Author's response to reviews

Title: Agreement of Self-Reported Physician Diagnosis of Migraine with International Classification of Headache Disorders-II Migraine Diagnostic Criteria in a Cross-sectional Study of Pregnant Women

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Author's response to reviews: see over
Thank you for your letter of October 8, 2013 regarding manuscript number: MS: 9682294411034761; entitled “Agreement of Self-Reported Physician Diagnosis of Migraine with International Classification of Headache Disorders-II Migraine Diagnostic Criteria in a Cross-sectional Study of Pregnant Women”. We appreciate the thoughtful review offered by the reviewers. We have revised our manuscript to incorporate the many valid comments and suggestions that reviewers offered for our consideration. All authors have read and approved the revised version of the paper.

Reviewer 1

The article plays considerable interest.
Authors should highlight possible differences between nulliparous and pluripara. --- In the result section, we added the concordance by Cohen’s kappa coefficient which was 0.56 (Page 9). In nulliparous women, the Cohen’s kappa coefficient was 0.55; In multiparous women, the Cohen’s kappa coefficient was 0.58. We did not observe differences between nulliparous and multiparous women as predicted by the reviewer (page 9).

Second should be reported among the possible limitations of the study the fact that a diagnosis in this period can be misleading since during pregnancy there may be transient changes in the characters of primitive headaches (see Maggioni et al. Headache during pregnancy, Cephalalgia 17: 765-69; 1997).--- We have added the caution to the limitation section: “caution must be taken that migraine diagnosis made during pregnancy may reflect transient changes in the characters of primitive headaches (25); however, in current study, 93.3% of ICHD-II defined migraine patients reported that their headache attacks started more than one year before the interview, hence mitigating concern of misclassification in this case (page 11).

Reviewer 2

In a group of 500 pregnant women, the authors assessed the concordance between self-reported physician diagnosis of migraine and the diagnosis of migraine established considering the women’s answers to a structured questionnaire based on the diagnostic criteria of the
International Classification of Headache Disorders, 2nd edition (ICHD-II). The greatest limitation of the study is represented by the fact that the self-reported physician diagnosis of migraine was not compared against a Gold Standard using a face-to-face interview, but against a questionnaire-based diagnosis.

Major Compulsory Revisions
1. Concordance should be determined also by estimating the value of Cohen’s kappa coefficient (Cohen J. A coefficient of agreement for nominal scales. Education Psychol Measure 1960; 20:37-46.) --- We have added the Cohen’s kappa coefficient to the method (page 7) and result (page 9).

2. The diagnostic section of the questionnaire should be attached to the paper. --- We have attached the deCODE Migraine Questionnaire (DMQ3) as the supplemental.

3. Background
Page 4: The last sentence of the Background section should be rewritten so as to explicitly state the primary objective of the study. --- We have rewritten the sentence to make our objective more clear (page 5).

4. Methods
4.1 Page 4: Indicate whether the 500 women in the initial sample were consecutive referrals at the Swedish Medical Center or whether some kind of selection was applied. --- The 500 women in the initial sample were consecutive referrals to the Swedish Medical Center (page 5).

4.2 Page 4: Specify the tools that were used to evaluate the disability associated with headaches experienced before and during pregnancy. --- We used Migraine Disability Assessment (MIDAS) Questionnaire (Stewart 2001) to assess disability associated with headaches experienced before and during pregnancy (page 6).

S28.4.3 Page 4: Indicate whether the questionnaire used to establish the diagnosis of migraine was previously validated and, in the affirmative, specify (a) the Gold Standard it was tested against; (b) the testing modality; and (c) its sensitivity and specificity values. --- In previous validation study, using a physician-conducted interview as an empirical index of validity, the deCODE Migraine Questionnaire (DMQ3) diagnosed migraine with a sensitivity of 99%, a specificity of 86% and a kappa statistic of 0.89 (Kirchmann 2006).
4.4 Page 4: Indicate whether the questionnaire was administered by a physician. – The deCODE Migraine Questionnaire (DMQ3) was administered by trained interviewers supervised by neurologist and maternal fetal medicine clinicians. (page 5) and we addressed the limitation in discussion (page 10).

4.5 Page 4: Indicate how the presence of a previous physician diagnosis of migraine was determined in the women under study. Was there any specific question in the questionnaire? Was it necessary that the physician diagnosis of migraine be proved by medical records or was it enough that the diagnosis information be simply reported?--- The deCODE Migraine Questionnaire (DMQ3) ask the question “Have you been diagnosed with migraine?”. It’s simply self-reported (page 6, 7).

Page 7: The sentence “We confirmed self-reported migraine in 81.6% of women when applying the ICHD-II criteria for migraine (63.1%) and probable migraine (18.5%)” should be changed specifying “ […] criteria for definitive migraine (63.1%) […]”.---We have revised the text accordingly (page 7).

6. Discussion:
Page 7: The authors state “Our study finding of a high prevalence (29.8%) […] is consistent with prior literature [...]” and to support their statement they mention the 1-year prevalence found in the American Migraine Prevalence and Prevention study. It would be more correct to have data compared considering the studies that evaluated the lifetime prevalence of migraine, because it seems that in this women cohort the past/1-year prevalence was not investigated.---For health economic calculations; the 1-year prevalence figure indicates that the proportion of the population that has an active disease, which is more relevant than lifetime prevalence. Data on lifetime prevalence might be considered less reliable due to recall problems in the elderly. In children/adolescents, one may assume that the lifetime and 1-year prevalence estimates are not very different. Our study population restricted to reproductive-age pregnant women (mean age 32.9 ± 4.4 years old), we assume the lifetime prevalence could be a little bit higher than 1-year prevalence. The purpose of citing this reference is to give readers an opportunity to see that there is comparability of characteristics of our study subjects between our study population and AMPP study. Such comparisons are typical for epidemiological research. No change has been made.
7. Conclusions: Page 9-10: The sentence “Our findings demonstrate the feasibility of using questionnaire-based migraine assessment according to full ICHDII criteria in epidemiological studies of pregnant women” is not correct. The validity of the questionnaire was not studied in this population. It can only be stated that there was a certain degree of agreement, which should be quantified, between self-reported physician diagnosis of migraine and the diagnosis of migraine based on the questionnaire according to the ICHD-II criteria.---We have addressed the limitation that our ICHD-II-diagnosed migraine is based on questionnaires administered by trained interviewers instead of the gold standard of physician examination (page 11). And we further toned down the sentence in the conclusion (page 11).

Minor Essential Revisions
Throughout the text, please replace ICD-II with ICHD-II. --- We have corrected the typo error in the text.

Thank you for your attention to our manuscripts.

Yours sincerely,

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