Reviewer's report

Title: Consumer-Perceived Risks and Choices About Pharmaceuticals in the Environment: A Cross-Sectional Study

Version: 2 Date: 19 April 2013

Reviewer: Katrin Arning

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Dear Editorial team,

the aforementioned paper addresses individuals’ risk perception of pharmaceutical pollution and analyses perceived trade-offs between drug-related effectiveness and pollution in two different scenarios, i.e. human medicine and agriculture.

I found the study interesting and relevant for environmental health research, since it addresses the (insufficient) „green profile“ of pharmaceutical products and might contribute to a more value-sensitive design in pharmaceutical industry. I really liked the research approach, i.e. the investigation of cost-benefit trade-offs in a choice situation and the anchoring of the research question in two differing scenarios. Moreover, the authors considered and followed most of the suggestions of their reviewers, which further improved the quality of the paper. Nonetheless I would like to suggest some ideas for improvement.

1) (Major Essential Revision). The focus of chapter „severity of illness“ should be broadened by including the issue of consumers’ (patients’) risk perception and decision-making. So far, the introduction mainly focuses on the technical or pharmaceutical side of the problem, neglecting the user side and related factors (e.g. severity of illness) in patient decision-making.

2) (Major Essential Revision). Since the paper investigated health-related consumer decisions, why was respondents’ health status not assessed? I am convinced, that the inclusion of this user factor will explain further variance in trade-off-decisions and in drug regulation acceptance.

3) (Major Essential Revision). I wonder about the comparability of the operationalization of the ecological cost factor in the medical and agriculture scenario. I think the ecological consequences (decline in the reproductive rate of the rainbow trout vs. increase in the number of antibiotic resistant bacteria) are not comparable in the two scenarios, since their differing relevance for consumers. In the agricultural scenario, the ecological costs might have direct consequences for the consumer (cattle as part of the food chain), whereas the decreasing population of rainbow trout does not directly affect him/her.

4) (Minor Essential Revision). For completeness reasons: could you please report if (or not) there were any statistical interactions in the ANOVAs?
5) (Minor Essential Revision). In order to improve the comprehensibility of the choice task results (p. 18): could you please add the version number to the “drug pairs” in the text? Otherwise it is difficult to switch between the text (where drug names are used) and the figure (where version numbers are used).

6) (Major Essential Revision). In the discussion you refer to the affect heuristic to explain the lower risk perception ratings for pollution caused by drugs used in medicine. How do you exclude that respondents’ information deficits about negative environmental effects of disposing drugs caused reduced the risk perception ratings?

**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.