Reviewer's report

Title: Care-seeking behaviour of adolescents with knee pain: a population-based study among 504 adolescents

Version: 1 Date: 21 May 2013

Reviewer: Daniel McWilliams

Reviewer's report:

My understanding of this manuscript and general points

This study examines risk factors for adolescents seeking medical advice about knee pain. It uses a nested design based upon sampling from an extant cohort of adolescents from 4 schools, and then examines some different research questions. I believe that some parts of this study are better designed, and the findings appear more robust, than other parts. I also believe that certain important biases will influence the findings, and that these need to be addressed. I have not read the papers describing the parent cohort for this study. I believe that any salient findings/descriptors should be mentioned in the text of this manuscript with a citation.

Main comments

1. The first part of the analysis focuses upon selecting adolescents with current knee pain and attempting to identify the cause or event associated with onset of knee pain. Traumatic and insidious onsets were not found to differ in some important ways, such as current pain severity. Table 2 describes this analysis, and it would be good to see significance highlighted on the table.

2. The second set of analyses attempted to identify those with knee pain that sought medical care from their GP. In general, I thought that the risk factors for knee pain were fairly well controlled for (perhaps a better indicator of mental health might have been useful), but risk factors for consulting a GP did not appear to be controlled for. I think that people who have consulted their GP regularly or recently are more likely to consult their GP about a new problem. Also, the authors state that socioeconomic status does not influence GP consulting in a country with universal health care. In the UK, which also has universal health care, this is certainly not considered to be the case. So it would be really useful to see socioeconomic status controlled for.

3. Cross-sectional studies are more likely to capture long-term cases of medical conditions. Were adolescents with previous knee pain (that had resolved) excluded? If not, this must surely be the strongest risk factor for current knee pain.

4. The final analysis attempted to determine the risk factors for adolescents to have their knee pain treated by their GP. I found this to be the weakest of the
analyses for a few reasons. Firstly, it had the lowest number of participants, because it was essentially a subgroup analysis. Also, there must surely be an interaction between adolescent and practitioner in deciding upon the course of treatment. Adolescents attending different clinics of GP’s were not controlled for (as far as I could see). This must be a large influence in deciding the course of treatment. Also, my reading of the methods suggested that some of the GPs decided upon referrals to hospitals or advised a period of inactivity. If the adolescent followed the GP’s advice, they were classified as being “not under treatment”. As far as I can tell, following GP’s advice should be the outcome measure for studying adolescents. Analysing GP practise should be out of this study’s remit, and it seems to be a very different outcome measure that was not well-described. I did not find the rationale for this analysis convincing, and I recommend that the authors reconsider the definition of the outcome measure in this section of the manuscript, and whether it should be included.

5. One general point with both of the first two analyses is that 4 different schools were analysed, but school was not controlled for in the analyses. Ideally, multi-level modelling is supposed to be most appropriate for examining school-associated effects. Alternatively, describing the school populations would be useful. If this has been performed in previous studies published from this cohort, it can be summarised in the text with a citation.

Other major comments

6. The EQ5D in table 4 seems to be the opposite of a dose-response gradient. Can this be explained?

7. In table 4, “contact to GP” is significant. I did not notice this variable in the methods. Can you clarify please?

- Minor Essential Revisions

1. Univariate analyses should be briefly described in the text before the adjusted statistics are described.

2. P values should be 3 decimal points every time.

3. All the empty cells in table 3 should be filled with the appropriate analyses.

4. Multivariate analysis has more than one dependent variable, or repeated measures. Multivariable analysis has more than one independent variable, but one dependent variable. Can you make sure that the terminology is correct.


Background, paragraph#3, sentence#1 “The purpose….”.

Methods, Interpretation of Adolescents Response, paragraph#1, last sentence “A total of 11…” (The use of ‘why’ is incorrect).

Discussion, Care seeking behaviour sentence#1, ‘Almost 60%….’.
Discussion, Implications for clinical researchers, sentence beginning with ‘This means that 40%...’.

6. What % of the APA2011 cohort was approached to perform this study?
7. Describe socioeconomic variation within the study population.
8. Did adolescents not taking physical education (due to poor health) miss the opportunity to register for the study?
9. Pain data was collected for the whole body. Will pain data for other body sites be published elsewhere? Has it already been published elsewhere? If so, please cite all publications.
10. Were previous knee injuries recorded?
11. Please define endpoint of “under treatment”, perhaps giving examples.
12. state what p value is taken as significance in the methods (ie. P<0.05).
13. In non-responder analysis, please give the numerical values of the data for each group, instead of just p values. Some p values are almost significant.
14. In Discussion, please report primary outcomes first, then report secondary and post hoc subgroup analyses.
15. Clearly label 95% CIs and IQRs in the tables.
16. Pain duration in months (median seems to be 24) is difficult to interpret as each significant OR is only 1.01. Perhaps division into tertiles would be easier to interpret?
17. Please clarify in the statistical methods section how each stratum of each co-variable has its own OR (95% CI) in the multivariable analysis. When I perform logistic regression (on SPSS), a single OR (95% CI) is yielded for each variable (ie. Average change across all strata). Were the variables entered more than once?

- Discretionary Revisions

Please report percentages of all important numbers in the Results.
Give prevalence of PFP in adolescents in Introduction.
Did the adolescents have low BMI values? Are other classification criteria, rather than the WHO, appropriate? Maybe tertiles?

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I declare that I have no competing interests with regards to the contents of this manuscript.