Reviewer's report

Title: Association between shift work and obesity among female nurses: Korean Nurses' Survey

Version: 1 Date: 23 September 2013

Reviewer: Lara Sigurdardottir

Reviewer's report:

In my opinion this is an interesting study addressing the correlation between shift work duration and overweight/obesity, although it is marked by the limitation of its cross-sectional design. It is a worthwhile addition to the literature on this topic. Overall, the question posed by the authors is well defined. The data are sound except to me the association between current shift work status and obesity is less informative than duration of shift work since the participants are still fairly young. I would also be careful about addressing the associations that are not age-adjusted since age is a major confounder in this study.

Please find my concerns outlined below, which are discretionary revisions:

ABSTRACT
Results: In which direction is the statistically significant difference?
You shouldn’t need the p-value when you have OR.

BACKGROUND
First paragraph, last line: I would have liked to see more on the potential underlying mechanisms of how shift work relates to obesity, such as the effect of leptin and ghrelin?
Third paragraph: References are missing and it would be useful to see the average ratios from previous studies on the association between shift work and BMI.

METHODS
Third paragraph: It would have been interesting to see the association of overweight (without obesity) alone. I guess that information on night shift work was not available: It would have been interesting to look at night shift work separately since night shifts are the real hazards for circadian disruption etc.

RESULTS
First paragraph: Table 1 –> most of this significance is probably explained by age. I think it would have been interesting to look at the association between hyperlipidemia and shift work with adjustment for age since night shift work is a risk factor for metabolic disease. Sometimes you use percentage but sometimes not in the text, might be more consistent. Please do not re-write table 1 in text, state what you think is most important.
Second paragraph: Can the positive increase in weight with shift duration be driven by age? Is it possible to stratify for age groups? I would consider combining Table 1 and 2.

Fourth paragraph: Even though Tertile 2 is not significant I think the trend is interesting.

Fifth paragraph: Consider omitting Table 4 since it does not add much to Table 1.

DISCUSSION
Second paragraph: If 66.5% are of normal weight and 18.6% overweight/obese what are the remaining 14.9%?

Fourth paragraph: “However, our findings showed no association between shift work duration and obesity” ...How about Model 2, tertile 3: 1.56(1.05-2.31)? Also, I would avoid using “outcome” in correlation study since exposure is usually followed by outcome in studies with prospective nature.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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’ below.