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Editorial

Patient 'Non-compliance' and 'Missing Data' in Quality of Life Research: Where Does the Problem Lie?

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INTRODUCTION

THE MEASUREMENT of Quality of Life (QL) of cancer patients is recognised as an essential endpoint in clinical trials as well as in other areas of cancer research. It is also known to be a reliable prognostic indicator of survival [1], indicating that it should be considered as a variable to stratify patients at the onset of trials, especially in cases where assessment of survival or tumour free survival are the main objectives of investigation. To date, no publication has described the inherent difficulties of actual data collection and the practical logistics of standardising procedures and 'improving compliance'. Hopwood and associates (pp. 49–57) [2] have written an excellent exposé of the difficulties encountered in a research design that endeavours to include QL as a valuable endpoint in large scale clinical trials, and offers possible solutions.

The majority of trials that include QL appear to be dogged by missing data-sets. Numerous publications highlight the concerns of those embarking on QL research and suggest ways of achieving sound scientific QL studies [3, 4]. The need for rigour in trial and questionnaire design [5], validity and reliability of instruments [6], adequate sample size [7], the need to address the best way of analysing [8] and reporting QL data [9] have been documented and need not be reiterated here. However, the most scientific approach to clinical trials and QL data gathering will be redundant if the inherent problems of data collection including missing data are not addressed.

Until relatively recently outcome variables included disease related factors such as survival, disease free survival, tumour response rate and physician rated performance status. As management of cancer patients became more sophisticated, more aggressive in its application and more efficacious in terms of prolonging life, it was evident that efficacy in terms of an objective tumour response, with no improvement of symptoms and added side-effects was not viable. This is especially the case as patient autonomy and the ethical considerations of patient care take centre stage. It is not surprising, therefore, that QL has become a focus of interest at this particular time. Any popular research topic has to be placed in its historical context. As fashionable issues supersede previous ones, there is a danger that they will be eclipsed on the research agenda. Indeed, on close scrutiny of the literature, QL is often either not included as part of the research question or perceived as one-dimensional, focusing on, for example, performance status, assessed by clinicians. There is a general impression that QL information is not valued as highly as biological information on patient management including chemotherapy use.

Overt reasons for this may revolve around the fact that clinicians are wary of an area of investigation that has been difficult to define; what domains of QL are important; how best to measure and analyse entities that are fraught with what are perceived to be merely subjective elements of a person's experience? I would go one step further and suggest that there may be a fear that a treatment that has effective potential—'a treatment breakthrough'—may in fact be shown to be unacceptable as far as side-effects such as a person's psychological and social well-being are concerned. It may be the case, however, that aggressive treatments may actually *improve* the quality of a patient's life. Indeed it is hard to ascertain how QL outcomes have influenced policy making in patient care. Apart from assisting in policy-making decisions regarding cancer treatment, do physicians actually make use of QL information in attempting to assist patients with their physical and psychosocial problems and in making their own decisions during the course of the illness? This aspect of the research process is seldom revealed.

INCLUSIONS AND EXCLUSIONS

The evidence is that those patients who are included in QL research and have completed questionnaires either at baseline or follow up, may be those patients who are judged to be well enough to do so. Those who have died, for whom treatment has failed and are subsequently withdrawn from trials or who are not thought to be fit enough to provide QL data are often 'discarded'. Of course this makes a nonsense of trial results and true comparisons between treatments are impossible to make. It would not be surprising if many trials start with good intentions of including QL endpoints (indeed they are prob-

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ably obliged to do so by ethics committees), only to discard missing data-sets before publication because of the bias I have alluded to.

QL data collection is often thought to be 'burdensome' for the patient, especially for those with advanced disease and in cases where *the researcher* considers the patient to be 'too old', 'too tired' or 'too emotional' to be bothered by questions that may impinge on patients' dignity and autonomy. This ignores the fact that patient autonomy comes about when he or she is given time to refuse to participate in QL research and does not rely on researchers' perceptions, however well meant. It cannot be stressed too strongly that missing data or 'patient non-compliance' will depend on the way informed consent and further involvement of the patient is elicited as much as on the quality of the questionnaire and how appropriate it is to the patient population. Patient involvement in the study design is seldom given credence but may help in understanding the needs of patients and the boundaries over which researchers can and cannot go. Interestingly, studies show that in general, patients are pleased to be included in QL studies. To stop asking patients about their well-being, especially when disease is progressing and patients are withdrawn from trials, will possibly have a negative impact.

RESEARCH DESIGN

At the present time, and following much puzzling debate, there is a consensus that items or domains that constitute QL must be determined in the first place and then assessed by patients themselves. There is known to be a 'mis-match' between patients' and physicians' perceptions of patients' well-being. Physicians often underestimate morbidity and in some surprising circumstances have been shown to over-estimate negative QL outcomes. The importance of patients' subjective accounts are therefore essential. They validate research findings but at the same time create an infinitely more demanding research process in terms of data collection and analyses.

It is also recognised that QL parameters are not only disease and health related factors such as physical, functional and mental well-being, but also non-health related variables that include sexual, social (including work related issues) and relationship status. This makes any research endeavour more time-consuming and may account for missing data, especially when there is a lack of personnel or inadequate organisational backup.

The collection of QL data is important when, for example, there is a dilemma in treatment choice or when certain patient populations and disease related issues are under-researched or not researched at all. As I have indicated, incomplete data-sets are often associated with patients with advanced disease or who are feeling too unwell to complete questionnaires or who have died. The irony is that the collection of QL data is especially pertinent in those cases where patients may have a greater investment in quality rather than quantity of life (this is likely to be true of patients with terminal illness, but may also apply to patients with less severe disease progression). Where it is known that missing data is inevitable either because of impending death or grave side-effects of treatment, it is difficult to understand why QL using a quantitative methodology, often in the name of 'science' is deployed. In these circumstances, a different approach (possibly eliciting patients' relatives or carers' participation) and a different set of research questions, using a qualitative methodology, may be more appropriate and can help to alleviate insurmountable difficulties in analysing incomplete data sets and biased reporting. The hitherto 'hard' 'scientific' ethos of cancer research may preclude what is sometimes regarded as the 'soft' option of a qualitative approach without recognising that in many cases it may be the only viable and valid method and one that has an extensive theoretical underpinning. This type of investigation warrants personnel with appropriate training. It is no 'easy way out' and requires rigour in the research design, interview technique and in subsequent data analysis and reporting.

PRAGMATIC CONCERNS OR LACK OF COMMITMENT?

Multicentred trials often present the confounding factor of there being no central back-up system, whereby researchers themselves may seek and receive support for their often onerous efforts. Simple logistic factors such as a dearth of questionnaires, a lack of communication between data collectors and between the latter and clinical trial officials, creates the possibility of missing data as does a lack of privacy for patients to complete QL forms. Pragmatism may lie at the heart of this type of dilemma: lack of commitment to QL research by all those concerned is the more likely cause. An input of resources in formal training of researchers may help to iron out logistical concerns. Here lies the crux of the problem. It is important that clinicians and all health personnel show a serious commitment to QL research and do not merely pay it lip service (as appears to be the case) and then there is a chance that the problem of missing data-sets will be resolved. But, if QL research is to fulfil its acknowledged role in cancer patient care, funding bodies have to recognise that it requires funding. Adequate personnel, trained in communication skills, who have a true understanding of the research design and the questions being asked and who are well supported, require resources. Without proper financial input, QL research may well become redundant. The concept of patient autonomy and dignity, embraced as they are by QL research, will become fictitious entities lost to an era when patients' concerns were thought to be worthy of investigation but not worthy of a true commitment by the scientific community.

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