Reviewer's report

Title: Dietary patterns are associated with obesity in Japanese patients with schizophrenia.

Version: 1 Date: 5 April 2014

Reviewer: Bjorn Ebdrup

Reviewer's report:

Review of
Dietary patterns are associated with obesity in Japanese patients with schizophrenia
BMC Psychiatry, 2014

In this study the authors examined the association between dietary patterns and obesity among patients with schizophrenia in Japan. The authors address an important and clinically relevant question.

A straightforward cross-sectional design was applied and an appropriate number of patients (n = 338) was included. The simplicity of the design makes this manuscript clear and sound and generally the writing is acceptable.

Suggestions to further improve the manuscript are ordered in the categories below in order of appearance:

- Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)

Abstract:
- “Three dietary patterns were identified: healthy, processed food, and alcohol and accompanying dietary patterns.” Strictly it appears the four categories are mentioned too many commas and ‘ands’: please phrase so these three patterns are clearly indicated.
- Can the “tertiles” be specified/defined better in the Abstract?
- “After adjusting for potential confounds..”- specify which confounds (age and gender?)

Background:

Methods:
“The BDHQ was previously validated using 16-day dietary records as a reference in 92 men and 92 women, aged 31–76 years; the median (interquartile range) Pearson correlation coefficients for 42 nutrients were 0.56 (0.41 to 0.63) for men and 0.54 (0.45 to 0.61) for women [18].” For this
purpose this is too much detail- state that it is a validated questionnaire and provide the ref.

Statistical analyses:
“We derived dietary patterns through a principal component analysis of energy-adjusted intake that used a density method” define/describe ‘a density method’ and provide ref if available.
Scree test: provide ref.
Start Statistics section by presenting statistical software used.

Results:
Only 18% of patients were obese: this is a strikingly low number- e.g. lower than the prevalence in the US background population and much lower than in previous studies which report up to 60% (see e.g. Kolotkin RL, Corey-Lisle PK, Crosby RD, Swanson JM, Tuomari AV, L’italien GJ, Mitchell JE: Impact of obesity on health-related quality of life in schizophrenia and bipolar disorder. Obesity (Silver Spring) 2008, 16:749-754.) This aspect should be addressed in the Discussed: are the patients in this study selected or is the presence of obesity so markedly different in Japan as compared with Europe/US?

“Odds ratio section”
Again spell out “potential confounds”

Discussion
“Patients with schizophrenia have poorer diet quality (e.g., consume less dietary fibre and vitamins) than the general population [20, 21], but few studies of the association between diet quality and obesity have been conducted in schizophrenic populations.”- strictly, this is redundant as it has been stated in the Introduction- suggest to delete.

“To date, several cross-sectional studies have found a significant correlation between dietary patterns and obesity [22-24]. In a US study [22], poorer diet quality (measured by a healthy eating index) was a significant independent risk factor (OR = 1.8, 95% CI = 1.4 to 2.5) for obesity after adjusting for confounding factors. Schröder and colleagues also reported that participants in the top quartile of the Mediterranean diet score showed a significantly lower risk (OR = 0.7, 95% CI = 0.5 to 0.9) for obesity than those subjects in the first quartile after
multivariate-adjusted analyses in a Spanish population [23]. In a Korean population [24],
the high tertile of meat-fat dietary patterns, characterised by high intakes of red meat, oil,
poultry, and noodles, was positively associated with obesity (OR = 2.8, 95% CI = 1.4 to 5.4).
In addition, large prospective studies assessing dietary patterns in relation to weight gain over long-term follow-up support our results. Schulz and colleagues found that dietary patterns that are high in whole grains, fruit, and vegetables and low in meat and high-fat dairy are associated with significantly less weight gain over a 4-year period in the European Prospective Investigation into Cancer and Nutrition (EPIC) Potsdam cohort [14]. The Nurses' Health Study II in US examined the relationship between dietary pattern and weight gain over 8 years and found that increases in Western dietary pattern scores were associated with the greatest amount of weight gain, whereas increases in a prudent dietary pattern score were associated with the least amount of weight gain [25]. Across a 9-year follow-up period, Newby and colleagues reported that increases in the healthy pattern score were inversely associated with changes in BMI in the Swedish Mammography Cohort [26]. In the Black Women's Health Study [27], the vegetable/fruit pattern was associated with significantly less weight gain over 14 years, whereas the meat/fried foods pattern was associated with significantly greater weight gain.”

- this section is just one very long list of similar studies in non-psychiatric populations- but this could easily be condensed and put in Introduction as no attempt is done to specifically relate to the present results. Rather a comment of the low prevalence of obesity would be of interest.
Moreover, a discussion of the pros (and cons) from using an advanced statistical methods to extract dietary patterns should be addressed. This is important since the conclusion of the study is somewhat trivial and intuitive- bad eating patterns are associated with obesity. This is already evident from table 1. Nevertheless, it appears that PCA refines this patterns, which of course should be mentioned.
As mentioned is is a major limitation that medication and psychopathology was
not assessed. If available in any way this data (or even proxy measures) would considerably improve the importance and scientific merit of this work.

“Fourth, because all of the participants were volunteers who were interested in their health, they may not be representative of typical subjects with schizophrenia.” - as reflected in only 18% being obese?

- Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Background:
“However, no study has investigated associations between dietary patterns and obesity among patients with schizophrenia.” –is repeated at the end of Background and should be deleted.

Method:
Strictly, BMI should be defined (unit)

Tables:
Legends to all tables should be self-explanatory- Please elaborate.

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: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare that I have no competing interests