Reviewer’s report

Title: Characteristics of martial art Injuries in a defined Canadian population: a descriptive epidemiological study

Version: 1 Date: 16 June 2010

Reviewer: Brenda Shields

Reviewer’s report:

Major Compulsory Revisions

Methods

• Data analyses were incomplete. The manuscript could be substantially strengthened with the addition of age group comparisons, Judo/Jujitsu versus the other martial arts, and injury proportion ratios/relative risks/odds ratios (examples: type of injury by type of martial art; type of injury by admission to hospital/discharge to home; age group by type of injury, etc.

• Please describe your method of imputing injury rates in more detail. It is unclear what data you imputed.

• There is no description of the statistical tests used during data analyses.

  o On page 6, it states that the severity of injuries in subjects using protective gear was very similar to those who did not report the use of any protection. How did you determine this? What statistical test was used?

  o On page 6, gender differences are described, but no statistical tests were used to determine if these differences were statistically significant. These are perfect examples for the calculation of injury proportion ratios.

• There is no mention of the level of significance for statistical tests used.

• “Serious” versus “non serious” injuries are described in the Results section, but the criteria used to define these two categories are not listed in the Methods section. How was injury severity determined?

• What was the definition of “follow-up care”? What does “required follow-up care” mean? Was “follow-up with your doctor” written on the ED discharge instructions, or was an actual follow-up appointment scheduled?

• The study covered a 14-year period, but no attempt was made to determine if there was a secular trend in the number of martial arts injuries and injury rates during that time period.

Results

• Add “Disposition from the ED” to Table 1.

• Add a section describing patients who were admitted to the hospital: what were their ages, gender, diagnoses, types of martial arts, mechanisms of injury, etc.? How did they differ from patients who were discharged to home? How did they
differ from patients who required physical therapy or other types of follow-up care?

- How many cases had missing data for each of the study variables? In the “Strengths and Limitations” section of the Discussion, one of the limitations of the study was missing data regarding circumstances leading to injury and style of martial art, yet there is no mention of these missing data in the Results section.

Discussion

- New results were presented in the Discussion section. Move these to the Results section.

  o Paragraphs under each of the Pattern vignettes contain results not reported in the results section. Examples:
    # The most commonly reported weapons inducing injury include the bokken, and the bo.
    # Most weapon injuries were self-inflicted.
    # Multiple injuries often resulted in losing control of a weapon.
    # The participant with less experience sustained the injury.
    # No protection was reported while sparring.
    # Falls were often a result of a loss of balance after a kick.

- Weak and poorly constructed Discussion section

  o Used Discussion section to present new results (see above)

  o Paragraphs under each of the Pattern vignettes discuss new data not reported in results section, and it is unclear in some instances whether these new data came from the study itself, or from other studies reported in the literature.

  o Repeats study results, draws conclusions not supported by study data, and fails to adequately discuss study results as they relate to results found in other studies.

  o Incomplete discussion of injury prevention theory

    # Mentions passive injury prevention, but does not define it.

    # Does not discuss active versus passive injury prevention strategies.

  o The sentence near the bottom of page 9, “Contact sports have been shown to result in increased injury rates [11], so minimizing contact may be an effective prevention strategy to reduce these injuries.”, does not describe how to minimize contact. Please describe. Implementing the use of protective equipment might be a better recommendation. However, the study data do not support this recommendation: From p. 6, “The use of protective gear was reported in 294 (32%) subjects. The severity of injuries in these subjects was very similar to those who did not report the use of any protection.”

- In the “Implications” section, it states that prevention should focus on promoting safe practice between participants to reduce injuries inflicted by another participant, but there is no description of what safe practice between participants
should entail.

• Injury prevention recommendations need to be data-driven. Please revise the recommendations, or provide supporting data for each recommendation.

References

• Incomplete literature review – missed many relevant articles.

Minor Essential Revisions

Methods

• It sounds like the Kingston CHIRPP is a subset of the CHIRPP. Please further clarify the relationship between these datasets.
• Why was the Kingston CHIRPP data used instead of the CHIRPP?
• One of the inclusion criteria was text descriptions that contained the term “sparring”. Sparring is used in regular boxing as well. How did you distinguish between martial arts sparring and sparring occurring during boxing? Please include this clarification in the manuscript.

Results

• The type of protective gear was not described.
• The organization of the Results section does not flow smoothly. Please consider revising and use subtitles, as was done in the Discussion section.

Discussion

• Consider deleting the subtitles, with the exception of “Strengths and Limitations” and “Conclusion”.

Discretionary Revisions

• The addition of figures, such as pie charts, bar charts, etc. would enhance the manuscript. Examples of figures to add include: pie chart of number/percent of injuries by type of martial art, bar chart of number of injuries by age/gender, bar chart or line graph of number of injuries by year, etc.

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.
Declaration of competing interests:

I declare that I have no competing interests.