Snapshot survey of physiotherapy practice for patients with hip osteoarthritis in the public sector

Abstract

Purpose

Hip osteoarthritis (OA) is a chronic musculoskeletal condition affecting 2.5 million people in England. There is limited evidence on practice in the United Kingdom (UK) by physiotherapists in the public sector. A snapshot survey was conducted in a limited time period to inform standard care in a trial funding application.

Methods

An online survey was circulated using Twitter. Thirteen Tweets linking to the survey were posted over 6 days to gain a snapshot view of physiotherapy practice within the public sector in the UK.

Results

Sixty-two physiotherapists from 25 counties in the UK and Wales responded. The median waiting time from referral to physiotherapy treatment was 5 weeks and patients were seen a median of 3 times. The median total number of hours treated was 2 hours, and the median duration time for treatment was 8 weeks. All respondents used strengthening exercises, 73% stretches, 50% cardiovascular exercise, 73% balance exercises and 26% proprioceptive exercises. Thirty-nine percent of respondents use both strengthening and cardiovascular exercises, and provide an education leaflet, as contained within National Institute for Health and Clinical Excellence (NICE) guidance.

Conclusions

This snapshot suggests that physiotherapeutic management varies widely across the UK.

Keywords: exercise, hip osteoarthritis, physiotherapy, clinical practice, survey, social media

1. Introduction

Hip osteoarthritis (OA) is a prevalent and costly chronic musculoskeletal condition affecting over 2.46 million people in England [1] with 92% of hip replacement surgery due to OA [2]. It was reported that nearly 84,000 primary hip replacements took place in England, Wales and Northern Ireland in 2015 [2]. Clinical recommendations from recent systematic reviews suggest conservative physiotherapeutic treatments for symptomatic hip osteoarthritis irrespective of disease severity, pain levels, and functional status [3].

Current United Kingdom (UK) National Institute for Health and Clinical Excellence (NICE) guidelines [4] recommend education and advice, muscle strengthening, aerobic exercise and weight loss where possible, and the guidelines are supported by recent systematic reviews that recommend exercise and education as core treatments [5-7]. However the current guidelines provide limited detail as to the treatment type, dose or intensity. A recent randomised controlled trial has shown that in patients with osteoarthritis of the hip, physiotherapy using core treatments including education and advice, manual therapy and home exercise, was no more effective than placebo at improving function and decreasing pain [8].

At present there is a little evidence published on current practice in the UK for physiotherapists in the public sector. As part of an application for funding for a randomized controlled trial for the treatment of hip OA, the authors were required to collect data on current physiotherapy practice in the UK. The data collected would inform the content of a standard care arm, for comparison with an intervention arm. As collection of data had to be made within a very tight timeframe, an on-line survey was conducted, using social media to recruit respondents, to gain a snapshot of current practice. The survey examined treatment modalities being used, waiting times, number and frequency of sessions, and total treatment time.

2. Methods

As data had to be collected very quickly, it was decided to use Twitter, a social media platform. Two of the authors, who are physiotherapists, had a Twitter following, and so could reach a large number of physiotherapists across a wide geographical area by getting their Twitter followers to share (retweet) the survey. There is evidence to support an increase in physiotherapists using social media platforms as a method to participate in continued professional development and facilitate discourse on professional issues [9]. Twitter was chosen for its simplicity and speed as well as for the ease of directing followers to a web based online survey.

Two of the authors sent 'tweets' which linked to an online survey platform, Bristol Online Survey (see Appendix A). The tweets specified that respondents should be UK practising physiotherapists in the public sector, and were conducted between the 10th and 15th November 2015.

Descriptive statistics were used to summarise the data collected using SPSS Predictive Analytics Software (SPSS Inc, Chicago, II, USA).

2.1 Survey

The survey asked questions on assessment and provision of physiotherapy services, and respondents were asked to pick one of the given answers, except for question 5 on treatment modalities where respondents could choose all options that applied. The first three questions were related to the demographics of the respondent.

1. In which county of United Kingdom do you work?

   Responses: Choice of counties in UK. (option of "other" where respondent could add additional text)

2. What is your work setting?

   Responses: Hospital inpatient, hospital outpatient, community outpatient (option of "other" where respondent could add additional text)

3. How many years have you been working with people with hip osteoarthritis?

   Responses: Under 1 year, 1 year, 2 years, …each year up to 10 years, over 10 years

The following two questions asked about waiting times and treatment modalities. (The treatment modalities were selected as distinct options as they are identified as treatment choices within current NICE guidelines for osteoarthritis [4]). Responses to question 4 were in 1 week steps up to 18 weeks, as 18 weeks is the referral target time in the UK.

4. Currently, how long on average would a patient wait to see you (in weeks)

   Responses: 0 weeks, 1 week, 2 weeks, … each week up to 18 weeks, over 18 weeks

5. Typically which treatment modalities would you use? Tick all that apply

   Responses:

   Manual therapy: Mobilisation techniques of the hip, Mobilisation techniques of other joints, Manipulation techniques (high velocity low amplitude), soft tissue techniques

   Exercise: Strengthening exercises, stretches, cardiovascular exercises, balance exercises, co-ordination exercises

   Electrotherapy: Ultrasound, pulsed short wave diathermy, heat/ice

   Education: Leaflet (made by self or work), standard education booklet (Arthritis UK)

   Other: Respondent to add text

Questions on frequency of visits and treatment timings were asked in the three final questions to evaluate how treatments were utilised and delivered.

6. On average, how many times would you see a patient with hip osteoarthritis?
   Responses: None, once, twice, three times … continuous up to 10 times, over 10 times

7. What is the average time in weeks before first appointment and discharge?
   Responses: 0 weeks, 1 week, 2 weeks, 3 weeks, …. continuous up to 20 weeks, over 20 weeks

8. In total, on average how many hours of physiotherapy would the patient receive?
   Responses: 0 hours, 1 hour, 2 hours, 3 hours, … continuous up to 10 hours, over 10 hours

2.2 Ethical Considerations

Approval for the evaluation was given by Bournemouth University Research Ethics Committee on 9th November 2015 (ref 9568). The survey was reviewed and given permission by the authors' local hospital research and development department.

3. Results

A total of 13 tweets were sent between the 10th and 15th of November 2015 of which 783 engagements occurred. Table 1 shows the frequencies of Twitter statistics. Responses were made up until 26th November.

Insert TABLE 1: Twitter frequencies

3.1 *Demographic data*

64 responses were received, however it was agreed that only public sector outpatient and community practitioners should be included so an independent practitioner and an inpatient practitioner were removed. The remaining 62 responses were from 25 different counties (Table 2) across England (23 of 49 counties) and Wales (2 of 22 counties) from physiotherapists working in hospital outpatient (65%) or community areas (34%) (Table 3). The number of years qualified ranged from under one year to over ten years, with 47% working 10 years or more (Table 4).

Insert TABLE 2: Location of respondent's clinical practice

Insert TABLE 3: The work setting of the respondents

Insert TABLE 4: The number of years that the respondents had been treating patients with hip OA

3.2 *Waiting and treatment times*

The responses to questions 4, 6, 7 and 8 are summarised in Table 5. The median (interquartile range) and range of waiting time, number of times seen, total hours treated and overall treatment duration over weeks are described as the data were not normally distributed.

Insert TABLE 5: Waiting times, times patient seen, total hours treated and overall treatment time

4. Treatment modalities

4.1 *Manual Therapy Approaches*

Figure 1 describes the percentage of respondents who use different types of manual therapy interventions with 63% using mobilisation treatment, 27% mobilising joint regions outside of the hip, 7% involving manipulation (high velocity low amplitude thrust) and 24% soft tissue treatment.

Insert FIGURE 1: Percentage of respondents using type of manual therapy (Q5)

Figure 2 describes the percentage of respondents who use exercise therapies with all respondents reporting prescribing strengthening exercises, 73% stretches, 50% cardiovascular exercises, 73% balance exercises and 26% co-ordination (proprioception) exercises.

Insert FIGURE 2: Percentage of respondents using type of exercise (Q5)

4.2 *Electrotherapy modalities*

Twenty-one percent of respondents provided heat/ice therapy with 2% delivering pulsed short wave diathermy to their patients. None of the respondents performed therapeutic ultrasound as a treatment for the hip.

4.3 *Education*

Forty-four percent of respondents provided education leaflets designed by themselves or their workplace with 63% providing a standardised education leaflet.

39% of respondents answered that their practice included aerobic and strengthening exercises, and providing an education leaflet, as contained within current NICE guidelines.

5. Discussion

The novel use of social media to survey a reasonable number of physiotherapists who practice clinically in the public sector was successful, especially given the short duration of the study. The survey was published on the Bristol Online Survey platform on the 10th November and remained open until 1st December 2015. The last data completion was on 26th November, so data collection took 16 days. The survey canvassed a large geographical area that would not have been possible with paper questionnaires sent to public sector trusts, and would have been costly and time consuming. The methodology also didn't require identification of potential respondents as the sample was self-identifying. However the sample did not include those who do not follow Twitter, which may be a potential bias as discussed in the later section on limitations.

There was a wide range of waiting times (1-18 weeks), appointments (1-8 times), hours treated (1-5), and overall treatment time (0 – 16 weeks). This variation may indicate a number of uncertain factors in the management of hip OA such as individual patient variation, variation in therapist skills, knowledge and experience as well as environmental considerations in the administration of treatment. It may signify a lack of consensus on what 'usual care' is within this patient population.

The results provided interesting results with a high agreement in terms of respondents prescribing strengthening exercises. Only half of the respondents recommended aerobic exercises with a high number recommending balance exercises (73%). A recent systematic review of the literature [10] focused on the identification of potential working mechanisms behind the positive effects of exercise therapy on pain and function in OA. It suggested that an increase of upper leg strength, a decrease of extension impairments and improvements in

proprioception were possible mediators and the survey of physiotherapists reflected this account.

The results show a promising number of therapists committed to patient education, however none of the respondents volunteered that they would advise the patient on weight loss if appropriate, although this wasn't specifically asked in the questionnaire. This may represent a lack of clinical confidence in this area or that therapists feel that advising on weight loss is outside of their scope of practice. It also may represent a tendency for therapists to avoid the conversation of weight loss as it may increase the risk of adversely affecting the therapeutic relationship with the patient.

Transcutaneous electrical nerve stimulation (TENS) is recommended by NICE guidelines to be used as an adjunct to core treatments for pain relief. None of the respondents reported using TENS as a treatment modality in the management of patients with hip osteoarthritis.

NICE guidelines recommend local strengthening exercises and aerobic exercises as core therapeutic treatments. NICE guidelines also recommend manual therapy and stretches as an adjunct to the core treatment. The survey highlighted that most physiotherapists used multi-modal treatments but with a high variability of treatments given, duration of treatment times and number of sessions. There appears to be poor agreement on what 'usual care' is from this survey and therefore there is considerable difficulty in recommending how 'usual care' is conducted for high quality clinical trials.

This study examines practice in the UK in the public sector; however our findings are consistent with other studies of physiotherapy management of hip OA [11,12] which also identify widespread use of education, exercise and manual therapy, with little differences between the public and private sectors. A study of primary care records on patients with hip and knee osteoarthritis in the Netherlands [13] found that, in general, physiotherapists used less advanced interventions in their treatments, in accordance with guidelines, Stepped-Care-Strategy (SCS). These focus on all interventions in first steps (such as education on lifestyle, OA management and pain relief by general practitioners) being offered before more advanced interventions , A survey conducted by Porcheret et al [14] found that core treatments for patients with knee OA were under- utilised such as exercise, weight loss and the provision of written information. This study, in line with Porcheret et al's findings, also demonstrates a clear need to improve the delivery of core treatments for hip osteoarthritis. It is interesting to note that our snapshot of practice suggests that only 39% respondents adhered to the three core NICE recommendations , although the use of NICE guidelines was not made explicit in the survey.

Limitations

For this study, an on-line survey using social media was used to collect data as they had to be collected over a short timeframe. This enabled the data to be collected quickly, at low cost, with less likelihood of the survey being completed incorrectly [15]. A postal survey through professional bodies or public sector managers was ruled out as this would be too time consuming, and potentially could have a low response rate [16]. Online surveys also reduce postage costs, data entry costs, and are simple to import into data analysis software [15].

However there were limitations with this method, particularly as it is not possible to say how representative these results are of the wider population of physiotherapists in the UK in the public sector. There was participation bias as only people who were able to access the survey online, through the Tweets, were able to complete the survey. It may be that non-Twitter followers are older, and so our sample may be biased towards younger physiotherapists. Some of the respondents are also likely to be followers of the authors' Twitter accounts and so familiar with the authors and their professional practice. An additional potential bias is that people are more likely to respond to a survey if they have strong views and opinions.

Further limitations were that the respondents were only from England and Wales, but did represent nearly half the counties in England. Also, age and gender were not asked, and so it is not known how these were represented, although there was a good range of experience of treating people with hip OA.

The intention of the study was to get a snapshot of current practice, to inform a funding application, within a short period of time. It therefore didn't ask for more detailed information on types of exercise, intensity and frequency of the exercise, the use of aids or devices (such as walking aids, biomechanical footwear alterations, and equipment to aid function), and behaviour change strategies. Respondents were also not asked for reasons why they had done a certain number of treatments, whether this was their own decision, or a public sector one? In addition, it was assumed that any education leaflet provided would

include information on weight loss, in line with Arthritis Research UK guidance [17], although this was not specifically asked.

5. Conclusion

This snapshot survey suggests that waiting times, number of sessions and treatments in the physiotherapeutic management of hip osteoarthritis in the public sector vary widely across the UK. Therefore, there are no clear defining parameters that can be described as 'usual care' in clinical practice in the public sector in the UK for patients undergoing physiotherapy treatment in the management of hip osteoarthritis. Further research is required to obtain more detail on practice, such as intensity and frequency of exercise; and behaviour change strategies.

Of interest was that only 39% of respondents use both strengthening and cardiovascular exercises and provide an education leaflet, as contained in NICE guidelines. Further research is also needed to find how NICE guidelines can be effectively disseminated and utilised within physiotherapy clinical practice.

The study has also shown that the novel methodology used to recruit respondents has clear advantages over more traditional methods as it is quick; can reach a wide spread of respondents; the sample is self-identifying; administration is reduced; and analysis is straight-forward. However it has its limitations, and can only provide a snapshot of current practice.

Ethical Approval

Approval for the evaluation was given by Bournemouth University Research Ethics Committee on 9th November 2015 (ref 9568). The survey was reviewed and given permission by the authors' local hospital research and development department. The principles outlined in the Declaration of Helsinki (World Medical Association, 2013) were followed in line with good practice.

Funding

No funding was received for this study.

Conflict of Interest

No potential conflict of interest was reported by the authors.

References

[1] Arthritis Research UK Musculoskeletal Calculator [Internet]. Arthritis Research UK; [cited 2016 22 Dec] Available from www.arthritisresearchuk.org/mskcalculator.

[2] National Joint Registry for England, Wales, Northern Ireland and the Isle of Man. Surgical data to 31 December 2015. 13th Annual Report; [cited 2016 22 Dec] Available from http://www.njrreports.org.uk/Portals/0/PDFdownloads/NJR%2013th%20Annual%20Report%202016.pdf

[3] Zhang W, Nuki G, Moskowitz RW, et al. OARSI recommendations for the management of hip and knee osteoarthritis, III: changes in evidence following systematic cumulative update of research published through January 2009. Osteoarthritis Cartilage. 2010; 8(4):476-499.

[4] National Institute for Health and Care Excellence. Osteoarthritis: Care and management 2014 [cited 2016 26 July]. Available from https://www.nice.org.uk/guidance/cg177/chapter/1-recommendations?unlid=30968609320158622245

[5] Moseng T, Dagfinrud H, Smedslund G, et al. The importance of dose in land-based supervised exercise for people with hip osteoarthritis. A systematic review and meta-analysis. Osteoarthritis Cartilage. 2017. http://dx.doi.org/10.1016/j.joca.2017.06.004.

[6] Sampath KK, Mani R, Miyamore T, et al.. The effects of manual therapy or exercise therapy or both in people with hip osteoarthritis: a systematic review and meta-analysis. Clin Rehab. 2016;30:1141-115.

[7] Fransen M, McConnell S, Herandez-Molina G, et al. Exercise for osteoarthritis of the hip. Cochrane Database Syst Rev. 2014;4.DOI: 10.1002/14651858.CD007912.pub2.

[8] Bennell KL, Egerton T, Martin J, et al. Effect of physical therapy on pain and function in patients with hip osteoarthritis. JAMA. 2014; 311:1987-1997.

[9] Chartered Society of Physiotherapy. Social media guidance for CSP members. November 2014[cited 2017 20 Jan]. Available from http://www.csp.org.uk/publications/social-media-guidance-csp-members

[10] Runhaar J, Lujisterburg P, Dekker J, et al. Identifying potential working mechanisms behind the positive effects of exercise therapy on pain and function in osteoarthritis; a systematic review. Osteoarthritis Cartilage. 2015;23:1071-1082.

[11] French HP. Physiotherapy management of osteoarthritis of the hip: a survey of current practice in acute hospitals and private practice in the Republic of Ireland. Physiother. 2007;93:253.260.

[12 Cowan SM, Blackburn MS, McMahon K, et al. Current Australian physiotherapy management of hip osteoarthritis. Physiother. 2010;96:289-295.

[13] Barten DJA, Swinkels ICS, Dorsman S, et al. Treatment of hip/knee osteoarthritis in Dutch general practice and physical therapy practice: an observational study. BMC Fam Pract. 2015;16:75-83.

[14] Porcheret M, Jordan K, Jinks C, et al. Primary care treatment of knee pain—a survey in older adults. Rheumatol. 2007;46:1694–700.

[15]Archer TM. Web-based surveys. J Ext 2003. 41. Article 4TOT6. [cited 2017 12 July]. Available from: http://www.joe.org/joe/2003august/tt6.php

[16] Cook JV, Dickinson HO, Eccles MP. Response rates in postal surveys of healthcare professionals between 1996 and 2005: An observational study. BMC Health Serv Res. 2009;9:160.

[17] Arthritis Research UK. Arthritis information [cited 2017 17 July]. Available from: http://www.arthritisresearchuk.org/arthritis-information.aspx

Figure Legends

Figure 1: Percentage of respondents using type of manual therapy (question 5)

Figure 2: Percentage of respondents using type of exercise (question 5)

Table Legends

Table 1: Twitter frequencies

Table 2: Location of respondent's clinical practice (question1)

Table 3: The work setting of the respondents (question2)

Table 4: The number of years that the respondents had been treating patients with hip OA (question3)

Table 5: Waiting times, times patient seen, total hours treated and overall treatment time (questions4, 6, 7, 8)