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# “Shh-don’t say the Q-word” or do you?

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## Abstract

We aimed to assess the superstitious belief that saying the word ‘quiet’ during an on-call period in oral and maxillofacial surgery (OMFS) causes a disproportionate increase in workload. A two-armed, single-centre, randomised trial was performed in a single-blinded fashion within the OMFS department at Addenbrookes Hospital, Cambridge. Duty on-call OMFS SHOs were assigned to a ‘quiet group’ or ‘non-quiet group’. The former group was actively told that the on-call period would be ‘quiet’ whilst in all contexts in the latter this word was not used. Data were collected from 8am to 7pm from a period that spanned a total of 40 week-day on calls. The total number of bleeps was 491, the mean (SD) bleep count/day irrespective of treatment was 12.3 (4.6). The mean (SD) bleep count was 11.45 (4.15) for the control group and 13.1 (4.9) for the quiet (treatment) group. Welch’s independent-sample *t* test identified no significant difference in the mean number of bleeps encountered between groups. Moreover, ANOVA identified no significant difference in the mean number of bleeps between days ( $F(4,35)=0.086$ ,  $p=0.986$ ). Statistical analysis was performed using R package version 3.6.2 (The R Foundation). Our study refutes the central dogma of all of medicine, which suggests that saying the word ‘quiet’ increases the clinician’s workload during the working day. We identified no significant difference in the number of bleeps between different days of the week. OMFS sees a large breadth of presentations within the head and neck that requires a diverse set of skills to manage the varying presentations when on call.

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*Keywords:* stress; on-call

## Introduction

Since the Neolithic period of drilling holes in skulls to release the evil spirits that were thought to cause headaches, surgeons have a history of believing in superstition.<sup>1</sup> Be it ‘Friday the 13th’ lunar cycles, or zodiac signs,<sup>2</sup> a plethora of supposed superstitious beliefs are firmly related to the onset of increased admissions within that specialty.<sup>3</sup> The most famous and long-held superstition is, of course, the use of the word ‘quiet’ in relation to the day’s on-call activities. Any mention of this to a colleague who is on call is usually met with dismay and the inevitable wait for an acute increase in workload. This belief, although largely anecdotal, applies across

multiple specialties within the UK, but also internationally, for example, in the USA<sup>4</sup> and Japan<sup>3</sup> amongst others. To our knowledge this phenomenon has not been investigated within the realm of oral and maxillofacial surgery (OMFS).

We have therefore conducted a randomised trial to evaluate the hypothesis that specific mention of the word ‘quiet’ in relation to on-call activities causes an increase in clinical workload. This was measured through the recording of bleep frequency.

## Methods

A two-armed randomised trial was conducted within a single centre, Addenbrooke’s Hospital, Cambridge, in a single-blinded fashion. An OMFS trainee is first on call from 8am to 7pm and alerted to on-call duties through a hospital bleep. The

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same duty doctor is on call during a five-day period excluding weekends. All first on-call OMFS trainees were randomly allocated to either the ‘quiet group’ (intervention group) or ‘non-quiet’ group (control group). The intervention group during their on-call week were actively told that the on-call period would be quiet, whilst the word was not mentioned in any context to the control group during their week. The on-call team was blinded to the intervention whilst the assessor by definition was aware of both groups. Since the outcome measure was the objective recording of data, it was felt that a double-blind design would not be beneficial.

Outcome measures were primarily the number of bleeps received by the OMFS first on call during their on-call week from 8am to 7pm. Each of these bleeps represented an objective, relevant measure of workload. No patients were involved in the formulation of the research question, outcome measures, or implementation of the study. No patients were recruited and the results are not intended to be released into the patient community. Ethics approval was not sought or considered necessary.

### Statistical analysis

Statistical analysis was performed using R version 3.6.2 (The R Foundation). Normality was first visually assessed using density and Q-Q plots, before quantitative confirmation using the Shapiro–Wilk test. Homoscedasticity of bleep number between groups was assessed using Levene’s test. Given conformation to the aforementioned assumptions, Welch’s independent-samples *t* test was used to determine if a significant difference existed in the mean number of bleeps/day between treatment (mention of quiet) and control, and one-way analysis of variance (ANOVA) was used to determine differences in the mean number of bleeps between days (irrespective of treatment). Significance was accepted as  $p < 0.05$ .

## Results

Data were collected from a total of 40 days, spanning eight weeks from Monday to Friday. The total number of bleeps encountered during this period was 491. The mean (SD) number of bleeps/day, irrespective of treatment, was 12.3 (4.6). The mean number of bleeps/day, irrespective of specific day, was 11.45 (4.15) for the control group and 13.1 (4.9) for the quiet (treatment) group.

Density plots, Q-Q plots and Shapiro–Wilk tests confirmed normality across the compared samples (Supplementary Fig. 1; Supplementary Table 1). Levene’s test confirmed homoscedasticity both between days ( $F(4,35) = 0.2691$ ,  $p = 0.858$ ) and between the two treatment groups ( $F(1,38) = 0.5833$ ,  $p = 0.4497$ ). Welch’s independent-sample *t* test identified no significant difference in the mean number of bleeps encountered by dental core trainees (DCT) between treatment and control groups ( $t = -1.15$ ,  $df = 36.997$ ,  $p = 0.2577$ ; Fig. 1).

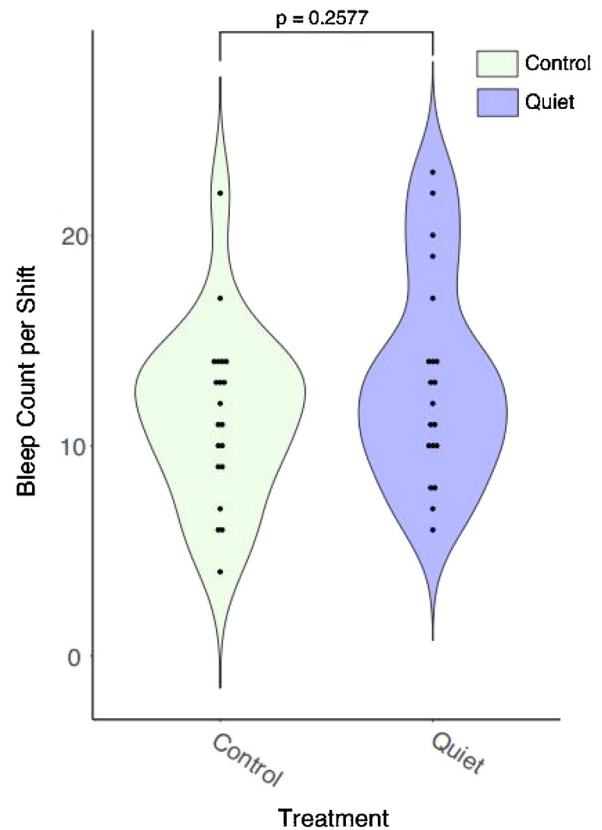


Fig. 1. Violin plot of bleep count/day in control and treatment arms of trial ( $p = 0.2577$  indicates number of significant difference in mean number of bleeps/day between control and treatment arms).

Moreover, ANOVA identified no significant difference in the mean number of bleeps between days ( $F(4,35) = 0.086$ ,  $p = 0.986$ ; Fig. 2).

## Discussion

The findings of our study do not support the anecdotal and often-quoted superstition that voicing the word ‘quiet’ is related to the clinical workload during an OMFS on-call period. Moreover, no one day was found to be busier than another, including days that preceded or followed a weekend. All workers should be able to wish their colleagues a quiet on call without fear that this may be detrimental to the remainder of their shift. Indeed, although this study is somewhat tongue-in-cheek during this considerably stressful period of Coronavirus, we feel that any attempt to relieve workload and add levity is a positive step.

With the current pressures in the NHS across each department it is of no surprise that staff feel overworked, overstressed, and over-stretched. This has measurable impacts on staff output, with a Royal College of Physicians 2016 report stating that the patients’ experience, staff morale, and productivity have all suffered as a result of a poorly resourced

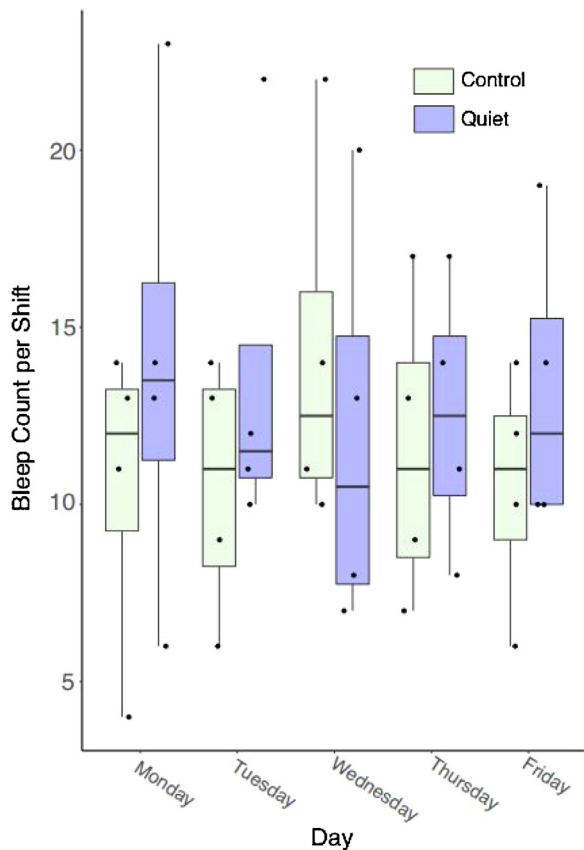


Fig. 2. Box plot with point overlay of bleep number/day according to both treatment and day. No significant difference was identified in mean bleep number between days, irrespective of treatment arm.

NHS.<sup>5</sup> Work-related stress was linked to 38% of illness at work according to an NHS staff survey.<sup>6</sup>

Underlying the humour and superstition there is a genuine understanding of why staff would always hope for circumstances and situations in which the burden of work is more manageable. Wishing colleagues a quiet shift is most often a sincere remark coming from the experience of knowing how high demand can be, and any evidence that helps to receive these remarks in a more positive manner should be welcomed. Indeed, an important finding in our study was that the average number of bleeps received over an 11-h shift was 12.3. Bleeps may range from advice, suture closure of facial lacerations, drainage of facial abscesses, dental extractions, facial trauma, and head and neck cancer presentations or theatre demands, amongst many others. The on-call burden for any specialty should not be overlooked and our department reflects the active and busy nature of emergency presentations in any form. All healthcare professionals should recognise this and maintain their own mental and physical health.

Although our study supports the majority of others in negating the supposition that saying the word ‘quiet’ when on call causes an increase in clinical workload, not all studies

have arrived at the same conclusion. A UK based orthopaedic department that demonstrated a positive link between uttering the word ‘quiet’ and their workload, suggested that management specialists immediately quell any undue increases in their workload. They have not limited their efforts locally, but indeed have spread their exuberant efforts to control workload on a national level by reducing the use of the word ‘quiet’.

We recognise that there are limitations to the current study methodology. First, although the number of bleeps/day provides an objective proxy of daily workload, other factors may contribute, resulting in a potential under-reporting of the burden of work. In our trust, the rota system provides access to colleagues’ mobile numbers, providing a direct route by which workload may be increased, but this was not recorded. Moreover, sister teams may wish to discuss directly with more senior colleagues, thereby bypassing junior DCTs, but workload may be impacted as a consequence of these discussions (through passing down jobs, for example). Secondly, our data are dependent on the reliable recording of the number of bleeps by the DCTs. Thirdly, although in an ideal situation the sole source of ‘quiet’ should have been provided by the unbiased investigator, we cannot account for possible undue ‘secondary treatment’ by other members of staff (or even patients), as the DCTs perform jobs throughout the hospital. The additive effect of ‘quiet’ from non-controlled means was not accounted for here.

A further outcome measure worth investigating in future studies would be ‘perceived work burden’. It may well be the case that saying ‘quiet’ has no influence on objective workload. However, given the well-established association between this term and the perception of an anticipated increase in workload, a subjective trainee-centered questionnaire recording how the mention of ‘quiet’ influences stress and perceived workload would be valuable. Given recent work on human factors, an association between stress, error, and patient outcomes is well established.<sup>7</sup> Striving to minimise perceived stress would be as important for optimising patient outcomes as improving objective workload.

## Conclusion

Our results refute our null hypothesis (and the central dogma of all of medicine) that suggesting that a day is going to be quiet increases the doctor’s workload during the working day. We identified no significant difference in number of bleeps between different days of the week. OMFS sees a large breadth of presentations within the head and neck and requires a diverse set of skills to manage the varying presentations.

## Conflict of interest

We have no conflicts of interest.

**Ethics statement/confirmation of patients' permission**

Not applicable.

**References**

1. Pettigrew TJ. On superstitions connected with the history and practice of medicine and surgery. *Prov Med J Retrospect Med Sci* 1844;7:336–7.
2. Schuld J, Slotta JE, Schuld S, et al. Popular belief meets surgical reality: impact of lunar phases, Friday the 13th and zodiac signs on emergency operations and intraoperative blood loss. *World J Surg* 2011;35:1945–9.
3. Kuriyama A, Umakoshi N, Fujinaga J, et al. Impact of attending physicians' comments on residents' workloads in the emergency department: results from two JAPAN randomized controlled trials. *PLoS One* 2016;11:e0167480.
4. Vinson DR. Superstitions in medicine: bad luck or bad logic? *Ann Emerg Med* 1998;31:650–2.
5. *Underfunded, underdoctored, overstretched: the NHS in 2016*. Royal College of Physicians; 2016.
6. Brookfield CR, Phillips PP, Shorten RJ. Q fever—the superstition of avoiding the word “quiet” as a coping mechanism: randomised controlled non-inferiority trial. *BMJ* 2019;367:l6446.
7. Brennan PA, Mitchell DA, Holmes S, et al. Good people who try their best can have problems: recognition of human factors and how to minimise error. *Br J Oral Maxillofac Surg* 2016;54:3–7.