Reviewer's report

Title: Perceived stress and musculoskeletal pain are prevalent and strongly associated in adolescents. An epidemiological cross-sectional study.

Version: 2 Date: 29 July 2015

Reviewer: Yolandi Brink

Reviewer's report:

All Minor Essential Revisions

Abstract

Background
• The authors refer to distress, negative stress and perceived stress – Preferably use one term only
• “distress are increasing among young”
• “including the risk of”
• “There is a need for a better understanding”
• The authors refer to musculoskeletal pain and often to only pain – preferably always include musculoskeletal and make sure that the information provided indeed reflects musculoskeletal pain.

Objective
• “The objectives were to evaluate the prevalence” – no secondary objectives are mentioned

Methods
• A cross-sectional study was conducted” – please write full sentences throughout abstract
• elementary schools participated”
• “The outcomes were perceived stress”
• “and musculoskeletal pain”
• N=422 – please check this as the total sample = 423? It appears as if 422 reported musculoskeletal pain

Conclusions
• “Perceived stress and musculoskeletal pain were strongly”
• “probability of pain; variation in pain intensity (VAS) and the number”
• “potential indicators of disability” - revise this sentence as the study did not measure disability and thus cannot conclude this
• The last sentence needs to be revised as the meaning is unclear – at present it
Introduction

First paragraph

• “stress stimuli, prolonged and sensitized.” This corresponds to the”
• “when it becomes long-term”

Second paragraph

• “Swedish population there is an increase in neck and shoulder”
• “which is described as a psychosocial”

Third paragraph

• “individual more susceptible to long-term”
• “with respect to 1) prevalence, 2)”

Fourth paragraph

• “coping in adolescents and can make young people”

Fifth paragraph

• “to be associated with anxiety”
• “also associated with pain”
• “high prevalence of pain” – does this pain also refer to musculoskeletal pain or also psychosomatic pain – be very specific
• “The objectives of this study were to describe perceived stress and musculoskeletal pain in 16”
• “PSQ is a valid instrument for measuring perceived stress in an adolescent population.”

Methods

First paragraph

• “backgrounds, and was representative of Norwegian 10th grade pupils.”

Second paragraph

• “to the school principals and described in the invitation to participants and in”
• “emphasizing the voluntary and”

Third paragraph

• “Study outcomes” – suggested subheading
• “Perceived stress and musculoskeletal pain were outcome variables – the authors do not have secondary outcomes so it becomes unnecessary to mention primary
• “PSQ is a valid instrument for measuring perceived stress in an adolescent population.”
The responses to the items in the PSQ refer to experiences in the previous month.

Each item is scored on a 4-point rating scale.

Fourth paragraph

with an open line for additional sites.

pain sites, excluding the head.

The VAS is reliable as a measure.

The pain questionnaire in this study also

or diseases which could possibly be related to the pain.

Sixth paragraph

Mainly data from the items on

Apparently..... these items – please rephrase this sentence, poor sentences construction

Results

Third paragraph

Table 4: Also list the abbreviations for W, T, J and D in the table's legend.

Eighth paragraph

between head pain and extremity pain groups,

extremity pain groups.

extremity pain groups with respect

Discussion

First paragraph

The objectives of this study were to

Second paragraph

demonstrated a high prevalence of pain

in adolescents.

during adolescence.

Lower extremity pain was the pain site most frequently reported,

corresponds with the findings of

Third paragraph

mean stress level of the study sample

young people when applying

References 44 and 45: What was the prevalence of moderate to severe
perceived stress in these studies? Does it compare with the 22% reported in this study?
• “prevalence of moderate to severe stress”
• “adolescents in this study” – delete “present” from this phrase in the rest of the discussion as it is implied that the authors refer to the conducted study except if indicated otherwise.
• “had a greater prevalence of moderate to severe stress”
• “also discussed in Wiklund et al.” – please elaborate on these findings
• “were associated with”

Sixth paragraph
• “The stress response appears to no longer have”
• “more stress-related than extremity pain. This assumption resulted in an increased focus on cognitive-behavioural treatments for the presumed stress-related musculoskeletal”
• The findings of this study underscores the importance of a comprehensive understanding of pain mechanisms in young people,”

Seventh paragraph
• “The group with head pain”
• “though not significantly different”
• “appeared for (lack of) joy”
• “In adolescents, head pain is often associated with other conditions such as anxiety and mood disorders.” Remember that headache is also regarded as a psychosocial symptom and do not solely have a musculoskeletal origin

Eighth paragraph
• “perceived stress is predictive of”
• “The lack of correlation between levels of stress and different types of musculoskeletal pain challenges common clinical understanding in that a painful knee could be considered just as affected by stress-mechanisms as neck and shoulder pain (Table 8).”
• “(Table 4) implies possible stress-induced sensitization among adolescents. If we increase stress ….approaches, e.g. by intrusive….exercises, it might worsen…prolong the pain and ….conditions and lead to more illness”

Ninth paragraph
• “The study investigated critical”
• “The items concerning pain-related injuries/diseases” – how could this limitation be addressed in future studies?

Conclusion
First paragraph
• “Perceived stress and pain are associated in adolescents.”
• “aspects of pain i.e. number of …..correlated with stress measured by different factors i.e. worries….and demands.”

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