Author's response to reviews

Title: Somatic health among heroin addicts before and during opioid maintenance treatment: a retrospective cohort study

Authors:

Ivar IS Skeie (ivskeie@online.no)
Mette MB Brekke (mette.brekke@medisin.uio.no)
Morten ML Lindbaek (morten.lindbak@medisin.uio.no)
Helge HW Waal (helge.waal@medisin.uio.no)

Version: 3 Date: 13 July 2007

Author's response to reviews: see over
Point-to-point answer to the reviewers’ reports

First I would like to thank you for the thorough reports which have been of great help during the revision of the manuscript.

We agree that Version 2 of the manuscript was rather short, especially concerning Background and Methods. We have expanded these parts of the manuscript, and I hope that this expansion answers to most of the reviewers’ questions regarding the article. In this letter we will give point-to-point response to the reviewers’ comments:

Reviewer Jodie Trafton:

Background

1. We first give a concise description of key health problems among opioid addicts, with several references. We have removed the paragraph about “insufficient knowledge of epidemiological patterns” as we do have – as you say – considerable knowledge of health epidemiology in this group in spite of insufficient contact with health services. We refer to studies on mortality, health related quality of life (HRQOL), self-reported symptoms and studies of health care utilization based on registers and some studies and reports on special diseases. This summary is still rather brief, and could be expanded if requested.

2. We then briefly describe what is known about health effects of OMT: reduced mortality shown in observational studies, but not in RCT meta-analyses, improvement in HRQOL and self-reported diseases (ATOS – Australia). Besides this, we have not found studies on OMT effects on morbidity in a pre/during/post perspective based on medical record data.

3. Further we describe heroin dependency in Norway and the Norwegian OMT program and give reasons why we find it possible and suitable to perform a study like this in Norway.

4. Finally, we formulate the objective of the study, and we specify that the aim was to study “health care utilization due to somatic disease before and during OMT” and not morbidity directly.

Methods

5. The interview is now not described as “structured”, just as a “patient interview”, we find this more appropriate. No validated interview instrument suitable for the information we needed was available, we used the diagnose list (which will be described later) and time-line-follow-back procedures to make it easier to remember disease incidents. The patients’ information turned out to be chiefly correct, when controlled against the records, regarding type of disease or injury and where they had received treatment, but more imprecise regarding the point of time. There was one interviewer, the first author (IS).

6. We have changed the term “disease episode” to “disease incident”, which probably better describes what kind of health care contact we include in this term. A disease incident and what is included in an incident is defined in the first paragraph in the Measure part in Methods. We have in Version 3 not used the term “acute” incident, but our definition of an incident “as a health problem, acute or sub-acute, resulting in a health care contact”, which is
further described in this paragraph, should be rather precise. ICD-10 and ICPC diagnoses were obtained. The coding of incidents related to psychological or acute incidents related chronic conditions are described. Only incidents that were documented in records from hospitals, Outpatients’ Departments, emergency wards and GPs within the observation period were included.

7. Collection of record data. Medical records are stored separately at hospitals, Outpatients’ Departments, emergency wards and GPs in Gjoevik. There is only one hospital in the town. We requested records from all health services patients reported to have visited, in Gjoevik and elsewhere. We did not look for records where patients had not mentioned receiving treatment. The full-text record were scrutinized by IS and information on diagnose (and relation to substance use if possible), severity, inpatient and outpatient days was extracted. We have in Version 3 defined more exactly inpatient and outpatient days: Number of inpatient treatment days is called “inpatient days” and number of days when a patient has received treatment in an Outpatients’ Department (which in Norway are organized as hospital units) is called “outpatient days”.

8. The severity scoring. First, we graded incident severity on a three-point-scale (severe, moderate, not severe), but the inter-rater agreement on this scoring was so bad that we decided to use a two-point scale (severe/moderate versus not severe) with somewhat better agreement (κ=0.49), though still rather poor. This is described in Version 2. This could be confusing, and we have in Version 3 simplified this and just describe the two-point scale differentiating between “severe” and “less severe” and we define and give examples of these two categories. Trivial incidents, which we exemplify, were not counted. The severity scoring was done by IS.

9. The diagnose categorisation list. Examples of “other substance-related episodes” are given. The categorisation was based on record information and was performed by one person, IS.

10. Inter-rater agreement: This was performed on a subsample (22 incidents in 6 patients) by IS and another physician (specialist in infectious diseases, not author of this paper). IS’ scorings were used where there was disagreement.

11. According Trafton’s paragraph 8: The patients’ relation to health services and medical treatment before and during OMT is discussed in detail in the three first paragraphs in Discussion.

Results

12. Key cohort characteristics are given in a new Table 1, separated by gender. Ranges in age and dosage are given.

13. The tables named 1-4 in Version 2 are named 2-5 in Version 3. Regarding Trafton’s paragraph 10: Incident/treatment day are defined in the text.

Discussion

14. Trafton’s paragraph 11: We agree that the statement “the study demonstrates a high level of somatic morbidity and health care consumption” is not sufficiently supported by our results. Hence we leave this out. The aim of our study was not to compare morbidity to other groups or the general population, but to examine pre/during OMT changes in health care utilization and to assess whether and to what extent these changes could be seen as an indicator/proxy for changes in morbidity related to OMT. A “high” level of morbidity among
heroin addicts in general is indirectly confirmed by the high mortality in the group. To our knowledge there are no good epidemiological data regarding incidence of these diagnostic categories in the general population or in defined population groups. There was no non-opioid-dependent control group in the study, this would have made the study much more complicated, expensive and time-consuming and it would not have been essential to the key question, the pre/during OMT changes.

15. Trafton’s paragraph 12: Whether OMT just prevents direct medical consequences of drug use or improve physical health in general is a good question. However, because of the small number of patients, we consider that we can not answer this question satisfactorily. Questions like this can possibly be addressed in an enlarged study which we are planning.

Language

16. We have tried to improve the language as best we can. Some changes in terms are important: Disease “episode” is changed to “incident”. In Version 2 we used the term “substance use control”, this is a “direct” translation of a term (“ruskontroll”) used in Norwegian which probably does not appear precise and meaningful in English. What is meant in this paper by this term is whether a patient shows ongoing drug use during OMT or not, and in version 3 we simply say it like this. Generally we have tried to make the language more precise, especially regarding topic-specific content. The manuscript has not been checked by a professional English editing company, this may be done if requested.

Level of interest

17. As OMT is the dominant therapy for opioid addiction in most parts of the world, we think that the question whether OMT leads to reduced somatic morbidity and reduced health care utilization among heroin addicts will be of interest not only to “those with closely related research interests”. The results are probably of interest to GPs and other clinicians as well as professionals concerned with health care planning and public health issues.

Reviewer Benedikt Fisher:

General

18. Language: We refer to point 16.

Abstract

19. Abstract: “Somatic disease incident” is defined, and data sources are specified. Concerning the shift from “episode” to “incident”, see point 6 and 16.

Background

20. References concerning HIV and hepatitis have been inserted. The conclusion on the findings is removed from the background section.
Methods

21. The Norwegian OMT program is described in more detail with specifications of the criteria for entrance and termination of OMT in Norway.
22. The interview: See point 5.
23. The inter-rater agreement concerning empirical data in the study: Inter-rater agreement is tested regarding a) the relation of incidents to substance use (related to substance use or not) ($\kappa=1$), and diagnostic group ($\kappa=0.82$) which are both very good, and b) a two-point incident severity scale (severe/less severe), ($\kappa=0.49$) which is rather poor.

The main finding of the study is the overall reduction in disease incidents which is independent of diagnosis categorisation and severity score. Further, based on incidents’ relation to substance use and diagnose group, we found that the reduction was greatest regarding substance related incidents and especially injection related ones, and concerning these variables inter-rater agreement was good. Concerning the severity score, agreement was poorer, this relates to the results in table 3 (severity before/during OMT) and table 4 (before/during OMT changes in severity and health service contact). This is discussed in the paper, and we decided to include these results in the paper.
24. The question whether it will always be possible to establish whether an incident is related to substance use or not: We discuss this briefly in the paper. Moreover, the numerically dominant diagnose groups, the overdoses and the injection related incidents, are in general obviously related to substance use. Thus this problem is of less importance concerning this paper. Concerning the coding of acute problems regarding a chronic disease, these are coded dependent on the relation of the chronic disease to substance use. For instance acute problems related to asthma, diabetes or coronary heart disease would be classified as “other non-substance-related incident”, while an acute problem related to HIV or HCV would be classified as “other substance-related incident” (only acute hepatitis and HIV-infection was defined as injection related incidents). However, as you say, there are examples when it is difficult to classify on relation to substance use, for instance a heroin-addicted diabetic will suffer increased risk of diabetic complications like hypo- or hyperglycaemia.

However, as stated before, in this study this was not a great problem. In an extended study one could address this problem by focusing on defined diagnose groups (for instance problems related to chronic hepatitis C or diabetes), and not necessarily relating them to substance use or not.
25. The evaluation of ongoing drug abuse during OMT: The data on this were not gathered as a part of this study, we used data collected annually within the OMT treatment program by therapists treating the patients. Inter-rater agreement on the questionnaire used in this annual report has been studied previously, the $\kappa$-values concerning use of different drugs during the last four weeks were varying (see Version 2). We did not use the ratings on the different drugs but included only the therapists’ judgement on overall drug use during the last four weeks. No $\kappa$-value exists on this variable. We simplified the annual scorings to a two-point score (extensive versus no/not extensive drug use) for the whole observation period. We have therefore reformulated this paragraph in Methods in Version 3, not referring to the evaluation of the questionnaire, and we mention this uncertainty in Discussion.

Results

26. We hope to have clarified the methodological issues, clarifying a more secure basis for the results.
27. We have corrected the sentence according Table 4 and have used Fishers proposed formulation.
28. Table 1 now displays key cohort characteristics by gender.
29. All but one out of the study sample (97%) were HCV antibody positive. In spite of this, very few incidents could be classified as HCV related, and only one patient received anti-HCV treatment during OMT. HCV might have contributed to “health collapse” with bad nutritional and general condition, leading to admissions or health care visits, but HCV-related problems played a relatively moderate part in the patients’ contact with health services. Moreover, this reflects that few OMT patients received anti HCV treatment in Norway up to 2005.

**Level of interest**

30. Se point 17.

**Language**

31. Se point 16.