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Cheraghi-Sohi, S., Bower, P., Kennedy, A. et al. (6 more authors) (2013) Patient priorities in osteoarthritis and comorbid conditions: a secondary analysis of qualitative data. *Arthritis Care & Research*, 65 (6). 920 - 927. ISSN 0004-3591

<https://doi.org/10.1002/acr.21897>

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Patient priorities in osteoarthritis and co-morbid conditions: a secondary analysis of qualitative data

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Conflict of Interest: None

Word Count: 4249

This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process which may lead to differences between this version and the Version of Record. Please cite this article as an 'Accepted Article', doi: 10.1002/acr.21897

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Received: Apr 27, 2012; Revised: Oct 16, 2012; Accepted: Oct 23, 2012

Abstract:

Objectives A lack of agreement between clinician and patient priorities can impact on the clinician-patient relationship, treatment concordance and potentially health outcomes. Studies have suggested that patients with OA may prioritise co-morbidities over their OA, but as yet no explicit systematic exploration of OA patients' priorities in relation to co-morbidities exists. This paper aims to explore how patients prioritise OA amongst their conditions, what factors underlie this prioritisation and whether and why these priorities change over time.

Methods A secondary analysis of qualitative data was conducted utilising 4 existing datasets collated from the 3 research centres involved. Purposive sampling provided a sample of 30 participants who all had OA and co-morbidities. The research team collectively coded and analysed the data thematically.

Results Three groups of patient emerged from the analysis. The two smaller groups had stable priorities (where OA was or was not prioritised) and illustrated the importance of factors such as personal social context and the specific nature of the co-morbid conditions. The third and largest group reported priorities that shifted over time. Shifting appeared to be influenced by participants' perceptions of control and/or interactions with clinical professionals, and could have important consequences for self-management behaviour.

Conclusions The various factors underlying patients' priorities amongst their conditions and the fluctuating nature of these priorities highlights the importance of regular assessments during clinician-patient consultations to allow better communication and treatment planning and ultimately optimise patient outcomes.

Keywords: Osteoarthritis, co-morbidity, priorities, secondary qualitative analysis

Significance and Innovation

- Disagreement between clinicians and patients about priorities can impact on the therapeutic relationship and health outcomes.
- Studies have suggested that patients with OA may prioritise other conditions but there is no explicit, systematic exploration of this important issue. This study explores how co-morbidity patients prioritise OA amongst their conditions, what factors underlie prioritisation, whether and why these priorities change over time and what the potential consequences of shifting priorities may be.
- This study highlights the factors which may affect prioritisation, that patients have *time-specific priorities* and the potential consequences of shifting priorities. The authors recommend that exploration of patient priorities may be a useful feature of patient-centred assessments in patients with co-morbidity.

Osteoarthritis (OA) is the most common form of arthritis [1], with 10% of the world's population aged 60 or over reporting significant problems that can be attributed to OA [2].

The consequences of OA include: pain, restricted activity in daily life [2], direct costs (e.g. medication and other health care use) and indirect costs (e.g. disability related wage loss) [3].

The prevalence of many other conditions also rises with age, and consequently many OA patients often have co-existing chronic conditions or 'co-morbidities' [4]. Indeed studies suggest that the co-occurrence of multiple conditions in individuals is the norm rather than the exception [5]. People with co-morbidities are at higher risk of morbidity, mortality and frequent healthcare utilisation [6,7]. In the case of OA, co-morbidities are associated with: adverse effects on physical function [8] and outcomes of joint replacement [9] as well as increased mortality [8].

Despite the prevalence of co-morbidity, the dominant model of health care provision in many western countries is based on individual chronic conditions [10]. As a result, the majority of strategies and guidelines for chronic conditions, such as OA, are disease specific [11]. Thus, a mismatch exists between care delivery and patient need [12] which can lead to challenges in managing polypharmacy [13,14], barriers to self-care [15] and difficulties co-ordinating health care [16]. Clinicians also report difficulties in delivering care for patients with co-morbidities in the context of current arrangements, with pressures on time and other resources forcing them to adopt decision-making heuristics which may not be optimal [17,18].

One of the suggested mechanisms clinicians employ when dealing with patients with co-morbidities is to prioritise and then deal sequentially with the individual conditions [17].

The question of whether patients also prioritise amongst their conditions is critical as the association between patients' perceived health priorities and health behaviour is well documented [19]. Studies however continue to illustrate low patient-clinician agreement on health and treatment priorities [20,21] and a lack of agreement between clinician and patient priorities may impact on the clinician-patient relationship, treatment concordance and potentially health outcomes [22,23].

Limited evidence to date suggests that patients with co-morbidities *do* prioritise amongst their conditions, and for various reasons, can identify a 'main' condition [24,25].

Furthermore, a recent study illustrated that patients' priorities shift over time and that such fluctuation is in response to factors such as contact with health professionals [26]. Studies have suggested that patients with OA may prioritise other conditions [27-29] but as yet there is no explicit systematic exploration of this important issue.

This study aims to explore how patients prioritise OA amongst their conditions; what factors underlie prioritisation; whether and why these priorities change over time and what the potential consequence of shifting priorities are for self-management activity.

Patients and Methods

Secondary data analysis, or the re-analysis of primary data collected for other purposes, is increasingly common within qualitative research [30]. The method is advocated due to both

time and cost saving benefits as well as being effective in the generation of new knowledge and theory [31]. As a result, secondary data analysis is increasingly endorsed by major funding bodies such as the Medical Research Council (MRC) and the Economic and Social Research Council (ESRC) in the UK. The analysis presented in this paper is a particular form of secondary analysis, namely an *amplified analysis*, whereby the data from several datasets are combined for new analytical purposes or to explore new research questions [30,32]. In this study, datasets from four separate qualitative studies were combined (for details of the separate studies see table 1). The multi-centre research team selected these studies from their own research, on the basis that they contained data pertaining to OA (OA was effectively the 'index condition' of interest for 3 out of the 4 studies) as well as data on co-morbidities which were not the main focus for the original analyses.

The initial phase of the process was conducted by SCS who systematically combed and categorised the data in order to identify which of the participants would fall within the purposive sampling frame namely, those who had OA plus whose transcript contained a substantive narrative around one or more other condition(s) plus information pertaining to condition prioritisation. This process was carried out in order to ensure 'data fit' [30] (i.e. that the data fit the new questions being asked of it) and provided a total sample of 30 participants (see figure 1 for the number selected per study), the characteristics of which are provided in table 2. In brief, the total sample had a mean age of 69 years, was 60% female and had an average of 4 co-morbid conditions (range 2-9) in addition to their OA.

Whole transcripts were divided up amongst team members for analysis and in order to ensure that the analysis was 'naive' and critical [33], rather than confirmatory, individuals did not receive transcripts from their own primary studies. Furthermore, SCS was not part

of any of the primary studies and coded *all* transcripts. During the analytical process, SCS regularly met with individual team members to discuss emerging codes and themes. As a result, some codes and sub-themes were renamed, combined, or split. Wider team meetings were held to provide feedback on the emerging themes and interpretations of the raw data and codes to which they related to. Any disagreements were discussed until consensus was achieved and final themes agreed upon.

Results

All participants, except one (ID24),¹ made comparisons between their conditions and were able to prioritise/identify a 'main' condition amongst their conditions. Three 'groups' of participants emerged: 1) where OA was consistently identified as their 'main' condition, 2) where OA was not at any point identified as their main condition, and 3) where main conditions shifted over time. Finally, we stress the temporally situated nature of these findings i.e. priorities are time-specific.

OA prioritised over other conditions

Only two participants - IDs 4 and 11- appeared to consistently identify and prioritise their OA as their 'main' condition, over and above their other conditions. Despite perceived pain levels improving over the study period, current and future concerns regarding the impact of OA on their *functional* abilities, particularly mobility, were central to both of these accounts:

¹ID24 did not identify a single priority condition, stating that he simply did not view his health that way and that he either felt well or unwell. Such a view fits with the shifting perspectives model of chronic illness in single conditions, whereby patients hold either an illness or a wellness perspective in the foreground [34].

Actually, I am more worried about my knee than my heart [laughing]..., because, umm, I always have to get around and about, if I can't get around and about as far as I am concerned life is not worth living, you know (ID4)

Specifically, the implications of future disability due to OA were spoken of in relation to their personal social circumstances and domestic contexts. For participant 4, the need to remain mobile was linked to his acute awareness regarding social isolation and the lack of an identifiable source of social support:

I mean, because I have to be mobile, I am living on my own, no one is going to take care of me, I have got to look after myself... I have got no close relatives here or any relatives, I have lost contact with so.... I have got to be independent, you know, so walking is part of it, I have got to get to the shops and that, you know (ID4)

Social support was also a key factor in participant 11's account. Unlike participant 4, however, whose concern surrounded a lack of support, it was this participant's actual role in supporting others – as a carer to her wheelchair bound husband – which led to her focussing on OA. The implications of having OA in this case were extended beyond the individual into her social network.

[I do] a lot of stretches and 'what have you' as well as all [the] gym work and as well as swimming and that way, I've found [that] I keep fitter. I don't lose weight, but I do keep fitter and then, of course, that's my way of coping and then I can manage and look after my husband because it takes a lot of strain on your legs - pushing a wheelchair (ID11)

Furthermore, in both cases, participants' focus on OA appeared to result in them concentrating their self-management activities on their perceived main condition, such as the exercise regime participant 11 described above. In summary, these participants illustrate how their personal and social context led to a focus on functional issues or having the capabilities to 'do things' which is core to definitions of 'functional health' [35] and subsequently, for these participants, the prioritisation of OA over other conditions.

OA not prioritised

Four individuals in the sample did not appear to identify their OA as their main condition at any point. For these participants, one or more of their other conditions dominated their health concerns which meant that their OA was effectively 'backgrounded.' The concepts of 'foregrounding' and 'backgrounding' have previously been used in relation to single chronic conditions [34] and our data suggests that the concepts can usefully be applied to understanding multiple conditions.

Participants again made comparisons between their conditions, particularly with regard to the nature and impact of their conditions. In this group, the comparisons resulted in their OA being cast as less severe and more manageable than their other conditions:

Me knee is, it can be troublesome and annoying, you know. But at least I can get about with it, you know. I know it's not going to, the only thing it'll do is collapse and I'll bloody drop on the floor, but diabetes is me priority at the end of the day (ID15)

For this participant the perceived severity and in particular the future risk of complications and mortality from his diabetes, were of greater concern than his merely 'troublesome' knee pain:

I mean people say “Oh it’s [diabetes] it’s not a bloody disease is it?” It bloody is a disease, I don’t care what you say. She [wife] had a mate saying “Oh show me your thing it’s not a bloody disease.” It bloody is a disease, it can bloody kill you....You can go blind, you know, you can have your bloody fingers, and your toes and your legs, you know, if you don’t watch what you’re doing. That’s my priority, you know. (ID15)

For two of the participants (IDs 12 and 20) the unpredictable nature and potential adverse effects of one of their co-morbid conditions led to this being prioritised over their OA.

Whilst, OA can also be unpredictable and produce fluctuating symptoms, e.g. pain, these participants did not perceive the severity of their OA symptoms as detrimental to their health when compared to their other condition. For example, Participant 12, despite being recruited to the primary study on the basis of having moderate to severe pain, said that he could ‘grin and bear’ his pain. In comparison, he described the serious consequences that could arise from his epilepsy and a need to be constantly vigilant due to the possibility of a sudden epileptic episode:

I: So what do you think your main condition, in terms of being a priority is?

P: Well I have to deal with, yeah, literally, literally have to watch everything that I do. Keeping away from the kerbs, er you know, when you’re walking up a road, keep away from the kerbs in case you fall into the road.

I: And why is that, sorry?

P: In case you have a fit and you fall in the road underneath a lorry. (ID12)

For another participant, the volatile nature of her bladder and bowel condition caused huge distress. She spoke of the social as well as the practical consequences, which meant that

previously simple tasks such as shopping had become potentially traumatic events. She explained the efforts required in order to leave the house, including taking medication prophylactically. Despite her best efforts however she was still unable to control them:

It's making a mental note, where are the toilets and once I know where they are I'm fine. That is, that's a problem, and I'd say that's the only upsetting problem that I have. My bones, my aches and pains, I can put up with all [of] them... but that is the only one that will sometimes upset me, and I don't think it is not so much the dignity, but it makes me so angry that it should be that way. The biggest part of the time it is under control, I don't eat loads of rubbish, ...I watch what I eat...so, I'm really good and it still happens, so that's when it makes me mad. (ID20)

It appears that despite careful planning and personal adjustments the bowel condition is pushed into the foreground, especially because it requires constant vigilance does not always respond to consistent management efforts, and is associated with a potential loss of self esteem.

Finally, OA is often recognised in terms of its impact on a person's ability to perform their valued activities [36]. Whilst this was also true of many of the participants in this group, most were able to make some adjustments for their OA allowing them to continue with their preferred activities. Participant 9, however, had persistent leg ulcers which, despite regular contact with clinicians, were not improving and, rather than his OA, the ulcers had led to the loss of his valued activities:

How do you feel [the ulcers] have affected you?

P: One thing is, I haven't been able to do what I want and, as I say, I love my bowls, but I haven't been able [to] bowl, you know. Same as I say, I can't [sic] hardly go for a walk, 'cos I can't walk that good. You can't walk that far, you know it's like having glass ...rubbed in my leg. (ID9)

In summary, the particular characteristics of co-morbid conditions (e.g. severity) and their perceived (current and/or future) implications appear to influence whether they are considered to be a priority or not for these participants.

Shifting priorities

In contrast to the stable priorities presented above, most participants during their accounts or study periods described a more fluid scenario whereby their 'main' condition changed over time. For a small number, this was shaped by what has been described as a 'cascade of crises' [37], whereby the individual is seemingly overwhelmed by a series of health related issues which lead to psychological and social challenges. The excerpt below highlights the practical issue of managing the finite resource of time which is constantly re-apportioned in line with new health issues arising from the participant's multiple conditions:

It's not been a straightforward thing for me....Like, one problem to get over and then another one pops up. I spend more time sorting that out... (ID29)

In addition, the fluctuating nature of many conditions, including OA, is well documented [38,39]. Accounts were replete with descriptions of how symptoms and subsequently their impact varied over time leading to certain conditions being foregrounded and backgrounded accordingly. However, this relationship was not as strong as two other

factors which appeared to most strongly influence the shifting for the majority of participants in this group: self-perceptions of control and clinician interactions.

Self-perceptions of control

Participants' accounts were replete with references to perceived control achieved via self-management activities or clinical management. Comparisons were made between conditions as to how controllable they were:

I have asthma and angina, but they are kept under control (ID28)

I've controlled both my knee pain, I've controlled my blood pressure, so [at the moment] there's nothing really to prioritise (ID14)

Where effective mechanisms of control were perceived to be in place (i.e. conditions were deemed asymptomatic or non-disruptive), this appeared to allow the 'backgrounding' of a particular condition(s) in relation to others. Subsequently, this translated into participants focusing or placing a priority on a condition(s) which were *not* controlled:

I: Do you feel like you're in control of your diseases?

P:...yeah, but like I said, there's only this [indicates knee], and I can't control this... this is what bothers [me] more than anything else. Without that I could manage perfectly, but it's this thing. (ID20)

Finally, perceptions of control were often linked to the apparent success or failure of self-management activities and most often medication. The perceived failure of mechanisms to effectively control a particular condition (manifested, for example, by symptom re-

appearance or the sudden or gradual inability to perform valued activities) consequently led to that condition being prioritised.

Clinician interactions

The role of clinicians in the process of prioritisation was significant in two main ways.

Firstly, linking to the sub-theme above, clinicians were identified as the source of ‘control agents’ (such as medications) or interventions (e.g. surgery) which allowed a condition to become ‘backgrounded’:

P: The angina was the worst before I had the angioplasty done, because I couldn't walk without the pain, but that's under control now.

I: So it's the arthritis that's troubles you the most [now]?

P: The worst, the pain, yeah. (ID29)

I am at the skin clinic as well because me skin was all up the wall, but they are pleased with that at the moment, they put me on tablets, and cream they give me so it's not too bad (ID7)

Secondly, clinicians were also an important source of information about condition status.

Participants' language often reflected the biomedical information that they received from their clinicians and many described how this effectively allowed certain conditions to be backgrounded or alternatively prioritised, particularly in the case of apparently symptomless conditions:

I take a minimum amount of beta blockers, for blood pressure, ... and my blood pressure is always down, I have a blood pressure machine and by and large I am not more than a 130/80 (ID1)

I am positive that if all of a sudden I am brought back and brought back and they said, 'You are out of control' then I would have a concern about it, but when you are told it's okay... ...then I'm happy about it (ID27)

The reassurance provided by available treatments, monitoring arrangements or access to knowledgeable clinicians allowed participants to give certain conditions their 'proper place' within their everyday life.

Finally, we were interested in the potential outcome(s) and consequences of shifting on self-management. This was variable and complex. In some instances, participants' time and attention for self-management activity simply 'switched' towards their priority condition at that particular time. This was particularly the case for those diagnosed with a new condition that required additional time and attention, for example, for information seeking about the condition. Switching was seemingly not possible for everyone however. Some participants for example, perceived barriers to effectively self-managing a priority condition due to the one or more of their other conditions (e.g. taking prescribed anti-inflammatory medication for OA produced negative response in IBS therefore OA medications not taken).

For others, despite shifting priorities, the sheer burden of 'work' required to manage their various conditions combined with their other daily responsibilities meant that they simply did not have the time and/or energy to conduct certain specific self-management activities.

Exercise was the most frequent activity dropped or not engaged in:

I do go to the gym..I use[d] to go three times, then it dropped down, having all these appointments, I have not really been able to fit...by the time you come home and do a bit of cooking, and sometimes when you have been messed about at the hospital, you don't feel like going back out, you know what I mean" (ID7)

Discussion

The study focused on OA as the index condition and assessed what factors underlie prioritisation; whether and why these priorities change over time and what the potential consequence of shifting priorities may be for self-management. Whilst some studies have suggested that patients with OA may prioritise other conditions [27-29], and previous research has focused on priorities in people with a range of multiple conditions or multi-morbidities [24,25], this study is the first to explicitly and systematically explore the priorities and potential consequences of OA patients with co-morbidities. Our findings demonstrated that OA patients may prioritise in different ways *and* at different times. Overall, the findings suggest that patients have *time-specific* condition priorities. Finally, whereas the vast majority of patients identified single priority conditions due to their detrimental effect on for example 'functional health' [35], one participant appeared instead to view his health 'holistically' rather than along the lines of individual conditions.

During the study periods, some patients reported stable priorities. Here one 'main' condition dominated their concerns and therapeutic efforts because the impact of the condition within the context of the individual's life could be specifically characterised. However, we also showed that patients' priorities *can* and *do* shift over time. Our findings, as reported elsewhere, suggest that an interplay of influences are at work from both lay and

professional sources [26] results in shifting prioritisation. Specifically, our findings indicate that a condition may shift in and out of prominence depending on self-perceptions of whether a condition can be controlled or not, and/or due to clinical interactions. The consequences of shifting for self-management and treatment priorities appear complex. We did find preliminary evidence to suggest that self-management efforts mirrored shifting priorities, however this was often not possible either due to the overall illness burden facing some patients or because patients perceived barriers or antagonisms between self-management efforts for different conditions.

Co-morbidity prevalence is increasing and a better understanding of how people actually live with a complex set of conditions is important for clinicians. At the same time, clinical practice tends to be organised around single conditions (through guidelines for example: the UK's National Institute for Health and Clinical Excellence (NICE) guidelines on OA [40] or secondary care specialties) which therefore inhibit clinical consideration of the interplay of various conditions or shifting patient priorities. Such arrangements can also create a burden of work for patients in terms of coordinating care [41]. Furthermore, the 'hard work' of self-management [42] for patients has been recognised in single conditions. Consequently, it appears that focussing efforts on managing a single condition (in the context of multiple conditions), can lead to worse self-management and therefore control for other co-morbid conditions [43]. Taken together, it suggests that the issue of limited resources (e.g. time, energy etc) may precipitate or necessitate patient prioritisation. Our findings show some support for this, particularly where illness burden and time constraints combine and may result in reduced self-management activity for backgrounded conditions. Accordingly, we support the findings from research illustrating that multi-morbidity patients desire a single

care coordinator to: help navigate their complex care arrangements, make sense of shifting priorities [41] and self-management activity as well as suggesting support directed towards resolving and troubleshooting perceived barriers to self-management [14].

Overall, it is important for clinicians to be aware of the dynamic nature of OA itself and its interplay with co-morbidities. Each consultation should preferably include a biosychosocial assessment of the patient experience at that specific point in time. Ensuring that clinicians understand patient priorities will facilitate improved communication and concordance in decision making within the limited time of consultations, which may translate into improved outcomes.

Given that OA prevalence will continue to increase it is important to understand its interaction with other co-morbidities and we advocate further qualitative and quantitative research, particularly longitudinal in nature, to further explore our characterisation of priority setting; to track the consequences of shifting priorities and finally to explore the relative prevalence, views and consequences of those patients who perceive their health 'holistically' and in terms of capabilities more generally [44].

Our study design and sample allowed for an *in-depth* exploration by drawing together data sets from different research centres, study populations and combination of conditions which could not easily be done with single centre studies. Drawing on a diverse range of studies could, conversely, be seen as a weakness because the primary studies differed in focus (two focused on OA, one on multi-morbidity and one on living well despite having chronic illnesses). It was felt however, that the individual studies contained appropriate data to answer the new questions posed of it and that sufficient commonality was present in the patient accounts that warranted combining the studies. Furthermore, qualitative secondary

analysis can be criticised for lack of consideration of context [45]. Criticisms here centre upon epistemological issues around the co-production of knowledge arising from the interview process and that 'insider' knowledge or the particularities of the primary research process becomes lost or is inaccessible when data is re-used by 'outsiders.' Other however argue that researcher *reflexivity* rather than *proximity* to the original context of data gathering and production is more critical to valid analyses [46]. Our analytical team was composed of both 'insider' (researchers involved in the original studies) and 'outsider' (SCS) perspectives which, combined, addressed both lines of argument. Finally, it is possible that the data selection process may have affected the specific examples provided in the results section, however, we felt that our process of 'data sorting' [47] to ensure data fit did not affect the overall themes and findings regarding time-specific priorities, key reasons for shifting and reasons for condition prioritisation which are reflected in the wider multi-morbidity literature [25,26].

In conclusion, we have emphasised the importance of acknowledging change in this experience and the need for appreciation by clinicians that their priorities may not be the same as the patient's which consequently may influence the management of OA and/or the co-morbidities. In summary, we advocate patient-centred models of care within a more integrated system structure, as well as regular assessment of mutual patient-clinician priority interpretations. Such actions may result in more effective clinical encounters and ultimately, optimise patient outcomes.

Acknowledgements

This article presents independent research funded by the National Institute for Health Research (NIHR). The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health.

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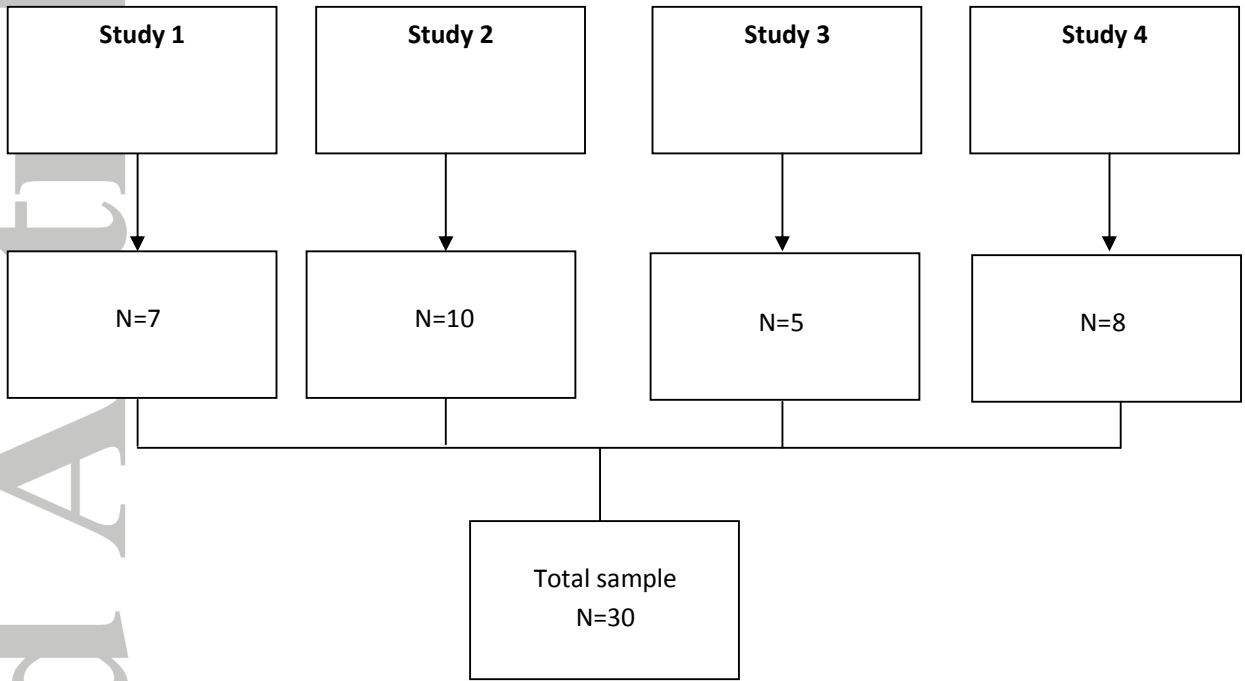
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Figure 1



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Table 1 Summary of primary studies

Study Number	Study	Location, recruitment and subjects	Focus*	Design
1	Hurley et al. [48]	South-east London, UK. Patients aged over 50, with knee pain of > 6 months duration. 47 participants. Data collection (2002-2004).	To explore the health beliefs, experiences, treatment and expectations of people with chronic knee pain, and investigate if, how and why these change after taking part on an integrated exercise-based rehabilitation programme.	Longitudinal design (3/4 interviews per participant).
2	Grime et al. [49]	Staffordshire, UK. Purposive sample of 27 patients who rated their health as good/very good, or fair if they had moderate/severe pain and physical limitations. Data collection (2007-2009).	To explore lay perceptions of wellness and joint pain, and their implications for consulting healthcare professionals and taking exercise.	Longitudinal design (1 baseline interview plus optional interviews and patient-initiated completion of monthly diaries).
3	Ong et	Staffordshire, UK.	To explore the experiences,	Longitudinal design

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	al.[42]	Purposive sample of 22 patients with moderate to severe knee pain.	beliefs, and attitudes of people with knee osteoarthritis who are deemed to self-manage.	(2 interviews, plus self-completed diaries).
4	Bower et al. [50]	Greater Manchester, UK. Purposive sample of 28 patients with two or more chronic conditions. Data collection (2009-2010).	Understanding patients' perceptions of co-morbid long-term conditions and the delivery of health care to manage those conditions.	Single time-point interviews.

*OA was the 'index condition 'of the study in studies 1-3. Study 4 did not place an emphasis on any one particular condition.

Table 2. Sample Characteristics

Patient ID	Sex	Age (yrs)	No. of co-morbid conditions	Co-morbid conditions
1	Male	67	3	IBS, hypertension, cholesterol
2	Female	65	4	Polymyalgia rheumatica, osteoporosis, depression , varicosed right leg
3	Male	60	2	Hypertension and diabetes
4	Male	67	3	Hypertension, ischaemia and angina
5	Male	76	9	Hypertension, diabetes, asthma, cellulites bowel cancer, blocked vein, hernia, digestion problems, eye problems
6	Female	74	3	Anxiety, depression, medically unexplained symptom
7	Female	59	8	Spondylosis, bladder issues, skin irritation, benign tumour, hypertension, hyperlipidemia , osteoporosis and asthma
8	Female	73	2	Hypertension and underactive thyroid
9	Male	71	3	Raised blood pressure, circulation problems in the legs, and hyperlipidemia
10	Female	72	5	Heart murmur, eyesight problems, thyroid problems, osteoporosis and colitis
11	Female	61	4	Deafness, eyesight problems, circulation problems in the legs, and Hypertension
12	Male	70	4	Artherosclerosis, eyesight problems,

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13	Female	67	7	kidney disease and epilepsy Asthma, angina, hypertension, liver disease, osteoporosis in spine, hyperlipidemia, and a hernia.
14	Male	73	3	Angina, hypertension and glucose intolerant
15	Male	72	6	chest problems, deafness, eyesight problems, hypertension, diabetes and circulation problems in the legs
16	Female	57	3	Deafness, eyesight problems and asthma
17	Female	70	7	Asthma, hypertension, problems with eyesight, osteoporosis, diverticulitis, IBS and restless leg syndrome
18	Female	65	4	Bronchiectasis, under active thyroid, osteoporosis and sciatica
19	Female	72	4	Irritable Bowel Syndrome, hiatus hernia, hypertension and in remission from cancer
20	Female	64	3	Bowel problems, bladder problems and remission from cancer.
21	Male	70	2	Asthma and umbilical hernia
22	Female	78	6	Curvature of the spine, CHD, asthma, IBS, diverticulitis, remission from cancer
23	Female	83	3	Asthma, angina and diabetes
24	Male	86	3	Double vision, diabetes and COPD

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25	Female	69	5	Diabetes, depression, hyperlipidemia, eye problems and over-active thyroid
26	Female	71	5	Spondylosis, eye problems (ARMD), emphysema, thyroid problem and 'numbness'(in feet and hands)
27	Male	74	3	Diabetes, gastric reflux and hypertension
28	Female	64	3	Angina, diabetes, asthma
29	Male	55	4	Arterial disease, bronchiectasis, diabetes, and asthma
30	Female	66	2	Diabetes and hypertension