginning to include a general practice rotation as an optional or obligatory part of medical training, even for future specialists. In the general practice setting, students can gain experience in interacting repeatedly with the same patient over time and can begin to understand how disease interferes with an individual's personal and family life. In some European training programmes, students are required to follow the families of one or two patients with chronic conditions over the entire course of

the clinical training period. It is to be hoped that such programmes will lead to a better balance between the patient-centred and disease-centred approaches. Another solution to achieving such balance would be multidisciplinary teaching and training programmes, for both basic and continuing medical education, which would reflect the different but complementary foci of specialists, general practitioners and nurses. As a prerequisite for such programmes, the contributions of all three professional groups must be considered equally important.

GOAL ORIENTATION AND FUNCTIONAL CARE MODELS

Goal orientation [1, 2] and functional care models are conceptual innovations that can help introduce a patient-centred focus into medical care. These models were developed in general practice and are now expanding into other medical disciplines as well. Care for the patient with cancer represents an ideal setting for application of these flexible new approaches.

Goal setting

In traditional curative medicine, the goal is clear: to heal the patient by eradicating the disease. However, as contemporary medicine addresses more and more problems for which there are no cures, the goals of care may become less self-evident. Particularly in chronic or terminal conditions, it becomes vital that physician, nurse, and patient each clarify their personal goals for a given intervention. It is important to stress that physicians and nurses very often have goals that differ from those set by patients or their families.

Goals may also differ according to whether care is preventive or therapeutic, and according to the stage of disease. For example, in primary prevention, the goal might be to maintain an individual and collective interest in health, while the objective of secondary prevention could be early discovery of a serious disease at a reasonable price. Similarly, the goal of acute care could be to save lives or lower morbidity, while chronic care could aim to guarantee optimal self-realisation for a handicapped person. And, in terminal care, the goal might be simply to die in harmony with oneself. Goal-oriented medical care puts more emphasis on outcome evaluation as an operational instrument.

Care for the patient with cancer provides a good example of how priorities and goals change over time. When the patient first presents with symptoms of cancer, both physician and patient alike are focused on diagnosis and treatment. Their common interest is to determine the exact nature and staging of the disease, and to implement definitive treatment. However, after treatment is finished, and especially when it has not been curative, the goals of the physician, nurse, patient and family are likely to change gradually and sometimes diverge. For the physician, the main issue may be to stabilise disease progression, while the nurse's priority may be control of symptoms and side-effects. For the family, pain control may loom largest. And perhaps the patient himself may opt for maximal autonomy in the period of life still remaining. Since priorities may change as the disease progresses, goal setting is always provisional and should be reviewed on a regular basis.

When the priorities of the physician and nurse differ from those of the patient and family, the quality of care will be related to the dominant goal setting. In patient-centred medicine, it is the patient who sets the dominant goals. Should conflicts arise, open discussion and bargaining will be necessary. Physicians are sometimes not very good at listening, bargaining, and eventually accepting the patient's priorities. For this reason, in the general

practice vocational training programme at the University of Leuven, Belgium, we devote more than 20 h to teaching students how to bargain with their patients. Although the basic concepts, options, skills and attitudes inherent in patient-centred goal setting are extremely important in the care of cancer patients, they are also applicable to a broad range of areas in medicine.

Functional care model

The functional care model, developed in the U.K. [3] and The Netherlands [4], represents an alternative to traditional hierarchical and hospital-based models in which specialised units encompassing many different disciplines are responsible for care delivery. It must be emphasised here that the number of communication lines required by a unit comprising specialists from n disciplines is the square of $(n - 1)$. This means that a team composed of specialists from four disciplines needs $(4 - 1)^2$ or nine communication lines, while a team of 12 disciplines (which is not unheard of in oncology) needs $(12 - 1)^2$, or 121 open communication lines. Clearly, more flexible and dynamic concepts are necessary.

According to the functional care model, care is conceived of not in terms of the problems or diseases in general but rather, in terms of the different functional units around the patient. This model posits four dimensions of care, each of which has its own network linked to the other networks: there is the medical level (specialists and general practitioners), the nursing level (hospital and home nurses), the care level (cleaning and providing) and the support level (family, friends and neighbours). At each level, tasks should be defined and assigned and the so-called 4 Cs clarified: *complementarity* in the tasks of the different contributors, how *continuity* of care will be ensured, who will be responsible for *coordination* of care, and how the *communication* will proceed. The functional care model stresses that the quality of care can be defined differently in different levels of care. It thus represents a real bottom-up model, in which each contributor has his or her appropriate place and role to play.

QUALITY OF LIFE INSTRUMENTS

Quality of life instruments, if developed and validated for a wide range of conditions and if adapted to the priorities of the clinical situation, can help maintain focus of care on the patient's quality of life and can also teach flexibility in using models. Rather than simply preaching the concept of quality of life evaluation, however, we must choose or create our own measuring instruments and apply them in basic practice routines. A growing number of quality of life instruments are becoming available, and those that are not too complicated and best reflect patients' own interpretations of quality of life may well become useful tools in daily clinical practice.

However, while it is important for physicians not to underestimate the value of such instruments, it is equally important that we do not overestimate their worth. Quality of life measurement is, of course, only one aspect of evaluating the global outcome of a medical intervention. The European Research Group on Health Outcome Measurements (ERGHO/BIOMED) is now exploring broader sets of clinical instruments. As part of this project, our University of Leuven research group is currently studying the implementation of an outcome instrument for use in computerised medical record keeping in daily practice. We selected four areas for inclusion in this instrument: the severity of the illness(es), symptoms and side-effects, the patient's functional status or quality of life, and the patient's degree of autonomy in 12 defined areas. In the tradition of Feinstein [5],

we defined these areas as the final outcome measures that we intend to judge and that will guide our interventions. By using this quality of care instrument, the equally important, general goals of medical intervention are: reduction or stabilisation of the progression of the disease, reduction of symptoms and side-effects, the best possible functioning on physical, psychological and social levels, and maintaining maximum autonomy for the patient.

A caveat here is that, since individual care providers and patients may have different quality of life goals, we must allow room for different quality of life measuring instruments. The domains and the priorities covered by the instruments should reflect these different goals. There is no single quality of life level or score. Quality of life measurement cannot be objective—it is a decision based on different options and personal priorities.

MULTIDISCIPLINARY AND MULTIMEDIA EDUCATION

Multidisciplinary and multimedia education means using the appropriate learning instruments at the appropriate time for all concerned. If quality of life is to have the place it deserves in medical thinking, then teaching and training must become more patient-oriented. To accomplish this, however, we need to challenge the conservatism of university medical curricula. We can start in the context of cancer care, by encouraging the introduction of multidisciplinary and patient-centred approaches, and flexible goal setting into the curriculum.

Traditional teaching methods, both in undergraduate and postgraduate education, show little variety: knowledge is expected to come from very experienced specialists and is transmitted through lectures in large auditoria and through journal articles, which in reality have almost no impact on clinical behaviour and quality of care. The other favoured method of instruction is the centuries-old practice of watching and emulating the methods of experienced physicians. These approaches are outdated, however, and must be changed. Studies on change management demonstrate that the maximum educational value comes from using intensive peer-level discussions about patients and care delivery as starting points for learning [6]. A drawback, however, is that while change is possible only after open reflection on the quality of care, care providers are often reluctant to engage in personal reflection. Nevertheless, multidisciplinary reflection, starting from a basic ground of common involvement in patient care, may offer an alternative, although there is as yet little experience with this approach.

The theoretical benefit of multimedia education is that it offers ready-made programmes, that are easily multiplied and translated, and that can be implemented at the moment at which the information is needed. However, the real advantages of this approach are still uncertain. While the technology is glamorous, it does not have sufficient capabilities for adapting to an individual learner's needs. Moreover, it is not clear that the three central elements, learning goals, educational means, and technological implementation have yet been optimally integrated. Nonetheless, by combining visual material from different sources, multimedia education is opening up a new world of possibilities which we will have to learn to use properly. Ultimately, portfolio learning on-demand may replace fixed educational curricula. Interactive learning experiences should certainly stimulate changes in the quality of care. In addition, emerging new technologies makes possible distant learning

models, satellite conferences and distant expert consultation strategies.

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