

March 4, 2014

Dear Dr. Jin-Lei Wang and Reviewer,

We would like to resubmit our revised manuscript (7167-edited). We would like to thank you and the reviewer for the insightful and helpful comments. We believe these suggested changes significantly enhanced the quality of our manuscript.

**Title:** Weekday versus weekend endoscopy: Is there a true difference in patient outcomes? A meta-analysis

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**Name of Journal:** *World Journal of Meta-analysis*

**Manuscript #:** 7167

The manuscript has been improved by suggestions and comments by the reviewers and editor.

**Editor:** Good ideas. All the changes that were suggestive have been made.

1. The first author and I both are native English speakers.
2. The Core Tip has been added as follows:  
“Core Tip: Patients admitted on weekends have been suggested by multiple studies to have poorer outcomes, even in those with gastrointestinal bleeding. Therefore, we conducted a meta-analysis of observational studies to examine the effect of weekend versus weekday admissions for patients with UGIB. We discovered that patients with UGIB admitted on weekends had higher mortality, need for surgery, and time to endoscopy compared to those admitted on weekdays. This meta-analysis demonstrates the need for policies to decrease these poorer outcomes for our weekend patients with UGIB.”
3. Figure 1 has been re-submitted as a separate powerpoint file.
4. Tables 1 and 2 have been re-submitted as separate word files.

**Reviewer #1:** The authors provide a study to evaluate the “weekend effect” on outcomes in patient admitted on the weekend for UGIB. This article is interesting.

Weaknesses:

1. Introduction seems very thin. The authors should explain the relationship enough.

Good observation. We had added some additional comments to the introduction to help explain our stance. These changes are below:

## **INTRODUCTION**

Emergency room visits and hospital admissions for all causes of upper gastrointestinal bleeding (UGIB) have decreased over the last ten years but still account for around 50-170/100,000 patients per year<sup>[1-8]</sup>. Mortality from UGIB is approximated between 3-7% in recent

studies<sup>[3,7]</sup>, higher with variceal hemorrhage (~15%)<sup>[9,10]</sup>. Timely intervention in patients presenting with active bleeds has been shown to reduce mortality<sup>[3]</sup>. Over half of patients presenting with UGIB has been shown to be from peptic ulcer disease, an increasingly common diagnosis<sup>[1,7]</sup>. Approximately \$750 million spent each year on hospitalizations of patients with UGIB, leading to the importance of timely intervention to not only reduce mortality but also hospital costs<sup>[1]</sup>. Multiple medical and surgical diagnoses have been shown to have increased mortality over the weekend, leading to a term known as the “weekend effect”<sup>[1-3,11-17]</sup>.

## **BACKGROUND**

Over the past decade, studies have suggested that patients admitted on the weekend for UGIB have a higher mortality rate, length of stay, time to endoscopy, and increase in hospital costs than patients originally admitted to the hospital on weekdays, thus displaying a “weekend effect”. Multiple reasons for this weekend effect have been proposed, but no cause-effect relationship has been found to be significant<sup>[1,11,14]</sup>. The main proposed reasons for the weekend effect is the difference in staffing and access to critical procedures in an adequate amount of time; however, this issue seems to be the result of a combination of factors<sup>[1,2,18]</sup>. There have been multiple studies over the last ten years on this subject, but all have been observational studies with all but one being retrospective. No randomized controlled trial has been performed evaluating the weekend effect for patients with UGIB. Furthermore, of these observational studies, results have varied, adding the need for further examination into this issue. If a weekend effect is present, significant changes in policy must be considered to help reduce poorer outcomes in those patients admitted on the weekend with UGIB. Due to this important need for further examination and given the variation among the studies, a meta-analysis was completed comparing weekend versus weekday admission for UGIB.

2. The authors should update their searched date (a year has passed).

Very good idea. We have updated our search to today and made the necessary corrections in the Abstract, Methods, Results, and Figure 1.

3. The authors should add the key terms, such as “peptic ulcer” OR “duodenal ulcer” OR “gastric ulcer” OR “PU” OR “DU” OR “GU”.

Another very good point. We have updated our search using these key terms and made the necessary corrections in the Abstract, Methods, Results, and Figure 1.

4. I recommend the authors to consult the MOOSE checklist: Meta-analysis of observational studies in epidemiology: a proposal for reporting. Meta-analysis Of Observational Studies in Epidemiology (MOOSE) group. Stroup DF, Berlin JA, Morton SC, Olkin I, Williamson GD, Rennie D, Moher D, Becker BJ, Sipe TA, Thacker SB. JAMA. 2000 Apr 19;283(15):2008-12.

Great idea. We did consult with the MOOSE guidelines when preparing this manuscript. We have added this in the methods and have included the reference in the References as follows:

“The meta-analysis was performed in accordance with the meta-analysis of observational studies in epidemiology (MOOSE) guidelines<sup>[19]</sup>.”

19. Stroup DF, Berlin JA, Morton SC, Olkin I, Williamson GD, Rennie D, et al: Meta-analysis of observational studies in epidemiology: a proposal for reporting. Meta-analysis Of Observational Studies in Epidemiology (MOOSE) group. JAMA 2000; 283:2008-12. [PMID: 10789670]

5. NFS may be another good index to show the publication bias, which could be calculated if possible.

Good idea. At this point, there are multiple ways to calculate for publication bias. We chose to use the funnel plots. Other equations are available including Egger bias indicator, Begg-Mazumdar bias indicator, and NFS. Due to inability to include them all, we like the visual-based funnel plot method.

6. The GRADE is suggested to perform to assess the quality of evidence in Systemic Review, which could be available via <http://www.gradeworkinggroup.org/>.

Good point. The GRADE is extremely important when writing guidelines. However, many grading systems differ based upon preference of the writer. Given that this is a meta-analysis, it does not qualify as a grade in itself. Instead, we have graded the studies included in this meta-analysis. However, if a guideline is based upon this meta-analysis, the grade of evidence would have to be lowered given that it is based upon mostly retrospective observational studies.

Thank you for considering our manuscript for publication in your journal.

Sincerely,

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