Patient decision aids in joint replacement surgery: a literature review and an opinion survey of consultant orthopaedic surgeons

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ABSTRACT

INTRODUCTION Patient decision aids could facilitate shared decision-making in joint replacement surgery. However, patient decision aids are not routinely used in this setting.

METHODS With a view to developing a patient decision aid for UK hip/knee joint replacement practice, we undertook a systematic search of the literature for evidence on the use of shared decision-making and patient decision aids in orthopaedics, and a national survey of consultant orthopaedic surgeons on the potential acceptability and feasibility of patient decision aids.

RESULTS We found little published evidence regarding shared decision-making or patient decision aids in orthopaedics. In the survey, 362 of 639 (57%) randomly selected consultant orthopaedic surgeons responded. Respondents appear representative of consultant orthopaedic surgeons in the UK. Of 272 valid responses, 79% (95% CI, 73–85%) thought patient decision aids a good or excellent idea. There was consensus on the potential helpfulness of patient decision aids and core content. A booklet to take home was the preferred medium/practice model.

CONCLUSIONS Despite the increased emphasis on patient involvement in decision-making, there is little evidence in the medical literature relating to shared decision-making or the use of patient decision aids in orthopaedic surgery. Further research in this area of clinical practice is required. Our survey shows that consultant orthopaedic surgeons in the UK are generally positive about the use of patient decision aids for joint replacement surgery. Survey results could inform future development of patient decision aids for joint replacement practice in the UK.

KEYWORDS

Decision support techniques – Arthroplasty – Attitude of health personnel – Questionnaire

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Patients and their doctors increasingly expect to share responsibility for healthcare decisions.^{1,2} Under these circumstances, there is strong interest in ‘shared decision-making’.^{3,4} In shared decision-making, the doctor shares his or her technical knowledge and expertise, the patient reveals his or her preferential attitudes, and together they arrive at an informed, preference-based choice among several relevant therapeutic options.

Shared decision-making is most pertinent in ‘preference-sensitive’ clinical situations in which there is unclear or equivocal clinical evidence, or variation in patients’ attitudes towards alternative treatments.⁵ In orthopaedics, whether or not to undertake elective hip or knee joint replacement surgery is a preference-sensitive decision, because it requires consideration of the patients’ attitudes towards the risks and benefits of surgical and non-surgical treatment alternatives.

Patient decision aids

Given the time constraints in a typical out-patient clinic, a fully-realised shared decision-making process is difficult to achieve. One way to meet this challenge is to supplement (not replace) existing doctor–patient communication with ‘patient decision aids’.

Patient decision aids are designed to help patients understand relevant evidence-based information, to clarify their attitudes towards potential benefits and harms, and to aid communication. Patient decision aids are not patient education tools, which provide information about a particular, recommended, treatment plan; instead, they are deliberately designed to help patients make an informed choice between two or more equally relevant treatment options.⁶ Patient decision aids come in various media and have been used in different clinical contexts. Reviews of their use in controlled settings have concluded that patient decision aids improve patient knowledge, reduce decisional conflict, and enhance participation in the decision-making process.^{6–8}

Although medical staff may think shared decision-making to be good practice (and many have provided information booklets to their patients), there is little empirical data on doctors’ views about using patient decision aids⁹ as tools for shared decision-making. Their opinions about the appropriate content and feasibility of patient decision aids could guide their development and implementation beyond controlled settings in actual clinical practice.

Objectives

Although the idea of introducing patient decision aids into orthopaedic care seems promising, it would be important to review the literature and assess professional and patient attitudes before developing patient decision aids for elective hip or knee joint replacement surgery in the UK. We undertook a literature review to gauge the current knowledge about shared decision-making and patient decision aids in joint replacement surgery. We also conducted an opinion survey of orthopaedic surgeons in the UK to gauge the level of support for and potential feasibility of introducing patient decision aids for total joint replacement into regular practice. The assessment of patients’ attitudes was not within the scope of this study.

Methods

Literature review

Our review was guided by the question: What is the research evidence supporting the clinical use of shared decision-making in orthopaedic surgery in general and, in particular, in lower limb joint replacement? We searched Medline, EMBASE, CINAHL, and The Cochrane Library for the years 1966–2005, using the key terms, ‘decision

making’, ‘patient choice’, ‘patient preference’, ‘patient participation’, ‘decision support techniques’, ‘orthopaedic’, ‘joint replacement’, ‘hip’, ‘knee’, and ‘lower extremity’. We also searched other online databases (NHS Economic Evaluation Database, Health Technology Assessment database, National Research Register), grey literature sources on the Internet, and the reference lists of published articles and reviews, and we contacted a lead researcher in the field of shared decision-making/patient decision aids. The search was limited to work published in English.

All primary research articles (whether analytical, descriptive, or qualitative) were retrieved if they investigated any aspect of or factors affecting patient involvement in decision making in orthopaedic surgery. Three reviewers (JAA, F-MK, RGT) independently appraised these retrieved articles in terms of their limitations, potential biases, interpretations, and conclusions, then all three agreed upon the articles selected for final review. For intervention studies, evidence for effectiveness was graded using the Oxford Centre for Evidence Based Medicine Levels of Evidence.¹⁰

Opinion survey

STUDY DESIGN AND PARTICIPANTS

We performed a cross-sectional postal survey of orthopaedic surgeons working in the National Health Service (NHS) in the UK. The study protocol was approved by Newcastle and North Tyneside Local Research Ethics Committee.

We derived a sampling frame of 1396 names from the British Orthopaedic Association (BOA) membership list. Our target sample size was 210 eligible respondents, allowing us to detect whether 80% of respondents report an overall positive view of patient decision aids, within a maximum allowable difference of 5%, with 95% confidence.¹¹ Assuming that 25% of our contact sample would not undertake hip or knee joint replacement surgery (according to a BOA survey of specialist interests), and assuming a non-response rate of 55%, we randomly selected a contact sample of 640 consultants from our sampling frame. One contact was actually ineligible, so a total of 639 consultants were invited to participate.

SURVEY QUESTIONNAIRE

We used a self-completed questionnaire modified from one used for a survey of US orthopaedic surgeons.¹² It was modified to account for differences in healthcare practice and use of language. Further changes were made after piloting the questionnaire with three orthopaedic surgeons.

The questionnaire first asked about participants’ demographic and practice characteristics, then outlined the concepts of shared decision-making and patient decision aids. Next, it elicited the respondents’ overall opinions about the

idea of using patient decision aids in shared decision-making in joint replacement practice and about the helpfulness of patient decision aids as tools to support communication. To elicit specific opinions, the questionnaire asked respondents to indicate the appropriateness of discussing each of 10 topics with patients (Table 4), then, for each topic deemed appropriate, to indicate whether they felt patient decision aids would particularly help with communication about that topic. Next, the questionnaire asked about preferred media for patient decision aids, preferred models of practice for providing them, and factors that would enhance/interfere with their use. Finally, an open question asked for any additional comments.

A covering letter, participant information sheet, and reply-paid envelope accompanied the questionnaire. Reminder letters were sent at 3 and 6 weeks, with a replacement questionnaire included at 6 weeks. Responses were collected between April and July 2005.

DATA ANALYSIS AND STATISTICAL METHODS

Descriptive statistics summarised respondents' demographic and practice characteristics. Due to data protection restrictions, we were unable to compare characteristics of respondents with non-respondents; however, to assess whether our sample was representative, we compared their characteristics to summary data derived from the entire sampling frame.¹⁵

Frequencies/percentages were used to describe responses to opinion questions. We calculated the 95% confidence interval (CI) for the proportion with overall positive views to patient decision aids, using the normal approximation to the binomial distribution. Because the patient decision aids is a recent phenomenon, consultants longer out of training may be less willing to consider their use. Hence, we used the chi-squared test for linear trend to investigate the relationship between length of time as a consultant and having a positive attitude to use of patient decision aids, and the unpaired *t*-test to compare mean ages of those who regarded the use of patient decision aids as a 'good' or 'excellent' idea and those who responded otherwise. The value for *P* was set at 0.05. Content analysis was applied to free-text responses.

Results

Literature review

Our search strategy identified 741 original references. Seven met our inclusion/exclusion criteria and were of sufficient quality. Three involved interventions in shared decision-making,¹⁴⁻¹⁶ and four were articles on patient and professional perceptions of the decision-making process.^{12,17-19} Summaries of the papers' results and our critical appraisals appear in Tables 1 and 2.

Opinion survey

RESPONSE RATE

Of 639 individuals, 362 returned a questionnaire, giving a crude response rate of 57%. Of these, 90 (25%) reported that they did not perform hip or knee joint replacement surgery. Thus, 272 eligible completed questionnaires were available for analysis, giving a 57% response rate from eligible participants contacted ($272/(0.75 \times 639)$).

DEMOGRAPHIC AND PRACTICE CHARACTERISTICS

The typical respondent was a male in his mid- to late-40s who had been a consultant for 6–10 years, saw 20 patients per month for consideration of joint replacement, and performed five knee and/or hip replacements per month. Survey respondents' characteristics are similar to the sampling frame; hence, respondents appear representative of UK consultant orthopaedic surgeons (Table 3).

OVERALL ATTITUDES

Figure 1 illustrates respondents' overall opinions about using patient decision aids in primary joint replacement practice. Fifty-eight respondents (21%) did not answer this question. Of 214 valid responses, 168 (79%; 95% CI = 73–85%) responded that the use of patient decision aids is either 'a good idea' or 'an excellent idea'. Only nine respondents (4%) thought patient decision aids were 'not a good idea', and none thought them 'harmful'. There was no association between length of time as a consultant and having a positive attitude to patient decision aids (χ^2 for trend = 3.19; *P* = 0.07). Similarly, there was no significant difference in age between those who regarded the use of patient decision aids as 'a good idea' or 'an excellent idea' and those who responded otherwise (*P* = 0.38).

DISCUSSION TOPICS

Table 4 shows responses to questions regarding the appropriateness of 10 discussion topics and the helpfulness

Figure 1 Respondents' attitudes towards using patient decision aids: distribution of responses.

of patient decision aids to communicate these topics. There was strong agreement that the following should be discussed with patients: what the surgical procedure involves; relative benefits and risks of treatment options;

and what non-surgical management involves. When respondents agreed that a topic should be discussed, the majority (70% or more) thought patient decision aids would aid communication.

Table 1 Review of articles on patient decision aid interventions

Reference (country)	Spunt <i>et al.</i> ¹⁴ 1996 (US)
Population (number)	Adults with low back pain considering surgery ($n = 239$)
Study design	Case series (pretest/post-test)
Intervention	Interactive videodisc programme
Control/comparator	No control group
Outcomes	(1) Rating of videodisc content. (2) Treatment preference
Results	(1) Understandability and interest rated by 84% and 64% as very good or excellent; 75% thought amount of information appropriate, and 56% thought discussion of surgical versus non-surgical options was balanced. (2) Only 17% undecided about treatment after compared to 29% before
Strengths	Large study. Good response rates overall and to individual questions. Performed in 'real-life' circumstances
Weaknesses	Patients may not be representative of all patients considering surgery. Uncontrolled study (cannot rule out physician education effects)
Level of evidence	4
Reference (country)	Deyo <i>et al.</i> ¹⁵ 2000 (US)
Population (number)	Adults with low back pain with indication for surgery ($n = 393$)
Study design	RCT
Intervention	Interactive videodisc programme + booklet
Control/comparator	Information booklet alone
Outcomes	(1) Satisfaction with care/decision-making. (2) Health outcomes. (3) Rates of surgery
Results	(1) No differences for satisfaction, but videodisc group felt better informed ($P = 0.005$). (2) No difference at 1 year for symptoms, disability, employment status, percentage claiming compensation. (3) Trend to lower surgery rates in intervention group (26% versus 33%; $P = 0.08$); patients with herniated discs in the intervention group had 15% less surgery ($P = 0.05$)
Strengths	Correct, blinded randomisation method described. Intention-to-treat analysis and < 15% loss to follow-up. All patients had standardised assessments
Weaknesses	Not blinded. Underpowered for some analyses
Level of evidence	1b
Reference (country)	Phelan <i>et al.</i> ¹⁶ 2001 (US)
Population (number)	Adults with low back pain with indication for surgery ($n = 100$)
Study design	RCT
Intervention	Interactive videodisc programme + booklet
Control/comparator	Information booklet alone
Outcomes	(1) Knowledge. (2) Rating of materials. (3) Treatment preference
Results	(1) Improved score in both groups. Improvement adjusted for baseline score, age, education gender and diagnosis favoured the videodisc group ($P = 0.05$). Those with low base-line scores improved most in videodisc group ($P = 0.02$). (2) 93% in videodisc group thought materials easy to understand compared to 72% controls ($P = 0.04$). No other significant differences. (3) Videodisc group expressed lower preference for surgery (23% versus 42%; $P = 0.4$)
Strengths	Correct, blinded randomisation method described. Intention-to-treat analysis and < 15% loss to follow-up. All patients had standardised assessments
Weaknesses	Not blinded. No power calculation
Level of evidence	1b

Table 2 Review of articles on patient and professional perception

Reference (country)	Karlson <i>et al.</i> ¹⁷ 1997 (US)
Population (number)	Adults with moderately severe osteoarthritis of hip or knee ($n = 30$)
Study design	Qualitative research
Methods	Focus groups
Outcomes	(1) Impact of osteoarthritis. (2) Decision-making processes re total joint replacement
Results	(1) Women tended to tolerate a lower functional level than men, and talked of 'suffering' more. (2) Male participants more likely to consider surgery earlier in disease process. Men trusted doctors/medical care more. Women more fearful of surgery. Women more concerned about being dependent during rehabilitation period, and worried about impact on social roles
Strengths	Appropriate methodology. Data collection and analysis well-described. Quality control discussed
Weaknesses	Researcher's perspective not taken into account. Sample not representative of general population
Reference (country)	Hawker <i>et al.</i> ¹⁸ 2004 (Canada)
Population (number)	Adults in general population with disabling arthritis, not listed for total joint replacement ($n = 379$)
Study design	Cross-sectional survey
Methods	Interviewer-administered structured questionnaire
Outcomes	(1) Willingness to consider total joint replacement. (2) Association of willingness with perceptions of others/perceptions of the decision/personal and external resources
Results	(1) Only 33.5% probably or definitely willing to consider total joint replacement. (2) Willingness independently associated with age < 75 years; worse perceived arthritis severity; perceiving total joint replacement as appropriate for moderate, controlled joint pain; walking limited to < 1 block; the risk of revision as acceptable; friends as an important information source ($P < 0.05$ adjusted odds ratio)
Strengths	Large numbers. Good response rate (87%)
Weaknesses	No discussion of measurement tool validation. Other possibly relevant factors not included in survey. Hypothetical treatment choice. Sample may not be representative of underlying population
Reference (country)	Clark <i>et al.</i> ¹⁹ 2004 (Canada)
Population (number)	Adults in general population with disabling arthritis, unwilling to consider total joint replacement ($n = 17$)
Study design	Qualitative research
Methods	Semi-structured interviews
Outcomes	Influences on decision-making re total joint replacement
Results	Symptoms and information sources main influences, with peers highly influential. Participants engaged in weighing up of individualised costs and benefits. Accommodation to symptoms and minimisation of quality-of-life gains, in view of limited life expectancy, produced constantly shifting threshold at which total joint replacement would be considered
Strengths	Appropriate, well-described qualitative methodology. Quality control discussed
Weaknesses	Researcher's perspective not taken into account
Reference (country)	Llewellyn-Thomas <i>et al.</i> ¹² 2003 (US)
Population (number)	Orthopaedic surgeons with a specialist interest in hip and knee surgery ($n = 664$)
Study design	Cross-sectional survey
Methods	Self-completed postal questionnaire
Outcomes	(1) Response rate. (2) Attitudes to use of patient decision aids for shared decision-making
Results	(1) Response rate, 44% ($n = 294$). (2) 85% of those who answered question (77% of respondents) had positive views on use of patient decision aids
Strengths	Large numbers
Weaknesses	< 50% response rate. Sample may not be representative of target population. No discussion of questionnaire validation

Table 3 Characteristics of survey respondents and sampling frame

<i>Characteristic</i>	<i>Survey respondents (n = 272)</i>	<i>Sampling frame (n = 1396)</i>
Gender <i>n</i> (% item respondents)		
Male	262 (98.1)	1351 (96.8)
Female	5 (1.9)	45 (3.2)
Number of responses (% all respondents)	267 (98.2)	1396
Age (years)		
Mean	47.2	47.1
Median	46.0	46.0
SD	7.6	7.2
Range	34.0–65.0	33.0–66.0
Number of responses (% all respondents)	261 (96.0)	1396
Years as a consultant <i>n</i> (% item respondents)		
0–5	88 (32.8)	533 (38.2)
6–10	63 (23.5)	394 (28.2)
11–15	52 (19.4)	227 (16.3)
16–20	25 (9.3)	104 (7.5)
> 20	40 (14.9)	138 (9.9)
Median response	6–10 years	6–10 years
Number of responses (% all respondents)	268 (98.5)	1396
Number of total joint replacement consultations/month		
Mean	26.2	Not available
Median	20.0	
SD	17.9	
Range	2–100	
Number of valid responses* (% all respondents)	254 (93.4)	
Number of primary total knee replacements/month		
Mean	6.8	Not available
Median	5.0	
SD	5.8	
Range	0–50	
Number of valid responses* (% all respondents)	265 (97.4)	
Number of primary total hip replacements/month		
Mean	7.5	Not available
Median	5.0	
SD	7.7	
Range	0–70	
Number of valid responses* (% all respondents)	265 (97.4)	

*Responses of > 100 for total joint replacement consultations/month ($n = 4$) were declared invalid as it was felt that this number was unlikely as a monthly rate; similarly, responses of > 80 for total knee replacements/month ($n = 2$) and total hip replacements/month ($n = 1$) were declared invalid.

Table 4 Appropriateness of discussion topics/helpfulness of patient decision aids

<i>Topics</i>	<i>Discuss with patient? n (% of item respondents)</i>	<i>Patient decision aid helpful? n (% of respondents who would discuss topic)</i>
1. What the surgical procedure involves (time in hospital, rehabilitation plans, etc.)		
Yes	268 (99.6)	220 (85.6)
No	1(0.4)	37 (14.4)
NR	3	11
2. What non-surgical management involves (medications, physiotherapy, etc.)		
Yes	264 (98.1)	214 (84.6)
No	5 (1.9)	39 (15.4)
NR	3	11
3. The relative benefits of non-surgical and surgical treatment		
Yes	264 (98.5)	206 (81.4)
No	4 (1.5)	47 (18.6)
NR	4	11
4. The relative risks/side-effects of non-surgical and surgical treatment		
Yes	265 (98.9)	218 (84.5)
No	3 (1.1)	40 (15.5)
NR	4	7
5. The financial costs to the patient of non-surgical versus surgical management (self-funding private patients only)		
Yes	167 (63.7)	112 (69.6)
No	95 (36.3)	49 (30.4)
NR	10	6
6. Published clinical practice guidelines for non-surgical and surgical treatment		
Yes	160 (59.9)	132 (84.6)
No	107 (40.1)	24 (15.4)
NR	5	4
7. Discussion of geographic variation in total joint replacement surgery in the UK		
Yes	38 (14.2)	27 (73.0)
No	229 (85.8)	10 (27.0)
NR	5	1
8. An assessment of the patient's understanding of information about having or not having surgery		
Yes	211 (79.3)	144 (70.6)
No	55 (20.7)	60 (29.4)
NR	6	7
9. An assessment of the patient's attitudes about the risks/benefits of having or not having surgery		
Yes	201 (75.0)	139 (70.9)
No	67 (25.0)	57 (29.1)
NR	4	5
10. Provision of a written 'take away' action plan for managing the joint problem, with or without surgery		
Yes	187 (69.5)	165 (90.7)
No	82 (30.5)	17 (9.3)
NR	3	5

NR, no response.

Table 5 Preferred media for patient decision aids

<i>Medium</i>	<i>No. of responses (%)</i>
Booklet alone	145 (53.3)
Audio tape and booklet	38
DVD	16 (5.9)
World Wide Website	12 (4.4)
CD-ROM	8 (2.9)
Other	29 (10.7)
Multiple media	25
Clinician–patient communication	3
Information-based questionnaire	1
No response	6 (2.2)
Total	272 (100)

FEASIBLE MEDIA AND PRACTICE MODELS FOR PATIENT DECISION AIDS

Over half of the group (145 respondents; 53%) preferred a booklet alone (see Table 5). Of five possible practice models (see Table 6), 117 respondents (43%) chose the ‘take home’ model.

PROPERTIES OF PATIENT DECISION AIDS MOST LIKELY TO INFLUENCE THEIR USE

The three factors most likely to encourage the use of a patient decision aid were if it: improved patient understanding (38% of responses); helped communication (25%); and helped patients clarify what is important to them (15%). The three factors most likely to discourage the use of a patient decision aid were if it: affected out-patient workload (23% of responses); was not kept up-to-date (22%); and was disliked by patients (20%).

FREE-TEXT RESPONSES

Seventy-two respondents (26%) added free-text comments. The main themes involved were: concerns about patient decision aids (30 comments); perceived benefits of patient decision aids (11 comments); and examples of current practice (14 comments).

Concerns about patient decision aids included: costs of implementation; the ‘one size fits all’ approach to patients; elderly patients may not be comfortable with newer information technologies; a generic patient decision aid may not be relevant to local practice; and the use of patient decision aids by non-medical staff may exclude surgeons from decision-making. Perceived benefits all related to achieving a better-informed patient. Some respondents gave details about using different types of patient education tools in their practices; however, there was no mention of the formal use of patient decision aids as defined here.

Table 6 Preferred practice model for using patient decision aids

<i>Practice model</i>	<i>No. of responses (%)</i>
Pre-consultation model	49 (18.1)
Patient is sent decision aid before the first consultation. Expected to work with it at home. Arrives at the first consultation ready to discuss options with the clinician and a decision is made	
At consultation model	36 (13.2)
Patient receives decision aid from you at the first consultation. Looks at it in the clinic during this visit. Then discusses options with the clinician and a decision is made.	
Viewing area model	24 (8.8)
At the first consultation, patient is referred to a viewing area outside the clinic. Discusses options with viewing area staff. Returns to the clinic at a later visit to make a decision	
Take home model	117 (43.0)
At the first consultation, patient is given decision aid to take home. Expected to work with it at home. Arrives at second visit ready to discuss options with the clinician and a decision is made.	
Other	39 (14.3)
No response	7 (2.6)
Total	272 (100)

Discussion**Literature review**

Our review confirms the lack of published research on shared decision-making and patient decision aids in orthopaedic surgery, with no evidence about the use of patient decision aids for patients considering total joint replacement. All studies included in our review had been carried out in North America; given the differences in the organisation and provision of healthcare in the UK, their results may not be generalisable to the UK.

The single orthopaedic patient decision aid identified in the literature appears to increase knowledge and promote shared decision-making, and may decrease the uptake of surgery for back pain without affecting health outcomes. These observations have been confirmed by research in other specialties.⁷ However, caution is required in generalising these results to other orthopaedic procedures.

Differences in gender, beliefs, and values appear to influence patients’ decision making about joint replacement surgery. This evidence supports the argument that, in general, orthopaedic patients’ knowledge and attitudes

should be taken into account, and, in particular, patient decision aids should be designed to take these individual factors into consideration.

The main weakness of the review is the small number of studies identified. On the other hand, using a systematic search and appraisal strategy implies that this overview should represent a reasonable critical review of the available literature. There may be a bias towards research published in English as the search strategy excluded foreign language publications.

Opinion survey

This is the first national survey of doctors in the UK regarding attitudes to patient decision aids. It has confirmed that orthopaedic surgeons are receptive to the use of patient decision aids as tools to support shared decision-making in their practice. This observation is compatible with studies of professional attitudes in North America.^{12,20,21}

Survey respondents did not agree on all the suggested discussion topics. More than a third felt that discussion of clinical guidelines and financial costs should not be part of the consultation. One-fifth and one-quarter of respondents, respectively, felt that assessments of the patient's understanding of information and attitudes to risks/benefits need not be undertaken. Only 14% of respondents indicated it would be useful to discuss geographic variation in surgery rates, which suggests that this issue is not relevant to UK practice. Interestingly, when a topic was deemed appropriate for discussion, respondents were generally positive about the helpfulness of patient decision aids.

Responses about feasibility may have been influenced by an understanding of the patient group (*i.e.* elderly patients) and a recognition of the limited resources available in the NHS. The majority favoured patient decision aids in booklet form, and favoured giving the patient the patient decision aid to take home. This preference for a booklet conflicts with current interest in exploring the use of patient decision aids on the Internet.^{22,23} Respondents acknowledged that elderly patients may not be comfortable with newer technologies, such as computers. Elderly patients may be more willing to assume a passive role in medical decisions.²⁴

There were concerns about the impact of using patient decision aids in busy out-patient clinics. A number of respondents stated that they would be unlikely to use a patient decision aid if it made out-patient work more complicated. Other concerns about patient decision aids include: cost; the need for regular updates; the use of a generic package; and the possibility that not all patients would benefit. Similar concerns were articulated in a qualitative study performed in Canada,²¹ where clinicians worried about: complexity of patient decision aids, cost, availability, appropriateness of patient decision aids for certain groups of patients, and the time required to incorporate

patient decision aids in patient consultations. Despite the generally positive attitudes to patient decision aids, there may be challenges to implementing a patient decision aid in routine orthopaedic clinical practice.

The main study limitation is the possibility of non-response bias, given our response rate of 57%. However, comparison of respondent and sampling frame summary characteristics showed similarities in terms of gender, age and length of time as a consultant.

Conclusions

Informed patient choice is now an ethical imperative, and partnership with patients is established NHS health policy.²⁵ The shared decision-making approach allows increased patient involvement in, and ownership of, clinical decisions; high-quality patient decision aids can support shared decision-making. However, despite the increased emphasis on patient involvement in decision-making, there is little evidence in the medical literature on shared decision-making or the use of patient decision aids in orthopaedic surgery. This is an area that requires further research.

This national survey demonstrates that consultant orthopaedic surgeons in the UK are generally positive about the use of patient decision aids for total joint replacement surgery, and provides some insight into what they think would be feasible in routine practice. For future developers of patient decision aids for elective joint replacement in the UK, the challenge is to produce a patient decision aid that meets appropriate quality standards, works for this particular group of patients, fits into resource-limited NHS systems, remains up-to-date, is seen as locally relevant, and meets the needs of the individual patient.

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