Reviewer’s report

Title: Non-specific complaints in the ambulance; predisposing structural factors.

Version: 2 Date: 12 January 2015

Reviewer: Erika Frischknecht Christensen

Reviewer’s report:

Thank you for giving me the opportunity to review this interesting paper. The topic for this study is to elucidate predisposing factors related to the assessment by the ambulance personnel of patients as non-specific complaints (NSC) compared to a gender-and age-matched control group of patients assessed with specific complaints. The topic is very relevant in both out-of-hospital (EMS) and hospital emergency care, as patients with NSC might be undertriaged or suffer serious condition. The background is well presented and the methods are reasonable, although I have some issues concerning the aim and the method, please see below. The results are presented well, and the discussion covers most aspects and the conclusion is adequate.

Major comments:

Aim

1) The aim was to identify factors, such as urgency according to the dispatch priority of the Emergency Medical Communication Centre (EMCC) and the workload in the Emergency Medical Services (EMS) study. Both these factors are of interest and relevant to study, but are they both so-called structural factors? I agree that the workload is a structural factor. But the level of urgency assessed by EMCC is factor concerning the severity of the condition of the patient based on the available information. It is a patient related factor, not a structural factor.

Method

2) The aim was to elucidate whether NSC assessment is more often done during the more busy hours for the EMS. However, neither the total numbers of EMCC calls or dispatches, nor the number of EMS cases during the weekdays and the hours are given. Figure 1 shows the distribution of patients during the 24 hours, but only for two study groups, a total of little less than 1000 patients, representing only a little more than two patients per day. The curve looks similar to curves for emergency patient flow, but please supply with information on the total EMS patient flow to document the busy hours for the EMS.

3) The method was registry-based case-control study, based on NSC patients admitted during one year to an emergency department (ED) with control cases randomly drawn among the registry of patients admitted to the ED by EMS and assessed as specific complaint. The control group is matched for age and gender, but not for the 140 medical conditions in patients assessed as ‘specific complaints’. This implies a risk of the one-to-one control group covers a non-representative sample of emergency medical conditions. Please, specify
whether the diagnostic pattern was as the ED patient population.

4) Though a one-to-one match has been chosen, it does not seem that a paired-analysis was chosen. As it seems that the authors chose to compare the two groups – which is fine - please, explain, why you did not draw a larger control-group to ensure a representative sample concerning the medical conditions?

5) The authors say that the frequency of NSC patients peak in the 11 a.m. to 2 p.m. However, in Figure 1, it seems to peak at 10 a.m.

Discussion

6) The discussion – correctly – stress that low level of EMCC urgency is more frequent among NSC. However, both groups have more high level of urgencies (EMCC level) and in both groups appr. 20% is changed to a lower priority level by EMS, a bit more in the control group. Please, elaborate.

Minor comments

7) Which system for assessment of medical condition do the EMS use?

Discretionary comments

8) Minor writing errors – please read manuscript thoroughly:
Spelling errors/missing letters in reference list, f.ex. line 236, 240, and missing decimals in 346 (should be 3.46) – table 2.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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