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The influence of quotations uttered in emergency service triage traffic and hospitalization (Quiet)

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Abstract
This study aims to determine whether the use of the word, *Quiet* increases veterinary emergency service triage traffic or hospital admissions. Days were randomized to be a control or test phrase day. On control days, the phrase, *Have a nice day*! was announced to the entire hospital staff. On test days, the phrase, *Have a quiet day*! was announced. No statistical difference in mean number of the patients presenting to the emergency service for triage (test phrase 30.1 ± 10.4 cases *vs* control phrase 30.3 cases ± 10.5, $p = 0.91$) or hospital admissions (test phrase 3.5 ± 1.9 cases *vs* control phrase 4.3 ± 2.4 cases, $p = 0.13$) was found for 24-h following phrase utterance. No statistical difference in mean number of patients presenting to the emergency service for triage (test phrase 2.7 ± 1.4 cases *vs* control phrase 2.6 ± 1.9 cases, $p = 0.84$) or hospital admissions (test phrase 0.3 ± 0.5 cases *vs* control phrase 0.5 ± 0.8 cases, $p = 0.08$) was found in the 2-h window immediately following phrase announcement. Despite popular myth, using the word, *Quiet* does not increase veterinary emergency service triage traffic or hospital admissions.
Keywords: Critical Care, Emergency, Myth, Quiet, Superstition.

Introduction

Many veterinary professionals have an inherent level of superstition. Phases of the moon, Friday the 13th, signs of the zodiac, national football league schedules, and numerous other events have been investigated as to their influence on veterinary emergency service caseload (McAlees and Anderson, 2007; Wells *et al*., 2007; Drobatz *et al*., 2009; Rozanski *et al*., 2009). One study found a significant increase in emergency room visits for dogs and cats on fuller moon days (waxing gibbous to waning gibbous) compared with all other days (Wells *et al*., 2007). However, other veterinary and human research has failed to find an association with phases of the moon or temporal variation and emergency service caseload, intracranial aneurysm rupture, or cardiac arrest (Alves *et al*., 2003; Wells *et al*., 2007; Drobatz *et al*., 2009; Schuld *et al*., 2011; Bunevicius *et al*., 2017). Additionally, research in both human and animal populations has not identified an association between emergency service traffic, surgical blood loss, or occurrence of cardiac arrest with signs of the zodiac or Friday the 13th (Drobatz *et al*., 2009; Schuld *et al*., 2011; Lo *et al*., 2012).

One of the most well-known superstitions is that uttering the word, *Quiet* will quickly make the emergency service busier and increase the number of hospital admissions. Due to this prevailing superstition, veterinary professionals often perceive such a remark to be a jinx. Several human studies have evaluated the influence of saying the word, *Quiet* on the number of patients presenting to the emergency room as well as the number of hospital admissions. A multicenter blinded randomized control trial found that overnight hospital admissions were significantly increased when the attending clinician said, *Have a quiet evening!* compared to, *Have a nice evening!* upon departing for the night (Lamb *et al*., 2017). Similarly, other work has found that an attending clinician saying, *Hope you have a quiet day*! in morning rounds did not increase the overall business or subjective difficulty of a resident's day, but it did increase the number of internal hospital patient transfers (Kuriyama *et al*., 2016). Conversely, other human research evaluating an attending clinician's comments on emergency service workload found the word, *Quiet* had no influence in emergency service traffic or hospital admissions (Johnson, 2010).

To the author's knowledge, no work exists in the veterinary literature examining the word, *Quiet*, and its influence in emergency service traffic or hospital admissions. The aim of this study, therefore, was to investigate if saying the word, *Quiet* influenced the overall number of patients presenting to a veterinary emergency room for triage or the rate of hospital admissions. Our hypothesis was that saying the word, *Quiet* would not influence the overall number of patients presenting to the veterinary emergency room for triage or the rate of hospital admissions. A secondary hypothesis was that saying the word, *Quiet* would additionally not influence the overall number of patients presenting to the veterinary emergency room for triage or the rate of hospital admissions in the 2-h window immediately following phrase usage.

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Materials and Methods

This study was a prospective randomized blinded controlled trial evaluating the total number of cases that presented to the emergency service for triage and the total number of hospital admissions at a Veterinary Emergency and Critical Care Society level 1 private referral center. The enrollment period totaled 90 consecutive days between 1 January 2018 and 1 April 2018. The study was reviewed and approved by the hospital's clinical studies review committee prior to enrollment. No animals were required for the completion of the research.

A day was defined as a 24-h period beginning at 8 AM and ending at 7:59 AM the next calendar day. Using a validated allocation technique[a], each day was randomized to be a test day or a control day. Neither phrase was unevenly distributed to a given day of the week. On test days, the attending clinician with Diplomate of the American College of Veterinary Emergency and Critical Care status announced, *Have a quiet day!* during morning rounds. On control days, *Have a nice day!* was instead announced. All hospital personnel, including staff veterinarians, house officers, veterinary technicians, veterinary assistants, and reception staff, were included in morning rounds to hear the daily announcement, which is a standard practice at the test facility.

The allocation for each day was obtained by the attending critical care specialist from a sealed envelope prior to the start of rounds. Hospital personnel were blinded from the objectives of the study. A total of three different attending critical care specialists participated in the study. One critical care specialist (AB) was a concurrent investigator and was not blinded from the purpose of the study to ensure that the daily execution of the study was in line with the study's design. The primary outcomes were the number of cases presenting to the emergency service for triage and the number of hospital admissions over the 24-h enrollment period following the use of either the test phrase or the control phrase. A secondary outcome was the number of cases presenting to the emergency service for triage and the number of hospital admissions within a 2-h window following the test phrase (i.e., between 8 and 10 AM).

Statistical analysis

The arithmetic mean and standard deviation were calculated for each phrase across the four study variables. Student *t*-tests were calculated for differences in group means. All analyses were performed with standard software (StataCorp. 2017. *Stata Statistical Software*: *Release* 15. College Station, TX: StataCorp LLC). Values of $p < 0.05$ were considered statistically significant.

Results

Data were collected over the 90-consecutive day period starting 1 January 2018 and ending 1 April 2018. Two days, one control and one test, were removed from the trial and subsequent data analysis due to the incorrect envelope being accidentally selected. Data from 88 d was ultimately available for analysis with 44 d randomized in the *Have a quiet day* test group and 44 d in the *Have a nice day* control group.

The mean number of patients presenting to the emergency service for triage was 30.3 (SD ± 10.5) on control days and 30.1 (SD ± 10.4) on test days (Fig. 1). No statistical difference was found between the number of patients presenting to the emergency service for triage on control days *versus* test days ($p = 0.91$). The mean number of patients presenting to the emergency service for triage in the 2-h window following the control phrase was 2.6 (SD ± 1.9) and 2.7 (SD ± 1.4) for the test phrase. No statistical difference was found between the number of patients presenting to the emergency service for triage in the 2-h window immediately following either phrase ($p = 0.84$).

The mean number of patients admitted to the hospital was 4.3 (SD ± 2.4) on control days and 3.5 (SD ±1.9) on test days (Fig. 2). No statistical difference was found between the number of patients admitted to the hospital on control *versus* test days ($p = 0.13$). The mean number of patients admitted to the hospital in the 2-h window following the control phase was 0.5 (SD ± 0.8) and 0.3 (SD ± 0.5) following the test phrase. No statistical difference was found between the number of patients admitted to the hospital in the 2-h window immediately following either phrase ($p = 0.08$).

Discussion

The results of the present study indicate that despite popular myth, uttering the word, *Quiet* does not impact veterinary emergency service triage traffic or hospital admissions. Data in humans have shown a mixed influence of the word, *Quiet* on emergency service triage traffic and hospital admissions (Johnson,

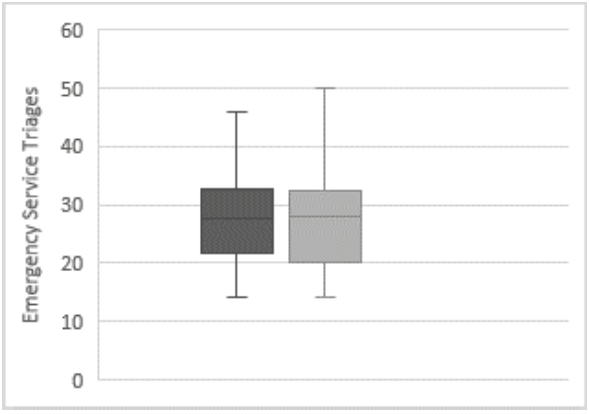

Fig. 1. Whisker diagram presenting the number of patients presenting to the emergency service for triage on control (dark gray) and test (light gray) days over a 90-consecutive day period. The mean number of patients presenting to the emergency service for triage was 30.3 (SD ± 10.5) on control days and 30.1 (SD ± 10.4) on test days.

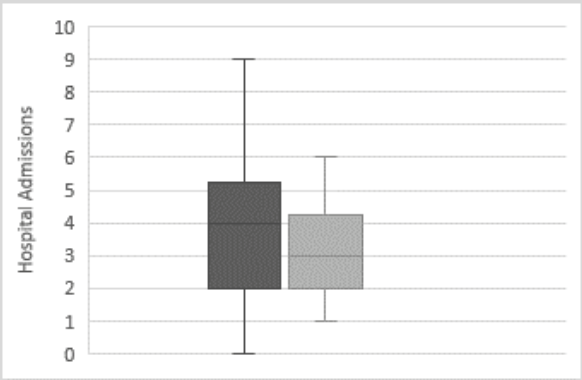

Fig. 2. Whisker diagram presenting the number of patients admitted to the hospital on control (dark gray) and test (light gray) days over a 90-consecutive day period. The mean number of patients admitted to the hospital was 4.3 (SD ± 2.4) on control days and 3.5 (SD ± 1.9) on test days.

2010; Kuriyama *et al*., 2016; Lamb *et al*., 2017). One explanation for the difference in results could be the factors surrounding saying the word, *Quiet* such as being said in different tones of voice or with different emphasis. Another consideration could be that the word, *Quiet* has the potential to influence the health status of humans but not animals. Our work does not support the presence of supernatural forces which previously has been proposed as a cause for the word's influence on increased patient caseload in humans (Lamb *et al*., 2017). In the event that uttering the word, *Quiet* had a transient or temporal effect that did not last a full 24-h, we chose to evaluate the 2-h window immediately after the phrase use. No transient or temporal effect was identified in our work.

In our study, we assigned attending clinicians the task of uttering the word, *Quiet*, which may have influenced the decision of house officers to admit patients to the hospital. Previous work studying on-call house officers in the United States has investigated a "jinxing effect" and found that those who were told, *You will have a great call day!* experienced significantly fewer hospital admissions, got more hours of sleep, and reported a lower subjective level of difficulty regarding their work than house officers that received no message at all (Ahn *et al*., 2002). Although this was not a specific aim of the study, our work would suggest that there was no strong influence on the decision of house officers to admit more patients to the hospital. However, it is possible that a difference could exist in other specialties beyond emergency and critical care, at individual institutions, or be present only in human medicine.

This study has several limitations. First, we did not determine a sample size calculation for the trial. A randomized trial of this kind has not been performed in the veterinary emergency and critical care setting, which precluded the sample size calculation. It is possible that as the phrases were repeatedly given to the hospital personnel, their novelty or effect might have diminished over time, or the participants might have become suspicious of the study's conduct. Additionally, we were not able to standardize the tone of voice or emphasis of phrase uttering from day to day.

Our data, however, did not show a statistical significance at any time point and was in line with hospital census data for emergency service triage traffic and hospital admissions compared with the three immediately prior years. We elected to conduct the study during the first quarter of the year which has traditionally had a significantly lower caseload than the other quarters to avoid the possibility of overwhelming hospital resources or having other hospital staff inflict bodily harm on the researchers if, in fact, uttering the word, *Quiet* did have a profound impact on emergency service triage traffic and hospital admissions. Although unlikely, it is possible that the effect of the word, *Quiet* could be seasonal (not observed in winter in this study's case) and thus not reflected in our data.

Lastly, it is possible that other words that were not evaluated in this study such as *slow*, *boring,* or *calm* could have an influence on veterinary emergency service triage traffic or hospital admissions. Further prospective randomized controlled trials are indicated. Despite these limitations, our study design is like our usual practice, and therefore, we believe our findings to be highly generalizable to other veterinary emergency and critical care settings. In conclusion, the results of the present study indicate that despite popular myth, uttering the word, *Quiet* does not impact veterinary emergency service triage traffic or hospital admissions.

Conflict of interests

The authors declare that they have no conflicts of interest.

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