Reviewer’s report

Title: Needlestick injuries among dental health care workers in non-hospital settings

Version: 1 Date: 28 May 2006

Reviewer: Peter Leggat

Reviewer’s report:

General
This is an interesting research paper examining an important occupational health issue in the dental health care industry, which are needlestick injuries (NSI). The focus is dental health care workers (HCW), including dentists, dental hygienists and dental assistants. The concerns posed by NSI are those diseases that might be transmitted by such exposure incidents, including serious viral infectious diseases, such as HIV and Hepatitis B and C. The study utilizes workers’ compensation returns in Washington State. It is unclear why non-hospital settings was the specific focus of the study, but it is presumably because the numbers of claims from hospital settings was too small to be included and analysed. It is important to check English style for the journal for consistency and it would have been helpful to number the pages.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Title
The title could include the area of the study, i.e. Washington State. The title is otherwise fairly self-explanatory.

Introduction
A short half-page introduction is given. The introduction could benefit from additional impact statements in the initial sentences, perhaps relating to HIV, HBV, HBC infection etc. International agencies, such as the WHO and ILO, might provide a useful source. There seems to be insufficient work-up of the dental angle of the present study.

Are there standards, policies or guidelines concerning NSI and reporting in dentistry?

NSI is a restrictive heading in dentistry, since sharps injuries and percutaneous exposure incidents (PEI) are more than NSI and may include various sharp instruments, e.g. burs, probes etc.

The objectives are not that clear.

Methods
A two-page presentation of the methods is given. Presumably relevant ethics clearances were given. When was the study conducted (when was data extracted on the claims with injury dates indicated)?

What was the total eligible population of dental HCW? It is noted that denominator data was not available in terms of hours worked, however was data available on total population covered by workers’ compensation insurance? E.G. some private, Federal, military and other workers may not be covered.

Although source codes are mentioned for NSI, it would be useful to give further information on the definitions used in the source codes supplied by the American National Standards Institute (ANSI).

It is stated that total direct costs were “estimated”. This needs to be explained further.

It needs to be clarified how the laboratory test results were sourced and interpreted. Were these tests performed in a referenced or accredited laboratory?

Results
Was there any missing data? Was all claim data available for the population under study.

Presumably the increase in injuries noted was independent of any other factors such as change in coverage of workers’ compensation.

Tables and figures

There are three tables and one figure.

Data presented in Tables 1-2 and Figure 1 may overlap significantly with data presented in reference 12, although it presents data for a slightly expanded period (one year either side). Couldn’t these trends simply mentioned in the introduction? It would be better if the tables and figures presented largely new data concerning dental needle stick injuries.

Abbreviations need to be defined in tables and figures, as they should be self-explanatory.

Table 3 has a few queries, including abbreviation use, but also what is ā€œCapeā€

Discussion

1.5 pages of discussion are presented. There is virtually no discussion in relation to the existing literature and at present it seems a little superficial related to more of an expanded discussion of the results. There is a need to discuss more about the limitations of the study, especially in regards to the limitations concerning coverage, both in terms of policyholders and extend of claiming/reporting for various incidents. It should be mentioned that the data collected for workers’ compensation is data collected for purposes other than necessarily for research.

Conclusion

There is no clear conclusion section, but the last paragraph appears to be a conclusion. The conclusions could be consistent with those in the abstract. It is mentioned here that the current findings may be an ā€œunderestimateā€ . This needs to be discussed further in the discussion section before making this concluding remark. Needlestick injuries would certainly not cover near misses or possibly percutaneous exposures etc.

Disclaimer

None given.

Acknowledgments

None given.

References

There are 13 references in the year range 1987-2005, with the mode around 2003. In general, the sufficient information is given in the references, but the style should be checked against journal requirements. Has a complete literature search been undertaken? There would seem to be a number of candidate papers that might be worth including. In addition to perhaps including a recent NSI review or chapter, a very quick check of www.pubmed.gov revealed a few research papers that might be worth considering for the discussion:


3: Younai FS, Murphy DC, Kotelchuck D. Occupational exposures to blood in a dental teaching environment: results of a


There are a few minor points:

- The access data for the two websites given are somewhat disparate. These should be updated.
- Journal abbreviations should be checked against pubmed or similar and should be consistently presented according to journal style.
- Reference 9: a space is needed between the journal title and the year.
- Reference 11: chapter and page number parameters are needed.
- Reference 12 seems to have separated into two references and should be corrected, which would make reference 14 - reference 13.

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

Results

There are a couple of minor issues:

- Results, third last paragraph, 2nd line: HVB should read HBV.
- For the international audience, it would be worth inserting the type of $, i.e. USD or US$.
- The decimal places given are not consistent. Suggest one decimal place for all results and percentages noted.

Discussion

There are a few minor issues:

- Page 1, line 2: caregivers or health care workers? Need to be consistent with terminology.
- Page 2 of the discussion, the number of dentists in the region is not discussed, although the numbers of other dental health personnel are discussed.
Although descriptive studies cannot determine cause and effect etc, it might still be useful to discuss some of the preventive measures that might currently be used to prevent needle stick injuries.

Abstract

A non-structured abstract is presented.

Background

There is no background statement or objectives given.

Methods

When was the study conducted?

Results

Probably OK.

Conclusions

These should be consistent with the main text.

Key words: Include country/location, but possibly also different categories of dental personnel etc. Maybe delete surveillance and health hazards, as these are not the primary target of this study. Perhaps include HBV, HIV etc if include HCV?

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests