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Patients' journeys through total joint replacement: patterns of medication use

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ABSTRACT

Objective: Medication is used to manage pain that results from both osteoarthritis and total joint replacement (TJR). Research has provided insight into how people living with osteoarthritis use pain relief medication. However, it is not known whether elective TJR affects existing attitudes and behaviours with regard to pain medications. Using qualitative methods, our study explored patterns of pain relief use around the time of TJR.

Method: In-depth face-to-face qualitative interviews were carried out with 24 patients two-four weeks after they had undergone TJR for hip or knee osteoarthritis. Participants were asked to reflect on their use of pain medication pre-surgery, whilst in hospital and while recovering from their operation at home. Transcripts of the audio-recorded interviews were imported into Atlas ti® and thematic analysis was used.

Results: Attitudes to pain relief medication and their use are not static. Many participants change their use of pain medication around the time of surgery. This shift was influenced by interactions with health professionals and changing views on the acceptability, necessity and value of pain relief in helping to manage an altered pain experience.

Discussion: Understanding reasons for medication-taking behaviour during the journey through joint replacement may be helpful to health professionals. Health professionals have a fundamental role to play in challenging or reinforcing different treatment beliefs, which is the basis for effective use of pain relief over the pre- to post- operative period.

Keywords: Osteoarthritis; pain; pain medication; qualitative

INTRODUCTION

In keeping with other long-term conditions, people with osteoarthritis (OA) often become 'experts' in illness management and self-care (Holden et al., 2012; Kennedy et al., 2007; Keysor et al., 2003). In OA, strategies include exercise, weight management and medication (NICE, 2008), with medication options such as paracetamol (acetaminophen), non-steroidal anti-inflammatory drugs (NSAIDs) and opioids (Gooberman-Hill et al., 2010; Milder et al., 2011; NICE, 2008; Sale et al., 2006). It is thought that pain medication is more effective when taken pre-emptively and at regular intervals (Blamey et al., 2009), but individuals living with chronic non-malignant pain do not always take their medications as prescribed, with prevalence of non-adherence ranging from 7.7%-52.9% (Broekmans et al., 2009).

Adherence to medication is complex. Although non-adherence can be unintentional (e.g. forgetting to take a dose) other factors, such as a dislike of taking pills or concerns about safety, reflect a considered decision-making process (Pound et al., 2005). Recent qualitative research has highlighted the complexity of adherence to pain relief medications for OA. Older people recruited from primary care settings in Australia prefer NSAIDs rather than other options (Milder et al., 2011), while research in Canada has shown that older people with OA do not take their pain medication as prescribed because of their perceptions and attitudes to pain (Sale et al., 2006). Taken as a whole, such research provides important evidence about reasons for adherence or non-adherence to certain pain medications for people living with OA on a daily basis.

If conservative management strategies such as medication are not successful then total joint replacement (TJR) may be considered (NICE, 2008). TJR is a common elective intervention. In 2011 71,672 primary total hip replacement (THR) and 79,516 primary total knee replacement (TKR) operations took place in England and Wales (National Joint Registry, 2012). The demand for TJR is increasing globally (Australian Orthopaedic Association, 2012; Kurtz et al., 2011; Norwegian Arthroplasty Register, 2010; Swedish Hip Arthroplasty Register, 2009), and in an ageing population, demand is predicted to continue to grow (Kurtz et al., 2007).

Elective surgery to relieve symptoms of OA is a critical life event, a disruptive influence, albeit with a potentially desirable outcome. Although persistent pain is the key indication for TJR, the need for pain management continues after surgery (Joelsson et al., 2010; Niemi-Murola et al., 2007). Over half of patients undergoing TJR report moderate-severe pain on the first day after surgery (Wylde et al., 2011a). Chronic post-surgical pain is also common, with 10-34% of TKR patients and 7-23% of THR patients reporting pain three-four years after their operation (Beswick et al., 2012). The pain associated with both OA and TJR confirms the need for patients to receive appropriate intervention at all stages of the illness trajectory.

Although research has already provided insight into how older people living with OA use and feel about pain medication (Milder et al., 2011; Sale et al., 2006), it is not known how undergoing TJR affects existing attitudes and behaviours with regard to pain medications. Understanding these has the potential to influence the design of appropriate pain management. Using qualitative methods, our study aimed to explore use of pain relief around the time of TJR.

METHOD

Study design

A qualitative in-depth interview study with patients undergoing hip or knee TJR for OA was nested within a randomised controlled trial comparing intra-operative methods of wound anaesthesia in TJR (the APEX trial (ISRCTN96095682)) (Wylde et al., 2011b). Qualitative methods were chosen to access participants' behaviour and opinions, and to explore these in detail. The study was informed by phenomenology, a philosophical framework that is concerned with how people gain knowledge of the world around them (Willig, 2001) and focuses on the lived experience (Fade, 2004). This stance was chosen because it would facilitate an understanding of participants' subjective experiences of using pain relief around the time of TJR and provided insight into their motivations to do so.

Sampling and recruitment

Participants in APEX were asked if they were willing to be contacted about taking part in an in-depth interview. Of those agreeing to contact, we identified a sample of men and women, who were a range of ages and who comprised a balance of THR and TKR patients. A member of the research team (EJ) telephoned individuals in this sample and asked if they were still interested in being interviewed. Of the 26 people contacted, 25 agreed to see the researcher to discuss study participation and interview, however one of these subsequently withdrew from APEX and was no longer eligible to take part. Once 24 participants had been interviewed recruitment was stopped because scrutiny of the data showed that saturation had been reached, such that no new insights were being achieved by the end of data collection (Sandelowski, 1995).

Sample

All 24 participants (11 men and 13 women, ages 26-92 years) had undergone either THR (n=14) or TKR (n=10) at a single UK NHS Trust. Five participants had experience of undergoing previous joint replacement surgery (Table 1). All initials refer to pseudonyms.

[Insert Table 1]

Data collection

Interviews lasting between 45-120 minutes were conducted two-four weeks after surgery. All were undertaken in participants' own homes by one of the authors (EJ) over a nine-month period (April 2010–Jan 2011). Interview questions were informed by a semi-structured topic guide which was developed in discussion with patient representatives and informed by existing literature and previous research in this area. The topic guide aimed to elicit experiences of surgery and post-operative recovery, changing experience of pain, views on and experience of pain relief and experience of trial participation. Core questions included: How did you manage the pain and discomfort that you had before your operation? How in control of your pain management did you feel whilst you were in hospital? Please can you describe to me how you felt about taking pain relief after your operation? Probes were used to facilitate

elaboration and depth. The data presented here focus on participants' attitudes towards and use of pain relief medications before hospital admission, during their hospital stay, and on return home after surgery.

Data analysis

Analysis began shortly after data collection started and was on-going and iterative. Analysis informed further data collection such that early findings were used to refine the topic guide and identify questions to ask in future interviews. Anonymised transcripts of audio-recordings were imported into the qualitative data management software package Atlas ti® and analysed using inductive thematic analysis. This analytical approach provides 'a rich and detailed, yet complex, account of data' (Braun and Clark, 2006). One member of the research team (EJ) first identified thematic codes which were grounded in the data. Next through identifying connections between the codes she clustered them into super-ordinate themes. To ensure robust analysis, another team member (JH) concurrently and independently coded four transcripts. A consensus about the final list of themes was reached through discussion among the research team (EJ, JH, RGH). Following analysis we discussed our findings with a dedicated patient forum, a specialised group comprising individuals who have experience of musculoskeletal conditions and treatment, including joint replacement. This was an excellent opportunity to receive feedback from patients on our themes and to gain new perspectives. To enhance understanding of the whole data set, those aspects of data that appeared to contradict general experiences, were identified and explored. We did not analyse the data according to the group allocation of participants within the randomised trial because this nested qualitative study was designed to explore beliefs and behaviour rather than pain severity at 12-months after surgery, which was the primary outcome in the trial.

Ethical approval

Ethical approval was provided by Southampton and South West Hampshire NHS Research Ethics Committee (B) (09/H0504/94). All participants provided their written, informed consent to take part immediately prior to interview.

RESULTS

Participants reflected on their use of pain relief medication pre-surgery, during their hospital stay and while recovering from their operation at home. Two super-ordinate themes relating to patterns of pain relief during these periods were identified: shifting acceptability; and necessity and value (Figure 1). Brief summaries of shared patterns of pain relief use at each time point precede the presentation of themes.

[Insert Figure 1]

Patterns of pain relief use during the pre-operative period (Box 1): Most participants reported that they had not used regular medication for their OA pain in the lead up to surgery. This was despite easy access to non-prescription medication such as paracetamol and ibuprofen, and the receipt of prescriptions for stronger pain relief including co-codamol, tramadol and codeine. Participants spoke of how, although living with chronic pain and discomfort, they had avoided and restricted their use of medication at this time. For instance, participants had chosen not to take pain relief on a daily basis or had not taken the full prescribed or potential dose. Use was often intermittent and occasional. They expressed a common, enduring resistance towards reliance on pain relief.

Patterns of pain relief use during the hospital stay (Box 1): Participants stayed in hospital for 3-18 days (mean length of stay: six days). When talking about the experience of their hospital stay, many participants indicated that they temporarily changed their use of pain relief at this time. They described a newfound willingness and motivation to take full and regular doses of pain medication in the face of acute post-operative pain.

Patterns of pain relief use while recovering at home (Box 1): On discharge from hospital, participants received medications, including codeine and tramadol. They also had access to prescription medication from family doctors (GPs) and over-the-counter medication. After discharge from hospital, participants initially continued to take their medications as regularly as they had done as in-patients. This behaviour

contrasted with their pain management prior to TJR when many only took medication from time to time. However, many reported that within a few days of coming home, they returned to their pre-surgical pattern of medication use. This was not solely related to pain severity, as participants said that they had cut back on their use of pain medication whether or not they were still in pain. Those who had not already started to do this at the time of interview (two-four weeks post-surgery) nonetheless spoke of their plans to shortly begin restricting and 'toning down' their use.

Shifting acceptability (Box 2)

Patterns of pain medication use were influenced by beliefs that participants held about the acceptability of their use. There was a perception that using medication to manage pain was acceptable in the short-term but was an unacceptable long-term strategy. This was driven, in part, by a belief that taking pain relief over a prolonged period of time carries and increases the risk of dependency. Consequently these concerns served to direct participants to actively limit their use of pain medication during the pre-operative period, a time when many were living with chronic pain.

Recognising this difference between the acceptability of short-term and long-term use can help to explain why participants' willingness to use pain relief medication changed during their time in hospital and when initially returning home. Participants' perception of the acceptability of relying on pain medication during this post-operative phase, and their subsequent behaviour, was influenced by the view that post-surgical recovery was a time-limited period. In light of this, they started to reduce their pain medication as time passed because of the desire to return to a pre-surgical situation in which they limited their medication intake.

Participants' decisions about medication use were also influenced by other factors. For example, participants spoke of weighing up the acceptability of using pain medication against the acceptability of living with pain and associated limitations and restrictions. This sometimes meant that they cut down on use and did not request additional medications from health professionals despite their pain. Concerns about side effects also influenced changes in reported use. These concerns were affected by personal

experience, information on medication leaflets, and knowledge of others' experiences. Furthermore, participants' decisions were based on beliefs about different types of pain relief. Their accounts revealed that they often distinguished between 'light' non-prescription medications and 'heavy' prescription medications. This meant that despite living with substantial pain, and the limitations and restrictions on daily life it imposed, some participants were very reluctant to make the transition from 'light' to 'heavy' pain relief medication. While some of this reluctance was due to concern about side effects, their statements also revealed that it also related to a desire to avoid letting oneself down, and to ensure that some pain management resources remained available if the need arose.

Necessity and value (Box 2)

Participants expressed beliefs about the necessity and value of medication to help them manage their changing pain experience. Medication use was in part a moral decision, based on ideas about when it was right to take analgesia. Although many talked of experiencing chronic pain prior to surgery, most did not think the pain was 'bad enough' to warrant medication use. Regular use of pain medication was seen as little value in a moral landscape in which pain had to be severe to trigger medication use. During the pre-operative period participants would first 'wait and see' if they could manage without taking analgesia. Occasional use was based upon a personal judgement about whether pain had reached a self-imposed threshold. Medication was only taken as a last resort to make pain bearable and there was little expectation that it would eliminate the pain completely. An inability to predict the onset of more acute and intense OA pain also served to limit the value of taking regular pain relief. However, some participants were able to identify periods of time or certain activities for which they made exceptions. During these, or in preparation for them, they would take pain relief medication with more frequency or at higher doses than normal. These periods and activities included holidays and recreational activities, but the use of pain relief medication continued to be tempered by firmly held beliefs about whether it was acceptable to take medications.

However, participants also reported that the intensity of pain and discomfort that they experienced immediately after surgery outweighed their concerns about certain medications, resulting in increased

pain relief medication use. This perception that reliance on pain relief was needed to help them cope with the pain originating from major surgery also continued to permeate their experiences during the initial recovery period at home. This served to curtail their long-term resistance towards use of pain medication. The use of regular pain medication post-operatively was also recognised by participants as an imperative component of their recovery process – both during their hospital stay and after discharge. Regular use was deemed essential to ensure that they could perform key behaviours (e.g. exercising) that would aid recovery of function. Again, this view that pain relief medication was necessary at this time helped to override any long-held negative attitudes towards pain medication. It was at this time that pain relief for some also changed from a ‘non-essential’ medication to an ‘essential medication’, of equal status to other types of medicines (e.g. antihypertensive medication, statins) taken regularly for other health conditions (e.g. high blood pressure, cholesterol).

Participants’ views about the value of pain relief medication were also balanced against the pain severity experienced during the weeks post-operatively. At two-four weeks after their surgery, three participants were no longer taking any pain medication because they felt themselves to be free of any significant pain. They saw no real value or continued benefit of taking medication.

External influence on behaviour and beliefs (Box 3)

The accounts of several participants suggest the key role that health professionals play in influencing use of pain medications. Communication and interaction between patient and professional during the pathway through TJR can influence the perceived acceptability, necessity, value and subsequent frequency of use. Some participants sought their GPs’ advice about pain management during the pre-operative period and this resulted in changed patterns of medication use. At this time consultations with health professionals were also of value in helping participants to increase the effectiveness of their pain management by facilitating a move from ‘light’ pain relief to the ‘heavier’ prescription only drugs. The role and influence of health professionals in participants’ medication use continued to increase when they entered the hospital environment to have their operation. At this time, most participants no longer held-firm to their previous beliefs about the acceptability, necessity and value of pain relief when

‘experts’ were available to provide pain management. Instead they trusted health professionals to provide them with only those medications that were needed to help with the recovery process.

The accounts of many also highlighted the heightened influence of health professionals on their post-operative pain management. For example, health professionals’ advice influenced some participants’ decisions to continue with regular use of pain relief during their initial period of recovery at home. An apparent willingness to follow the advice of health professionals suggests participants were open to ‘sharing’ the control of their pain management at this time.

Identifying negative cases (Box 3)

Although most participants described their patterns of pain relief medication in the way that has been outlined, some exhibited a rather different approach. Three participants described their ongoing willingness to take pain relief for both their OA and post-surgical pain. This willingness related to a view that regular use of medication was effective and had a positive impact, together with the assertion that side effects were minimal. Conversely, although the views of most participants showed willingness to increase medication use at the time of surgery, one participant (Mr Q) was consistently unwilling to take pain relief across all stages of the pre- to post-operative journey. He related this to whether or not he felt the ‘need’ for medication. His account revealed how he limited both his short- and long-term use of pain relief medication and he expressed reluctance to pass control over to health professionals, wanting to remain in control himself.

However, the underlying rationale for the choices made by these few individuals were ultimately the same as for all interviewees: participants who changed their medication use at the time of surgery did so in the belief that there was a transient need for pain relief, and this made it valuable. Those who did not change their use did so because they did not think that the medication was necessary or valuable at that time.

DISCUSSION

This study provides a detailed understanding of why people may or may not choose to take their pain relief medication during their transition to, through and after TJR for OA. Before surgery, most participants limited their use of pain relief medication, they then increased their use around the time of surgery and reduced them again in the weeks afterwards. These changes were not solely related to pain severity. Undergoing surgery has the potential to alter temporarily an individual's view of the acceptability, necessity and value of pain relief medication. This alteration is related to views about the cause of pain (pain from intervention versus pain from chronic condition) and interactions with health professionals. However, in the long-term undergoing surgery does not appear to override long-standing beliefs about the acceptability, necessity and value of pain medication.

It has been suggested that adherence to medication 'is dynamic in that daily decisions are affected by situational factors and constantly renegotiated' (Elliott et al., 2007). Our study shows that use of pain relief medication is dynamic also in the longer term, as patients respond to the critical, life event of surgery. Use of pain relief medication in OA have been shown to relate to a person's belief about their own ability to withstand pain (Milder et al., 2011; Sale et al., 2006), and this was evident in our findings. However, by focusing on the journey through surgery, we also found that these beliefs come into play during the post-surgical period. While it is not surprising that long-held views remain important, pain after surgery is not usually attributed to a long-term condition, but to the intervention itself. Given that health professionals and patients often view TJR as an intervention intended to cure OA pain (Gooberman-Hill et al., 2010; Toye et al., 2006), then it is significant that long-held beliefs about acceptable and appropriate management of a chronic condition continue to make their mark after surgery.

Most participants in our study emphasised their trust in health professionals to provide appropriate and necessary pain relief medication during their hospital stay immediately after their surgery. Health professionals appeared to exert considerable influence on patients' beliefs about the essential nature of pain medication at this time. While there is notable contact with health professionals EJ during the

hospital stay, in the pre-surgical period this contact is less frequent. After surgery, patients are discharged from hospital with pain medications, but contact with health professionals may be minimal. At this time there may be the potential for real engagement between patients and health professionals to understand reasons for patterns of medication use and to support patients more fully. Ultimately it may be useful for health professionals to recognise, as findings of this study suggest, that they can play a significant role in influencing (some) patients' attitudes to pain relief and their subsequent pain management behaviour. Furthermore, although we know that high levels of pain in the immediate post-surgical period are implicated in the development of chronic post-surgical pain (Perkins and Kehlet, 2000), we do not yet know if attitudes to pain relief medication during the weeks after surgery are part of this picture.

Use of in-depth interviews in participants' own homes facilitated detailed exploration of participants' patterns of pain medication use over the course of their TJR journey. Employing a topic guide in interviews ensured that the same areas were explored with all participants, but use of additional probing and reflecting also enabled exploration of salient and unanticipated issues. To maximise analytic rigour, analysis was conducted by the team and included double-coding and consensus to arrive at the final list of themes. Although we are not claiming that the experiences of these 24 patients are representative of everyone having TJR, the quality of data collection together with the rigour of analysis helped to ensure the trustworthiness of findings. A potential limitation of the study was our reliance on participants' self-reports of pain medication use. However, we were interested in participants' views about patterns and reasons for their use of pain medication rather than quantifiable information about medications. Participants' own insights about their medication use offers valuable data about these. However, we are aware that the cross-sectional study design comprising interviews after surgery entails a 'snap shot' of participants' experiences and required their retrospection. To limit the impact of this and potential recall bias, interviews took place soon after participants had undergone TJR. However, the timing of interviews does restrict the potential to explore whether TJR may influence longer-term beliefs and use of pain relief medication. A further potential limitation of the study was that all participants were recruited from one orthopaedic department. However, the department is a high volume centre

that carries out over 1,500 hip and knee procedures annually (National Joint Registry, 2013) and serves a wide geographic area. Participants received varied information and pain treatment from a diverse range of GPs around the region. In addition, we were not in the position to explore the influence of undergoing previous joint replacement on current experiences with regard to attitude towards and current use of analgesia. The role that past treatments, health and illness experiences may play in current patterns of medication use warrants further investigation.

Future research using a longitudinal design could explore whether there is any lasting impact of a major surgical intervention on attitudes to pain medication. It would also be important to explore whether patterns of use and attitudes to pain relief medication before and after surgery affect either the incidence or experience of chronic pain after joint replacement. With high rates of chronic post-surgical pain among those who have TJR (Beswick et al., 2012; Wylde et al., 2011c), this is a critical area for future research. Defining and assessing improvements in pain management in the lead-up to surgery and in the weeks, months and years afterwards should be a priority for studies that seek to influence care for people with OA.

CONCLUSION

Attitudes to pain relief medication are dynamic. When patients go through TJR, they may temporarily change their perceptions of the acceptability, necessity and value of taking pain relief. These changes are influenced by views about the cause of pain and through interaction with health professionals. However, once initial recovery from surgery has begun, long-standing beliefs about the appropriate use of analgesia in the management of pain may again take prominence. An understanding of patients' changing perceptions and the impact of their engagement with health professionals could inform the development of appropriate communication strategies about optimal pain management around the time of TJR.

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Tables and Figures

Table 1. Participant characteristics

Pseudonym	Age (years)	Gender	Operated joint	Previous joint replacement
Mrs A	73	Female	Hip	No
Mrs B	65	Female	Hip	No
Mrs C	72	Female	Knee	Yes (TKR)
Mr D	72	Male	Knee	Yes (TKR)
Mrs E	79	Female	Hip	No
Mr F	67	Male	Hip	No
Mrs G	59	Female	Hip	No
Mrs H	73	Female	Hip	No
Mr I	53	Male	Knee	No
Mrs J	64	Female	Knee	No
Mrs K	63	Female	Knee	No
Mrs L	46	Female	Knee	No
Mr M	50	Male	Hip	No
Mr N	45	Male	Hip	No
Mrs O	52	Female	Hip	No
Mrs P	76	Female	Knee	Yes (TKR)
Mr Q	75	Male	Hip	No
Mr R	26	Male	Hip	No
Mr S	76	Male	Knee	No
Mr T	74	Male	Hip	No
Mrs U	71	Female	Knee	Yes (TKR)
Mr V	66	Male	Knee	No
Mr W	92	Male	Hip	No
Mrs X	77	Female	Hip	Yes (THR)

Figure 1. Participants’ pain relief journey

Box 1. Shared patterns of pain relief use across the pre- to post-operative period

Patterns of pain relief use during the pre-operative period

I would take very, very rarely and only when the pain was unbearable ... I could go a month or six weeks without because I don't like taking tablets. (Mr N)

I mean even before I had my knee done, tablets might have been there but I didn't take them all the time did I. (Mrs J)

Patterns of pain relief use during the hospital stay

But I felt that I needed that, by golly that was needed without a doubt and I used to have one eye on the clock ... especially as things started to wear off. (Mr M)

Well I don't like taking them. ... and I just felt in so much pain I just had to take it. I wouldn't have walked otherwise, I wouldn't have got out of the bed. (Mrs U)

Patterns of pain relief use while recovering at home

They [medications] do make me a bit weepy. So hopefully I might not need to take them, that's what I'm hoping for say after three months but only take them now and again. (Mrs L)

I was on regular medication [when I came home after TJR], I was obediently taking it, accepting my bag of drugs that I came out with thinking, maybe I won't need all of that, but I did, and I went back to the GP, I did get some of the prescription replenished. But since then I've dropped the lower level medication down considerably. (Mrs O)

Box 2. Super-ordinate themes and quotations

Shifting acceptability

Long-term use: an unacceptable strategy in the face of concerns around dependency

Interviewer: Were you taking those regularly, the tramadol?

Mr I: I started taking them regularly but in the end I was just taking them if I did some work out in the garden I'd take some before I went out cause I knew it was gonna hurt. Take some then at the end of the day, but the days I was doing reasonably not too much I wouldn't take the tablets cause you don't wanna be reliant on them all the time.

So over a sort of time scale, means to an end, I'm very compliant. But it's the long-term aspect that I'm so defiant about. ... I'm fine around accepting it when it's short-term, short-term issue, and it's, it's deemed with a current problem. I can handle it then, yeah it's becoming a long-term reliance that frightens me. (Mrs O)

Short-term use: an acceptable strategy during time-limited recovery period

Interviewer: Those first few days when you came out of hospital, how often were you taking them then?

Mr F: Oh I were taking them as in hospital.... Oh I did [regularly] oh yes.... Yes, I didn't deviate off that at all, no, we had the first, at least the first three or four days definitely stuck to that regiment [sic].

Desire to return to pre-surgical situation

I am taking a little bit less if I can, I have cut back on the ibuprofen tablets although I did take one today, I didn't take two yesterday which I should have done. And this is purely just so that I can start to get myself motivated back to not taking tablets and dealing with the pain if I can. (Mr M)

Acceptability of using pain medication versus living with pain

I don't like this feeling.... I would rather put up with the pain than be feeling nauseous because it is a horrible feeling.... So I have cut down to one now. I have got to stop because they are not doing me

any good. They are stopping the pain but they are not making me eat. (Mrs P)

Acceptability of 'light' versus 'heavy' pain medication

I was very, very reluctant to get on that, on that track as far as the heavier duty medication was concerned. So I was managing with over-the-counter stuff really.... I suppose you always needed to know that you had a margin to, to operate with. I don't know, yeah letting yourself down. (Mrs O)

Necessity and value

Pain not 'bad enough'

I don't like taking tablets anyway, it's got to be bad for me to take a tablet.... And probably that's why I never took anything before I had the operation. Because it, to my mind, it wasn't that bad. (Mrs E)

The pain would have to be really, really, really bad for me to have a tablet and literally I'd have one that would ease it ... you wouldn't get that intensity for a while longer ... It would just take the pain threshold down to a manageable level. (Mr N)

Waiting and seeing

I felt well see if I could go around without taking them.... You know if you can manage without the tablets. (Mrs C)

Particularly when you don't know if there's an outcome to it, you tend to say well get it [the pain] under control and just take them [medication] on occasion just to keep knocking the edge off, which I did for a while I suppose. (Mr F)

Onset of pain too unpredictable

And you can't tell when the shooting pain's going to come anyway so what was the point? (Mrs G)

Exceptions to the rule

Mr S: Always half an hour before I started to play I would take two and that would just about last

me a round of golf. Then when I sat down afterwards and then stood up that's when the pain really came back.

Interviewer: Did you take some more after playing golf?

Mr S: No. No that was deliberate. I didn't want to. I mean I could have done but I wouldn't do it ... it's something in my head that says you shouldn't be taking all these drugs all the time. Perhaps it's a bit of masochism I don't know.

Intensity of pain and discomfort outweighing concerns

Interviewer: And how did you feel when you woke up?

Mr M: Rough, bloody rough, yes really rough, not right, and I was on a drip that I could control [patient controlled analgesia: morphine] but it was timed but I had to press the button to get any more, and it went to two minutes and thirty nine seconds because I counted thirty seven, thirty nine, yes, because I wanted that extra ... I was a bit worried, especially with morphine, of becoming addicted to morphine because I have heard stories about people who are but I am fine.

Necessity of pain relief in order to cope with and manage post-operative recovery process

I obviously knew I needed a load of tablets to get me through this. (Mr N)

Well I never used to take them [medication]. I never used to take them, I never used to take them for a headache. I used to just get on with it but now I think I've got to take it because I know it gets rid of the pain and that so it helps me and that but they do make me depressed don't they sometimes.

(Mrs L)

When I was in hospital, yes. And I had to struggle to get out of bed and, and take myself to the toilet. So in order to fortify myself, I had to, I knew I would have to take those painkillers, you see.

(Mrs X)

But since I've been out of hospital I have been taking paracetamol and ibuprofen four times a day, without thinking about it so that I can carry on exercising my leg and like they say, that way you just

keep on top of the pain all the time.... But I just keep on top of it, I will maybe after another week start to tone it [medication use] down again. (Mrs G)

Post-operative benefit of pain relief: short-lived

The only tablets I'm taking now is the anti-clotting ones. (Mrs H)

I felt, 'Oh, I don't know what the pain's about, so I'll take ... come off of them and see', but I haven't had any pain since. Touch wood. And then the next day, I thought, 'I'm coming off this sickness one as well, because why am I taking it if I'm not being sick now'. So I came off that as well. So all I'm taking is my blood pressure tablets and two aspirin, that's all I'm taking now. (Mrs E)

Box 3. External influences and negative cases

External influences during the pre-operative period

I was only taking paracetamol, four times a day, two four times a day. And then my Doctor said 'well you ought to be taking ibuprofen that will get the inflammation down' so I was taking ibuprofen.

(Mrs H)

I really suffered, but once we went to the GP and started some pain management, it was obviously a lot better then. (Mr F)

External influences during the hospital stay

Fine, no problem at all. No, no because you know they're not going to give you something you don't need. So, yes, that's not a problem. (Mr F)

Always coming round with your tablets ... and on their little rounds and anything from a couple of tablets at a time to about eight. You could have had a right cocktail sometimes.... I took whatever they gave me because ... I, they know what they're doing. I wouldn't have dreamt of not taking any of them because it's tried and tested so I had all the belief in it. (Mr N)

External influences during the post-operative period

Interviewer: Did the hospital recommend that you took those painkillers at the regular intervals?

Mrs G: Well yeah because they were saying 'keep on top of ... don't be silly and you don't have to suffer'.

Interviewer: So all the painkillers you've been taking since your operation, was that something that was discussed with you?

Mr N: Yes. They explained what benefits ... and obviously I've had to lower my guard on my tablet intake ... and I go with the experience and knowledge of people telling me.

Negative cases: on-going willingness to take pain relief

While as long as it manages the pain I don't mind. A lot of people say uh, 'you shouldn't take too many painkillers because you get addicted to them' but I've never been addicted to them all the years I've been taking them, not only for this knee but that knee and the back ... I find its ok. I don't overdo it at all. (Mr D)

I don't mind, I don't mind taking them, I don't worry about it. I don't like taking tablets obviously, but I've got to. So, but I don't mind taking tablets, as long as it deadens the pain or ache I don't mind. (Mr V)

I take them regularly and sometimes a little bit more than regularly ... you can't have too many painkillers. (Mr W)

Negative cases: on-going unwillingness to take pain relief

They did try to force a few pills down my throat. You will need these. I know what I need. I started to rattle, God that's enough of that you know. Instead of having two pain killers I was having one. I'm not a hero I just know when I need it. (Mr Q)

Mr Q: As I say I think I have taken about eight since I've come back altogether. I'm quite satisfied with that.

Interviewer: Do you envisage that you will carry on taking those?

Mr Q: Well if I got the pain yes but if not, well the ache, if not then I shan't cause I don't like pill popping.

Interviewer: Did you discuss that with them at the hospital or with your GP?

Mr Q: Nobody no. I don't need them to tell me what to do.