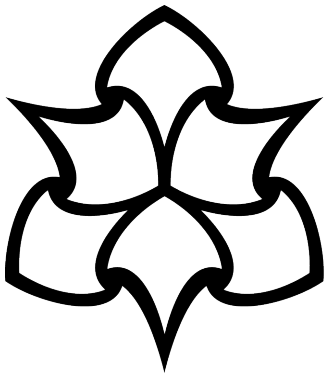

REPORT-PFP: a consensus from the International Patellofemoral Research Network to improve REPORTing of quantitative PatelloFemoral Pain studies

Christian J Barton ,[1,2] Danilo De Oliveira Silva ,[3] Sarah Morton,[4] Natalie J Collins ,[5] Michael Skovdal Rathleff,[6] Bill Vicenzino ,[7] Marienke van Middelkoop ,[8] Kay M Crossley ,[9] Michael J Callaghan,[10,11] James Selfe,[10] Sinead Holden ,[12,13] Simon Lack ,[14,15] Erin M Macri,[16] David Bazett-Jones,[17] Jennifer E Earl-Boehm,[18] Henrik Riel ,[19] Christopher M Powers,[20] Irene S Davis,[21] Dylan Morrissey[22]

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For numbered affiliations see end of article.

Correspondence to
Dr Christian J Barton, Sport and Exercise Medicine Research Centre, La Trobe University - Bundoora Campus, Melbourne, VIC 3086, Australia; christian@completesportscare.com.au

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ABSTRACT

Background Patellofemoral pain is a common and often debilitating musculoskeletal condition. Clinical translation and evidence synthesis of patellofemoral pain research is compromised by heterogenous and often inadequately reported study details. This consensus statement and associated checklist provides standards for REPORTing of quantitative PatelloFemoral Pain (REPORT-PFP) research to enhance clinical translation and evidence synthesis, and support clinician engagement with research and data collection.

Method A three-stage Delphi process was initiated at the 2015 International Patellofemoral Research Network (iPFRN) retreat. An initial e-Delphi activity (n=24) generated topics and items, which were refined at the 2017 iPFRN retreat, and voted on prior to and following the 2019 iPFRN retreat (n=51 current and past retreat participants). Voting criteria included 'strongly recommended' (essential), 'recommended' (encouraged) and uncertain/unsure. An item was included in the checklist if ≥70% respondents voted 'recommended'. Items receiving ≥70% votes for 'strongly recommended' were labelled as such.

Results The REPORT-PFP checklist includes 31 items (11 strongly recommended, 20 recommended), covering (i) demographics (n=2,4); (ii) baseline symptoms and previous treatments (n=3,7); (iii) outcome measures (2,4); (iv) outcomes measure description (n=1,2); (v) clinical trial methodology (0,3) and (vi) reporting study results (n=3,0).

Conclusion The REPORT-PFP checklist is ready to be used by researchers and clinicians. Strong stakeholder engagement from clinical academics during development means consistent application by the international patellofemoral pain research community is likely. Checklist adherence will improve research accessibility for clinicians and enhance future evidence synthesis.

INTRODUCTION

Patellofemoral pain is a common musculoskeletal condition. It affects 23% of the general population[1] and accounts for approximately 17% of all knee pain presentations to general practice.[2 3] People with patellofemoral pain presenting to sport and exercise medicine clinicians are of varying ages and activity levels, and report anterior knee pain that is aggravated by activities loading the patellofemoral joint (ie, stairs, running, squatting, etc).[4]

Systematic reviews, clinical practice guidelines[5] and international consensus statements[6 7] have been formulated to guide clinical practice for clinicians in how to treat people with patellofemoral pain. Yet, the credibility of recommendations and 'how to' guidance provided in these documents is compromised by heterogenous and often inadequately reported study details in the original research informing them. Our involvement in 14 key systematic review and meta-analyses published in the past 5 years to 2020[5 8–20] has highlighted that key patient characteristics (eg, symptom duration, physical activity, body mass index (BMI), quality of life) and details of outcome measures (eg, validity, how to administer) are infrequently reported. This impedes trustworthy meta-analyses and prevents clinicians from judging the relevance of research findings to their patient population. The description of treatments provided in clinical trials often lacks sufficient detail to allow for replication in confirmatory research or use in clinical practice.[17 18] For example, a 2017 review of exercise-therapy reported that no clinical trial provided complete exercise programme details to allow replication.[17 18] Frequently missing data such as group mean and variance for key outcomes in prospective,[8] cross-sectional[9–14] and intervention studies[5 10 12 15–20] also compromises important meta-analysis needed to better understand patellofemoral pain and guide practice.

The Enhancing the QUAlity and Transparency Of Health Research (EQUATOR) network[21] curates a library of quality checklists to guide reporting of studies, that typically focuses on particular methodologies (Strengthening the Reporting of Observational Studies in Epidemiology (STROBE), Consolidated Standards of Reporting Trials (CONSORT), etc) and indicate

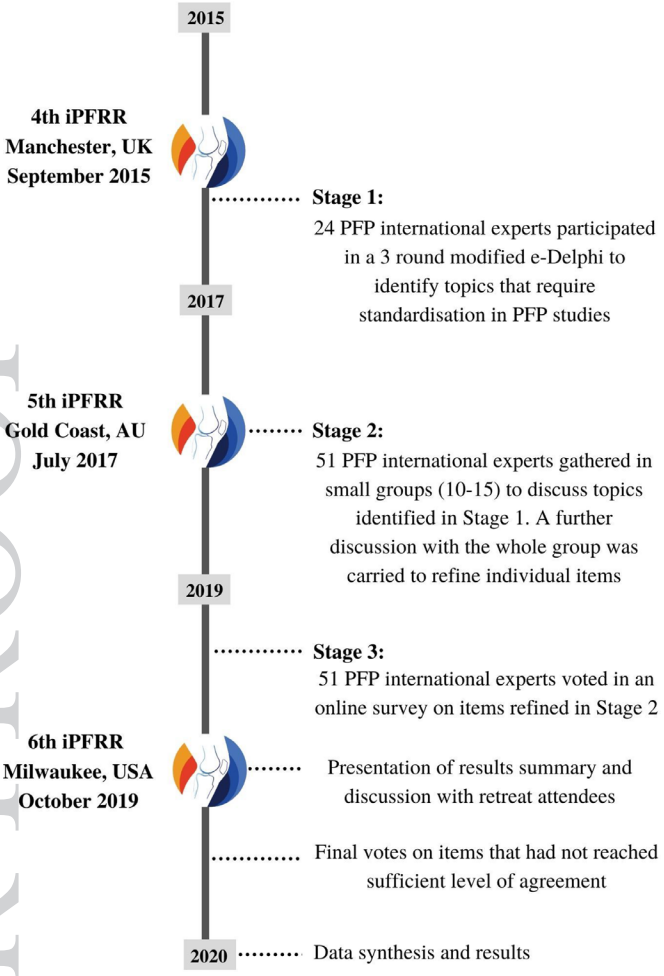

Figure 1 Timeline of the three stages and associated activities to produce the REPORTing of quantitative PatelloFemoral Pain (REPORT-PFP) checklist.

research credibility but do not consider or enhance clinical translation.[22] Condition-specific reporting checklists[23–25] can complement these generic methodological tools by focussing on the specific factors required for reporting to be optimally clinically relevant. The aim of this study was to provide a clearly defined, and widely accepted set of agreed-upon standards for REPORTing of quantitative PatelloFemoral Pain (REPORT-PFP) study. Our goal is to enhance research translation to clinical practice, facilitate more trustworthy evidence synthesis, and guide clinicians on how to contribute to research and data collection in their practice.

METHODS

Design

A three-stage modified Delphi process was initiated at the 2015 International Patellofemoral Research Network (iPFRN) retreat. Further work and discussions continued at the 2017 iPFRN retreat, and the consensus was completed following the 2019 iPFRN retreat (figure 1). The initial research design was undertaken by DM, CJB and SM using the principles outlined by Moher *et al*.[26]

Stage 1

A modified e-Delphi technique[27] was facilitated via online questionnaires using password protected Google Forms (Mountain View, California, USA). The initial content was informed from previous similar reports,[23 28–30] and initial scoping discussions among a core group of authors (DM, CJB, SM, MC, MvM, KC, MR, BV). All 50 attendees from the 2015 Manchester iPFRN retreat were invited via email to participate as international experts following the conclusion of the retreat. The initial scoping survey was followed by a priority agreement survey, then a priority ranking survey (online supplemental file 1). Twenty-four attendees responded to the first survey (response rate=48%), 22 responded to the second and 19 to the third. Responding healthcare professions included physiotherapist/physical therapist (n=19), athletic trainer (n=1), sports medicine physician (n=2), human movement scientist (n=1) and other (n=1). Non-respondent participants in stage 1 were not excluded from participating in future rounds.

SM, CJB and DM analysed the findings after each survey round. Feedback from multiple participants during this initial stage 1 e-Delphi identified that further discussion about priorities and scope of this consensus were required to produce a more impactful document. Additionally, the recommended minimum number of 30 participants was not achieved for this e-Delphi process.[31–34] Subsequently, analysis of information provided during stage 1 informed three distinct domains for further discussion and refinement at the 2017 iPFRN retreat, including (i) demographics; (ii) patient reported outcome measures and (iii) study and trial methodology.

Stage 2

At the 2017 Gold Coast iPFRN retreat (51 attendees, July 2017), small groups (approximately 10–15 participants) discussed the three distinct domains identified in stage 1. These groups met for 30 min to discuss and refine the draft set of recommendations developed during stage 1. Each meeting was led by a content expert, who subsequently presented the proposed recommendations to the whole group. A further period of discussion, facilitated by CJB, was then used to refine each list. Recordings of discussions undertaken during the retreat were reviewed by CJB and group discussion leaders (BV, MR, NC, MvM, KC) to ensure all suggested final changes to draft recommendations were adopted.

Stage 3

A further Delphi process was initiated prior to the most recent iPFRN retreat in Milwaukee (54 attendees, September 2019), starting with a survey to facilitate voting on final recommendations defined during stage 2 for demographics, patient reported outcome measures, and study trial and methodology. Review from a core group from the author panel (DM, CJB, MvM, KC, MR, BV, NC) grouped items to be voted into six sections, including (i) demographics; (ii) baseline symptoms and previous treatments; (iii) outcome measures; (iv) outcome measure description; (v) clinical trial methodology and (vi) reporting study results (online supplemental file 2). Following piloting, the survey was disseminated to all previous and 2019 iPFRN retreat participants (n=105). Final items to be voted on were succinct and clear statements. The survey also provided opportunity for feedback related to wording of each item as well as the option to suggest additional items for consideration. The core group could not define clear timeframes for short-term, medium-term and long-term follow-up. Therefore, an open-ended question was added to the survey to collate ideas from survey respondents.

The voting survey was disseminated via 'Survey Monkey' (San Mateo, USA). We sought to recruit at least 30 participants, recommended as the minimum required for stable results (ie, unlikely to change with inclusion of additional participants) based on similar Delphi studies.[31–34]

The following voting criteria and wording was established for voting on each item:

- *Strongly recommend*: these items should be included and reported in all quantitative studies related to patellofemoral pain in order to meet consensus recommendations—that is, they are essential items.
- *Recommend*: encouraged to be considered and reported wherever relevant to the specific research question, but may not be considered applicable (ie, N/A) for some research studies—reporting N/A is therefore also possible for these items.
- *Uncertain/unsure (please explain why)*.

We made an a priori decision to use a ≥70% agreement criterion to reach consensus on an item to be strongly recommended or recommended, based on prior consensus derived recommendations.[33]

The pre-retreat survey finding discussion was led by CJB during the 2019 iPFRN retreat, followed by group discussions and feedback. The group also discussed the additional items proposed in pre-retreat survey responses, followed by a post-retreat consensus voting survey for these items. Additionally, the group discussion led to some items that had not reached the ≥70% agreement criterion initially, being included for post-retreat consensus voting. Following group discussion, it was decided this survey would only include two voting options for each item—'recommend' and 'uncertain/unsure', due to the later inclusion or re-voting for these items. This final post-retreat survey (online supplemental file 3) provided further opportunity for feedback on items included as strongly recommended and recommended from the pre-retreat survey voting. Completion of the post-retreat survey occurred during December 2019 and January 2020. A checklist of strongly recommended and recommended reporting items, and specific suggestions for how to apply the checklist and what to report informed by author group discussion, was developed following the retreat.[26]

RESULTS

The consensus voting survey prior to the 2019 iPFRN retreat was completed by 51 current and past retreat participants (49% response rate) working in 10 countries (Australia=7; Brazil=7; Canada=3; Denmark=3; India=1; Italy=2; Kuwait=1; The Netherlands=2; UK=9; USA=16). The average completion time for the 58 questions was 25 min. There was substantial diversity in clinical experience treating patellofemoral pain patients (≤4 years=12 (24%); 5–10 years=9 (18%); 11–15 years=15 (29%); ≥=15 (29%)), time treating patients per week (0–5 hours=32 (63%); 5–10 hours=10 (20%); 10–20 hours=3 (6%); >20 hours=6 (12%)) and time conducting research (0–5 hours=8 (16%); 5–10 hours=6 (12%); 10–20 hours=9 (18%); >20 hours 28 (56%)). Healthcare professional training of respondents included physiotherapy/physical therapy (n=26), athletic trainer (n=7) and medical (n=2).

The consensus voting outcomes prior to the 2019 iPFRN retreat are illustrated in figure 2 (22 items related to demographics, baseline symptoms and previous treatments), figure 3 (nine items related to outcome measures) and figure 4 (10 items related to trial methodology and study results). During this voting round, no consistent recommendations were provided in open ended responses to what should define short-term (ranged 2 weeks to 6 months), medium-term (ranged 2 weeks to 5 years) and long-term (ranged 4 weeks to >5 years).

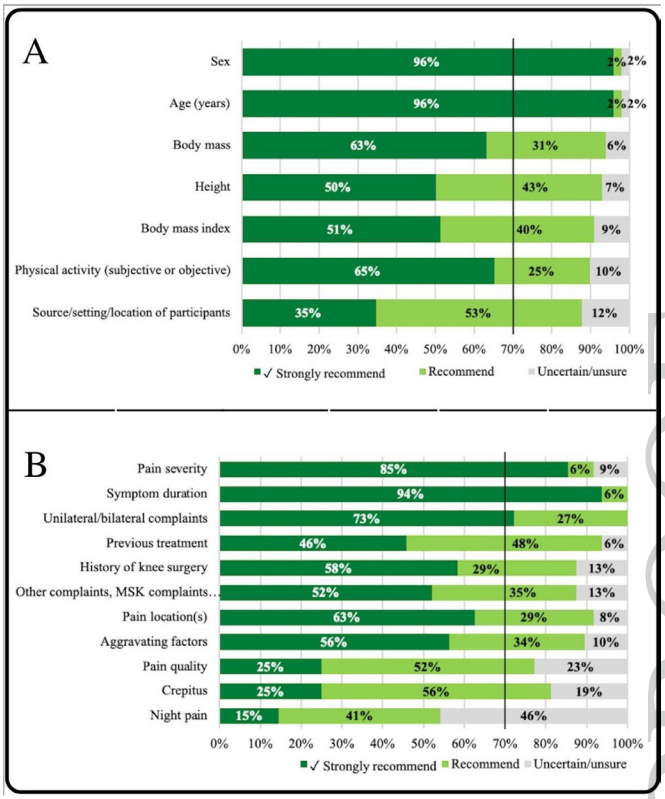

Figure 2 Consensus voting results for reporting demographics (A) and baseline symptoms and previous treatments (B). Vertical bar indicates 70% threshold for strongly recommended (dark green crosses line) or recommended (light green crosses line). MSK, musculoskeletal.

The consensus voting survey after the 2019 iPFRN retreat was completed by 48 participants (46% response rate) working in nine countries (Australia=6; Brazil=6 Canada=2; Denmark=4; Italy=1; The Netherlands=3; Switzerland=1; UK=7; USA=18). Additional voting outcomes after the 2019 iPFRN retreat are illustrated in figure 5 (six items related to demographics and outcome measures). The final question 'Do you have any final comments or suggestions?' led to 11 responses. All indicated acceptance of the checklist, and no concerns or suggested changes to the items to be included as strongly recommended or recommended were raised.

Strongly recommended items

Eleven items voted on were strongly recommended for reporting (≥70% voted strongly recommended), including demographic items *age* and *sex* (figure 2A); baseline symptom items *pain severity*, *symptom duration* and *unilateral/bilateral symptoms* (figure 2B); outcome measure items *condition-specific patient-reported outcomes* and *pain severity* (figure 3A); outcome measure description item *describe assessment in adequate detail to allow replication* (figure 3B); and reporting study results items *reporting mean (SD), median (IQR)* and *95% CIs for between group differences* (figure 4B). Suggestions on what to report for each strongly recommended (ie, essential) item provided by the author panel are provided in online supplemental file 4, and are freely available in online (www.ipfrn.org).

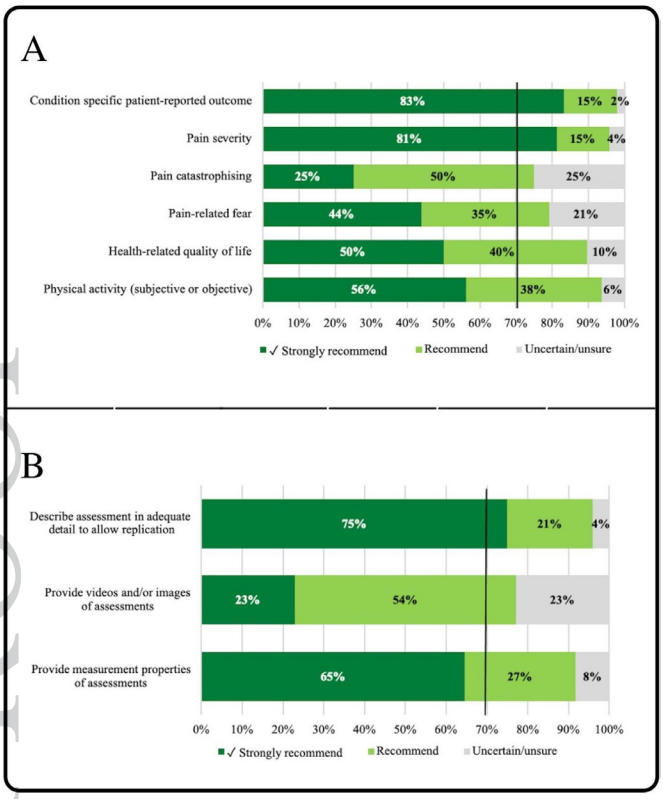

Figure 3 Consensus voting results for outcome measures (A) and outcome measure description (B). Vertical bar indicates 70% threshold for strongly recommended (dark green crosses line) or recommended (light green crosses line).

Recommended items

Twenty-eight items voted on were recommended (≥70% voted recommended or strongly recommended), including body mass, height, BMI, physical activity and source/setting/ location of participants (figure 2A); history of knee surgery, pain location, pain quality, crepitus, aggravating factors, other complaints/ musculoskeletal complaints/comorbidities (figure 2B) and ethnicity (figure 5); pain catastrophising, pain-related fear, health-related quality of life, physical activity (figure 3A), and global rating of change (GROC) and self-efficacy (figure 5); providing measurement properties of assessments and providing videos and/or images of assessments (figure 3B); following reporting guidelines from Complete Exercise Reporting Template (CERT), Template of Intervention Description and Replication (TIDiER), Toigo and Boutellier and EQUATOR, providing videos and/or images of treatments (figure 4A); and including 6, 13, 26 and 52 weeks as preferred follow-up timeframes (figure 4B). Suggestions on what to report for each recommended (ie, encouraged but not essential) item from the author panel are provided in online supplemental file 4, and are freely available in online (www.ipfrn.org).

Not recommended/unsure

Four items did not reach consensus thresholds for recommended, including baseline symptom item *night pain* (figure 2B); and demographic items *socioeconomic status*, *work status* and *geographical location* (figure 5).

Final checklist

All 11 strongly recommended (essential) items were included in the final checklist. The number of recommended (encouraged) items was reduced from 28 to 20 in the final checklist, facilitated via mergers and omissions. Specifically, (i) the three anthropometric measures (height, body mass, BMI) were combined; (ii) the three psychological outcome measures (self-efficacy, pain-related fear, pain catastrophising) were combined; (iii) the three existing checklists for interventions (TIDiER, CERT, Toigo and Boutellier) were combined and (iv) two study results items were removed (aim for longer follow-up; use 6 weeks, 3, 6 and 12 months as follow-up time points). The final REPORT-PFP checklist is provided in table 1, and freely available in online (www.ipfrn.org).

DISCUSSION

The 31-item REPORT-PFP checklist will enhance clinical practice by improving research reporting and translation. It will also facilitate evidence synthesis, and guide clinicians on how they can contribute to research and data collection in their practice. We used thorough and engaging iterative methods to develop the checklist.[26] This included guidance from an international expert panel, face-to-face and online consultation with large numbers of international patellofemoral pain researchers and clinicians, and multiple consensus voting rounds. Multiple opportunities for feedback were provided, and suggestions were incorporated before finalising the checklist and guidance.[26] Our comprehensive approach resulted in most items being recommended through consensus voting. We encourage peer reviewers and editors to consider submission of the REPORT-PFP checklist with all quantitative patellofemoral pain studies, and emphasise

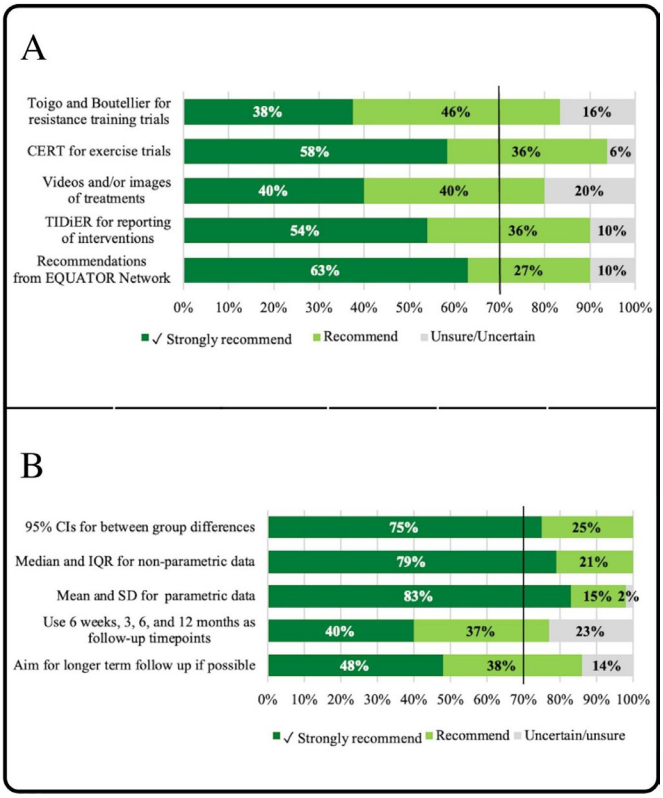

Figure 4 Consensus voting results for reporting trial methodology (A) and reporting study results (B). Vertical bar indicates 70% threshold for strongly recommended (dark green crosses line) or recommended (light green crosses line). CERT, Complete Exercise Reporting Template; EQUATOR, Enhancing the QUAlity and Transparency OfHealth Research; TIDiER, Template of Intervention Description and Replication.

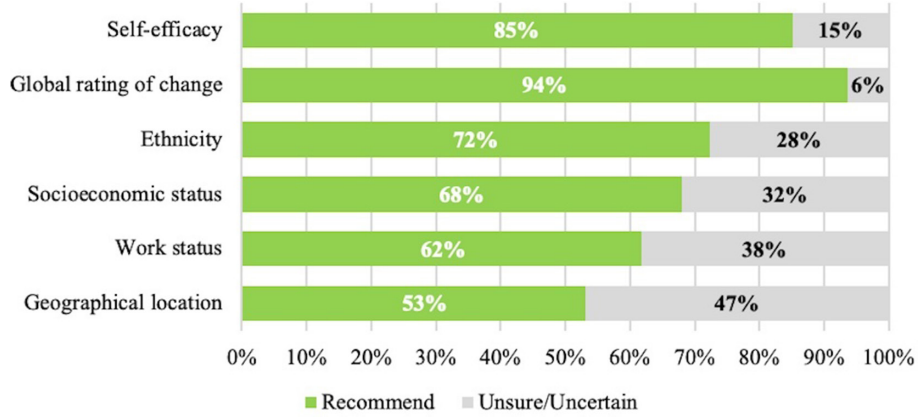

Figure 5 Consensus voting results for items discussed at the International Patellofemoral ResearchNetwork 2019 retreat and voted on after the retreat. Vertical bar indicates 70% threshold for recommended (light green crosses line).

adherence to the 11 'strongly recommended' items. The full checklist and associated recommendations of what to report (online supplemental appendix 4) will be freely available on the iPFRN website (https://ipfrn.org/report-pfp-checklist/) to guide researchers and clinicians.

Strongly recommended items

Two demographic and three baseline symptom items are strongly recommended (table 1), with adherence needed to improve evidence synthesis, and for clinicians to understand the applicability of patellofemoral pain research findings to their patients. Participants' sex is important, considering differences in muscle capacity and biomechanics between men and women with patellofemoral pain.[35–39] Age is associated with greater muscle capacity impairments[39 40] and development of patellofemoral osteoarthritis.[41 42] Pain severity and symptom duration can impact prognosis in people with patellofemoral pain.[14] Presence of unilateral or bilateral symptoms may reflect the magnitude of widespread pain and severity[10] and/or reflect symmetrical mechanical features believed to relate to patellofemoral pain,[43] and could impact symptoms and prognosis.

Reporting pain severity and a condition-specific patient-reported outcome were strongly recommended, and will enable direct relationship of research findings to clinical presentations. We did not seek consensus on specific outcome measures, but further work with patients to address this will be carried out around the 2022 iPFRN retreat. In the interim, guidance notes provided in the REPORT-PFP checklist include suggestions of two condition-specific outcome measures—the Anterior Knee Pain Scale (AKPS)[44] and/or Knee injury and Osteoarthritis Outcome Score Patellofemoral subscale (KOOS-PF).[45] The AKPS[44] is the most widely used condition-specific outcome for patellofemoral pain, and is valid, responsive, and has excellent reliability in this population (intraclass correlation coefficient=0.81).[46] KOOS-PF,[45] published in 2018, was developed with input from 50 patients with patellofemoral pain and/or osteoarthritis and 14 healthcare professionals. Initial evaluation following the COSMIN checklist indicates adequate measurement properties, including internal consistency, test–retest reliability, validity and responsiveness.[45] Regardless of outcome measure choice, describing them in adequate detail to allow replication is strongly recommended, and will assist replication studies and ensure clinicians can confidently apply evidence-based assessments in their clinical practice, reducing research waste.[47]

Reporting mean and SD for parametric data and median and IQR for non-parametric data, and 95% CIs for between-group differences is strongly recommended. These items were originally considered in the context of randomised controlled trial designs and between group differences. Following final consideration, we also recommend that precision of estimate should be provided for all inferential statistics, as is recommended in reporting guides for observational studies such as STROBE.[48] Adherence to these strong recommendations reflect EQUATOR Network tools,[21] and will address historic barriers to data synthesis and meta-analysis experienced by patellofemoral pain researchers seeking to guide clinical practice.

Recommended items

Reporting the 20 'recommended' items from the checklist will help clinicians interpret if the study's findings are applicable to the patient in front of them. Adherence will also reduce challenges frequently faced by researchers completing evidence synthesis due to heterogenous and often inadequately reported study details. Additionally, recommended items can also be used to guide planning of future research related to patellofemoral pain, including potential contribution to data collection by practicing clinicians. Suggestions for implementation, including specific instruments, are provided in online supplemental file 4). Recommended demographic items including body mass, height and BMI have been inconsistently reported in past research,[8 11] and physical activity[49] and ethnicity are seldomly reported. Yet each may plausibly influence prognosis and treatment outcomes,[50–52] making them important considerations when interpreting research findings. Recommended baseline symptom items including knee crepitus, pain quality, pain location and aggravating factors, will help researchers and clinicians understand the important characteristics of the population being investigated. For example, crepitus is associated with fear of damage,[53] patellofemoral osteoarthritis on imaging[54] and risk of symptomatic knee osteoarthritis development,[55] all of which may influence prognosis and adherence to treatments such as exercise-therapy. Previous treatment, knee surgery history and other musculoskeletal complaints, and comorbidities may also influence prognosis,[56] making them important to know.

Inclusion of GROC,[57] psychological outcome measures (pain-related fear, pain catastrophising, self-efficacy), and health-related quality of life alongside self-reported pain and disability outcomes (eg, AKPS[44]) may provide important insight into treatment outcomes and prognosis.[9 13 58–61] Building on the strong

Table 1 Checklist of strongly recommended and recommended items for quantitative patellofemoral pain studies

Section 1—items strongly recommended (essential)		Reported on page # or N/A
Demographic items		
1	Sex or gender of the participants	
2	Age of the participants	
Baseline symptoms and previous treatment items		
3	Symptom duration	
4	Pain severity	
5	Unilateral/bilateral complaints	
Outcome measure items		
6	Condition-specific patient-reported outcome	
7	Pain severity	
Outcome measure description		
8	Describe assessment in adequate detail to allow replication	
Reporting study results items		
9	Mean and SD for parametric data	
10	Median and IQR for non-parametric data	
11	Precision of estimate for all inferential statistics (eg, 95% CI for between group differences)	
Section 2—items recommended (encouraged)		**Reported on page # or N/A**
Demographic items		
12	Anthropometrics (including body mass and height, or body mass index)	
13	Physical activity	
14	Source/setting/location of participants	
15	Ethnicity of the participants	
Baseline symptoms and previous treatment items		
16	Previous treatment	
17	Pain location(s)	
18	Aggravating factors	
19	History of knee surgery	
20	Other complaints, musculoskeletal complaints and comorbidities	
21	Crepitus	
22	Pain quality	
Outcome measure items		
23	Physical activity	
24	Global rating of change	
25	Health-related quality of life	
26	Psychological factors (including self-efficacy, pain-related fear and pain catastrophising)	
Outcome measure description		
27	Provide measurement properties of assessments	
28	Provide videos and/or images of assessments	
Study methodology items, including reporting interventions		
29	Follow recommendations from EQUATOR Network[21]	
30	Use existing checklists for interventions, including TIDiER[66]; CERT[67 68] for exercise interventions; and Toigo and Boutellier[17 69] for resistance training interventions	
31	Provide videos and/or images of treatments	

CERT, Complete Exercise Reporting Template; EQUATOR, Enhancing the QUAlity and Transparency Of health Research; N/A, not applicable; TIDiER, Template of Intervention Description and Replication.

recommendation to describe outcome measures in adequate detail to allow replication, providing, or linking to, videos and/or images of any assessment or outcome measures is also recommended where possible. This can facilitate important 'how to' guidance for clinicians to implement new assessments into practice,[62] and improve the ease of completing replication studies for other research groups.[47] Additionally, providing measurement properties including reliability and validity of those performing assessments will ensure the trustworthiness of data is clear to researchers and clinicians.[63] Our consensus process could not provide consistent definitions for short-term, medium-term and long-term timeframes. However, the consistent use of 6, 13, 26 and 52 weeks follow-up where possible for clinical trials was recommended through consensus voting.

Consensus voting supported EQUATOR Network[21] recommendations for relevant study designs (eg, CONSORT,[64] STROBE[65]), including the TIDiER checklist[66] to report interventions with the addition of CERT[67 68] for exercise interventions. Adherence to these recommendations will help to address previous challenges with evidence synthesis and allow replication in future studies and clinical practice. For example, there is clear evidence that inadequate reporting of exercise-therapy programmes for patellofemoral pain has prevented recommendations about what type of exercise-therapy, if any, might be best.[17] Beyond the EQUATOR Network,[21] the REPORT-PFP provides important additional recommendations related to intervention reporting. Studies evaluating resistance training interventions are recommended to include detailed information based on the Toigo and Boutellier criteria,[17 69] and provide videos and/or images of all interventions where possible to aid with replication in research and clinical practice.[47 62]

Clinical implications

Systematic reviews, consensus statements and clinical practice guidelines are typically highly cited, meaning they are often considered of high quality by researchers and funders,[70] and are sought by quality journals. Yet, the heterogeneous and inadequate reporting of study details in patellofemoral pain research has meant the credibility of these evidence syntheses is frequently hampered. Additionally, no guideline has been able to provide clear guidance on 'how to' apply assessment and treatment recommendations for patellofemoral pain in clinical practice.[71] Ultimately, this reduces the trust clinicians place in using research to inform care they provide, stifling the translation of evidence and guidelines to practice, as is evident in the management of patellofemoral pain.[72 73] Our work to develop and disseminate the REPORT-PFP checklist was urgently needed to improve the trustworthiness of evidence syntheses, and help clinicians optimise evidence-based practice. If translatable research findings such as effective intervention are more readily applied by clinicians, this will improve research impact through improved health outcomes.[74] Our checklist and guidance notes (online supplemental appendix 4) will guide clinicians on how to embed data collection in their practice, and thus can facilitate development of a vital 'real world' evidence-base for one of the most commonly encountered musculoskeletal conditions.[1]

Limitations

Although we conducted extensive face-to-face and online consultation with the international patellofemoral research community, 20 of our 31 items were categorised as 'recommended', rather than 'strongly recommended'. Our consensus voting to develop the REPORT-PFP checklist did not include patient voices and further work is planned to address this. This will focus on refining items included (ie, how/what to specifically report—eg, which patient reported outcomes). We expect this work will lead to many 'recommended' items becoming 'strongly recommended'

in the future. Health professional training of our experts in the final round of consensus voting (2019) was predominantly physiotherapy/physical therapy (52%), with limited representation of researchers with a medical training (8%). The consensus participants are representative of the main research and clinical community treating patellofemoral pain. However, seeking additional feedback and critique of this checklist from general practitioners, rheumatologists, sports physicians and surgeons, who also commonly manage and research people with patellofemoral pain, may help to optimise acceptance and adoption.

We have not provided specific guidance for reporting biomechanical and imaging research in people with patellofemoral pain, with further work planned to extend the checklist to cover these specific fields of research. A concurrent iPFRN consensus related to pain and psychological features in the field of patellofemoral pain was developed during the 2019 iPFRN retreat,[75] providing guidance to researchers working in these fields. Evaluating uptake and effectiveness of the REPORT-PFP checklist, and iterative refinement will be priorities for this group. User feedback will be facilitated via an embedded survey on the iPFRN website (https://ipfrn.org/report-pfp-checklist/), allowing researchers and clinicians to evaluate usability and applicability, and providing an opportunity for suggestions on refinement. We expect the REPORT-PFP checklist to evolve based on this feedback, emerging evidence, understanding related to patellofemoral pain, and patient input. Any updates will be provided via the iPFRN website.

CONCLUSION

Strong recommendations about what essential items should be reported, along with a larger list of recommended items that should be considered in future patellofemoral pain research are provided. Strong stakeholder engagement during development of the REPORT-PFP checklist means consistent application by the international patellofemoral pain research community is likely. Adherence to the checklist, which provides standards for REPORT-PFP should improve clinical translation, clarity and trustworthiness of evidence syntheses, and guide sports medicine clinicians on how to collect data in their own practice.

Author affiliations
[1]Sport and Exercise Medicine Research Centre, La Trobe University - Bundoora Campus, Melbourne, Victoria, Australia
[2]Complete Sports Care, Hawthorn, Victoria, Australia
[3]La Trobe Sport and Medicine Research Centre (LASEM), La Trobe University, Bundoora / Melbourne, Victoria, Australia
[4]Centre for Sports and Exercise Medicine, London, UK
[5]School of Health and Rehabilitation Sciences, The University of Queensland, Brisbane, Queensland, Australia
[6]Department of Clinical Medicine, Aalborg University, Aalborg University Hospital, Aalborg, Denmark
[7]Physiotherapy, The University of Queensland, Saint Lucia, Queensland, Australia
[8]General Practice, Erasmus Medical Center, Rotterdam, The Netherlands
[9]La Trobe University - Bundoora Campus, Bundoora, Victoria, Australia
[10]Department of Health Professions, Manchester Metropolitan University, Manchester, UK
[11]Medical, Manchester United Football Club Ltd, Manchester, UK
[12]Department of Clinical Medicine, Aalborg University, Aalborg, Denmark
[13]SMI, Department of Health Science and Technology, Aalborg University, Aalborg, Denmark
[14]Sports and Exercise Medicine, Queen Mary University of London, London, UK
[15]Pure Sports Medicine, London, UK
[16]Erasmus MC, Rotterdam, The Netherlands
[17]University of Toledo - Health Science Campus, Toledo, Ohio, USA
[18]Department of Kinesiology, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin, USA
[19]Center for General Practice at Aalborg University, Aalborg, Denmark
[20]University of Southern California, Los Angeles, California, USA
[21]Spaulding National Running Center, Department of Physical Medicine and Rehabilitation, Harvard Medical School, Cambridge, Massachusetts, USA
[22]School of Medicine and Dentistry, Queen Mary, University of London, London, UK

Twitter Christian J Barton @DrChrisBarton, Danilo De Oliveira Silva @DrDanilo_Silva, Natalie J Collins @NatJCollins, Bill Vicenzino @Bill_Vicenzino, Marienke van Middelkoop @mvanmiddelkoop, Sinead Holden @Sinead_Holden, Simon Lack @simonthephysio, Henrik Riel @Henrik_Riel and Dylan Morrissey @DrDylanM

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ORCID iDs
Christian J Barton http://orcid.org/0000-0002-2489-5350
Danilo De Oliveira Silva http://orcid.org/0000-0003-0753-2432
Natalie J Collins http://orcid.org/0000-0001-9950-0192
Bill Vicenzino http://orcid.org/0000-0003-0253-5933
Marienke van Middelkoop http://orcid.org/0000-0001-6926-0618
Kay M Crossley http://orcid.org/0000-0001-5892-129X
Sinead Holden http://orcid.org/0000-0002-7314-2152
Simon Lack http://orcid.org/0000-0003-1732-9606
Henrik Riel http://orcid.org/0000-0003-4575-6293

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