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Patients' expectations in relation to outcome of total hip replacement surgery

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SUMMARY The importance of expectations has been assessed by giving 88 patients who had undergone total hip replacement surgery a series of visual analogue scales to provide a pain score, a 5-point rating scale to assess their remembered expectations, and an interview to establish clinical, functional, social, and psychological data. Patients generally had high expectations, but only 55% had their expectations fulfilled. Despite this, 86% claimed the operation to be successful, though when questioned more closely patients noted a certain amount of displeasure about the outcome. Further analysis revealed that, when the sample was split into 2 groups of fulfilled and unfulfilled expectations, significant differences were noted in that the quality of life enjoyed by the former group was greater than that enjoyed by the latter group. This finding suggests that the notion of 'success' is not as effective as the notion of 'expectations' as a measure of the outcome of total hip replacement surgery.

The measurement of expectations has been greatly discussed in the last decade in an attempt to understand the relationship of expectations to outcome. However, the bulk of this work has been carried out on psychiatric patients, the outcome of treatment being examined in relation to various psychotherapeutic methods. Few reports assess expectations in relation to outcome of surgery. Consequently some of the conclusions that have been drawn about expectations may be limited. In the psychotherapeutic environment patients' and indeed therapists' expectations are probably influenced by psychological factors, whereas in the medical and surgical field the emphasis is more on engineering and technical skill and intensity of suffering. As a result of such a bias the influences of surgeons, nurses, and other paramedical personnel on the outcome of treatment are not directly apparent.

Intuitively one would assume that in the field of total hip replacement it would be comparatively easy to understand the relationship of expectations and outcome because of the 'hard factual data' presented by the surgical process. Nevertheless surgeons and doctors are often perplexed at the way in which people have symptoms long after treatment has concluded and for which there is no obvious medical explanation. Charnley (1972) cites 2 such cases.

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It is suggested that the importance of understanding the relationship between expectations and outcome lies in terms of education. Thus, if expectations are found to be crucial factors for outcome, then it is important for the investigator to understand how such expectations are influenced initially, thereby examining the more pertinent question of the effects of such influences. This approach will presumably lead to a goal-orientated rationale of ensuring that hospital staff and patients are aware of their effects on the treatment process.

Frank (1968) was an early pioneer in the field of expectation research. His method was to tell patients what to expect and then assumed the nature of their expectations. He asked patients to express their feelings toward the therapist and to describe their fantasies and dreams. He concluded that such patients had a better 'outcome' in 5 out of 8 measures because of their expectations. However, it is equally possible that it was the 'expression' of the fantasies and dreams that created the better outcome rather than the expectations themselves, which were not directly measured.

More recent work in this area, by Martin *et al.* (1977), tried to establish the exact nature of the relationship between expectations and outcome. They concluded that the relationship was not causal

but predictive in that therapists (and not patients) could make fairly accurate predictions of the outcome of treatment. Conflicting studies by Affleck and Garfield (1961) showed that, when experienced judges were asked to rate patients on how long they were expected to pursue treatment, such judgments tended to be over-optimisitic. Conflicting evidence by Goldstein (1960) and Martin and Sterne (1975) that therapists' expectations are far more important than patients' suggests that the problems of 'expectation' research have not yet been solved.

The present retrospective survey was designed to assess the existence of a relationship between patients' expectations and outcome of total hip replacement surgery; a preliminary step in the search for understanding the value of educating medical, surgical, paramedical staff, and patients with a view to improving quality of life as well as technical skill.

Patients and methods

One hundred and thirty nine Yorkshire people who had recently undergone hip replacement surgery were contacted during 1977. Of these 88 were interviewed for the survey. 11 were interviewed but not included in the analysis, 4 were unfit to respond due to illness, 3 had died (notified by family), and 8 could not be traced. The remainder were non-responders.

Patients were given a series of visual analogue scales (using horizontal lines 10 cm in length) designed to provide a 'pain score' for each individual. These scales were accompanied by a 5-point rating scale to establish patients' 'remembered' expectations in the areas of deformity, mobility, postoperative care, and pain. Patients were then interviewed according to a predesigned questionnaire to establish clinical, social, functional, and psychological data. The patients were interviewed for 1 to 2 hours in their own homes.

Results

Patients generally claimed high expectations. They were given a choice of 5 sentences to indicate what they remembered expecting, and the sentences chosen most frequently for each area of concern (for example, pain, mobility, deformity, and postoperative care) were found to be significantly greater than the other optional sentences, as tested by the Kolmogorov-Smirnov 1-sample test (Siegal, 1956).

Table 2 shows the most frequently chosen sentences as indicated by patients who tried to remember what they expected before the operation.

From this it can be seen that the majority of patients had high expectations about the outcome of surgery. They wanted especially to be completely pain-free. It is interesting that in only 48 cases (55%) were these expectations fulfilled.

Of 15 patients (17%) who claimed that their expectations had been met by the outcome the pain scores reflected that their expectations were not in fact met. The remaining 28% were emphatic about the fact that their expectations had not been met. However, half of this group felt that the operation had been successful even though their expectations were not met. It is not clear if they were merely 'accepting' the outcome because they did not like complaining or because their expectations were not really that important to them. It is this issue which needs further clarification. In other words 45% of the sample showed that in some way their expectations had not been met by the outcome. It is interesting that extensive reviews of the results of hip arthroplasty by Charnley (1972) and others have indicated 90% or more 'success' for this kind of operation. However, such reviews have failed to offer an adequate operational definition for 'success', and not surprisingly, hip replacement studies fail to attach importance to patient's expectations.

In view of the above it was decided to break the sample down into 2 groups in order to establish whether any distinguishing criteria existed for those with 'fulfilled expectations' (FE) and those with 'unfulfilled expectations' (UFE). The difference between the 2 groups (on the issue whether their expectations had been fulfilled) was found to be statistically significant ($P<0.001$). It was felt that if other distinguishing criteria existed these would provide the basis for examining and understanding

Table 1 *Breakdown of sample: subjects*

Age	Mean years (range 19–65)	66
Time	Mean years since surgery	3½
Sex	Male	26
	Female	62
Marital status	Married	50
	Widowed	30
	Single	6
	Divorced	2
Diagnoses	Osteoarthritis	76%
	Rheumatoid arthritis	16%
	Other (e.g., congenital dislocation)	8%

Table 2 *Patients' remembered expectations in terms of 'most expected outcome'*

Post-operative care	I expect I will be able to look after myself completely without any aids or help of any kind
Deformity	I expect that I will not be deformed in any way after the operation
Mobility	I expect to be completely mobile as a result of the operation
Pain	I expect to have no pain at all as a result of the operation

the importance of 'unfulfilled expectations' in subsequent research as well as highlighting whether a relationship existed.

Pain is probably the most concerning issue in hip replacement surgery. For this reason the groups were compared by using their visual analogue pain scores to establish whether pain could be related to outcome in terms of expectations. An examination of pain scores in Table 3 reveals no significant difference between the 2 groups.

However, pain was reduced for all patients. Although the differences between the groups was not statistically significant, more pain was reported in the UFE group. When the patients were asked about pain in terms of a 5-point scale, 8 said they were still experiencing severe pain—not always attributable to possible surgical failure. Ten patients had problems possibly attributable to surgical failure (for example, infection, thrombosis, trapped nerves, and broken femur). The difficulty, of course, of measuring such a subjective criterion as pain cannot be underestimated, along with the problem of asking patients to remember what pain they actually had.

Table 4 shows a list of issues raised with patients, some of which significantly differentiated the 2 groups. The above shows that the UFE group had a higher proportion of people having been admitted to hospital (for reasons other than arthritis) prior to the hip operation, which tends to suggest that familiarity with the hospital environment is not indicative of a positive outcome. The majority of the total group were having no pain at all, but where pain was being experienced (that is, in the UFE group) it was most pronounced on weight bearing as opposed to resting. The difference in terms of deformity is a reflection that a high proportion of the UFE group felt that they were deformed in some way—usually having different leg lengths or that the hip joint 'stuck out'. It was interesting that the majority in the FE group fell into class II (intermediate) of the Registrar-General's Classification of Occupations (General Registrar Offices 1966) whereas the majority in the UFE group fell into class III (skilled).

Table 3 *Visual analogue scales: group mean pain scores*

	Before operation	*Immediately after operation*	*Now (in hip that was operated on)*
Unfulfilled expectations (UFE)	6·47 cm	1·96 cm	2·44 cm
Fulfilled expectations (FE)	7·28 cm	1·08 cm	0·12 cm

χ^2 3·29, DF=2, P>0·05.

Table 4 *List of items assessed in terms of their relationship to expectations: comparison of FE and UFE groups*

Features	*Significance*
1. Age	NS
2. Time since symptoms began	NS
3. No. of joints with arthritis	NS
4. Previous admissions to hospital	P<0·05*
5. Description of pain (along a 5-point scale)	NS
6. Pain	P<0·001*
7. Present hip joint deformity	P<0·01*
8. Stiffness	NS
9. Diagnosis	NS
10. Surgeon	NS
11. Hospital	NS
12. Type of operation: 1/2 hips	NS
13. Marital status	NS
14. Sex	NS
15. Occupation	P<0·01
16. No. of children born	NS
17. No. of people living at home	NS
18. Immediately after the operation, could you have gone through it again?	P<0·05*
19. Do you think the operation was a success?	P<0·001*
20. Do you feel you were given sufficient information?	P<0·05*
21. How do you see your future?	P<0·01*
22. Would you have the operation again if necessary?	P<0·05*
23. Do you receive any help now?	P<0·05*
24. How do you feel in terms of your general health?	P<0·05*

*Adversely reflected by the UFE group.

Immediately after the operation most of the FE group said they would have had the operation again if necessary, whereas the majority in the UFE group were not so keen. The total group 'success' rate was 86%, lower than usually claimed, possibly owing to the very close questioning about their expectations. All the 'unsuccessful' people fell into the UFE group. The majority of the UFE group felt that they had not been given sufficient information, whereas the majority of the FE group felt that they had. The UFE group also recorded less optimism about the future than the FE group. Not surprisingly they also were less inclined to commit themselves to another operation, if necessary. The UFE group required more help than the FE group and their attitude towards their general health was certainly less positive.

Discussion

The results of this retrospective survey show several interesting points. The majority of the sample (86%) felt that the operation was successful (though this figure is lower than that generally claimed). However, when questioned more closely, patients expressed a certain amount of displeasure which could not be gleaned from asking a simple question about 'success'. It is suggested, therefore, that the notion of 'success' as such is not adequate when

discussing the outcome of the total hip replacement operation. A criterion is required to deal with the complexities of patients' feelings and thoughts, and the notion of 'expectations' appears to do this task.

Patients showed significant preferences for what they remembered expecting before the operation—that is, the majority had high expectations. Some caution must be noted. This survey was only retrospective, and the outcome may have coloured the patients' views; for instance, a similar number of patients recorded high expectations as well as a successful outcome (86%). A previous study in this department by Cathcart (1975) suggested that those patients who did well tended to magnify their preoperative symptoms, while those who did badly tended to minimise them. Perhaps this explains why some of the UFE group claimed the operation to be successful when it obviously was not—in an attempt to play down how they really felt. However, why then did not the UFE group minimise their preoperative expectations? Was it because they did not do this that their outcome fell short of their expectations, or was their memory of their expectations somewhat confused? Many of the UFE group were still experiencing severe pain; many still had some joint deformity. Some said they would not have the operation again if it was necessary.

Generally, the UFE group required more help in daily tasks than the FE group, and as a group they were pessimistic about the future and negative about their general health. For example, they tended to have vague feelings of ill health and tiredness compared with the FE group. As there was no significant difference in diagnoses between the 2 groups, it is unlikely that the UFE group required more help because of the severity of the disease.

The results suggest that expectations *are* related to outcome and also preoperative symptoms in ways that are more complex than a causal or predictive model allows. Having high expectations fail may be related to the severity of preoperative symptoms. It is no truer to say that high expectations cause failure than to say that failed expectations cause one to distort the reality of one's expectations. It is necessary to highlight the exact nature of expectations and their relationship to the outcome of surgery. The expectations of patients are important because they indicate the difference between being optimistic and positive about life and merely existing. Subsequent research needs to concentrate on understanding the ways in which expectations influence and are influenced so that the possible need for educating patients and surgical staff can be identified, where such education will lead to improving the quality of life.

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