www.bma.org.uk/media/3430/bma-consultants-retention-paper.pdf (accessed January 2021)
5. Chand K. *2016 was the worst year in NHS history—we must fight for its survival* 2017. Available from: www.theguardian.com/healthcare-network/2017/jan/04/2016-was-the-worst-year-in-nhs-history-we-must-fight-for-its-survival (accessed January 2021)
6. General Medical Council. *National training survey 2020: summary of results* 2020. Available from: www.gmc-uk.org/-/media/documents/nts-results-2020—summary-report_pdf-84390984.pdf (accessed January 2021)
7. Launer J. Burnout in the age of COVID-19. *Postgrad Med J* 2020; **96**: 367–8
8. Royal College of Anaesthetists. *Workforce data pack 2018* 2018. Available from: https://www.rcoa.ac.uk/sites/default/files/documents/2019-09/WorkforceDataPack2018.pdf (accessed January 2021)
9. Lee MCC, Thampi S, Chan HP, et al. Psychological distress during the COVID-19 pandemic amongst anaesthesiologists and nurses. *Br J Anaesth* 2020; **125**: e384–6
10. Abbott TEF, Fowler AJ, Dobbs TD, Harrison EM, Gillies MA, Pearse RM. Frequency of surgical treatment and related hospital procedures in the UK: a national ecological study using hospital episode statistics. *Br J Anaesth* 2017; **119**: 249–57
11. UK Parliament. *United Kingdom House of Commons briefing paper. Number 7783* 2020. Available from: commonslibrary.parliament.uk/research-briefings/cbp-7783/ (accessed January 2021)

doi: 10.1016/j.bja.2021.01.020
Advance Access Publication Date: 19 February 2021

Nociception monitor-guided opioid administration in radical retropubic prostatectomy. Manufacturer's response to *Br J Anaesth* 2020; 126: 516–24

Frank J. Overdyk[1] and Rachel Weissbrod[2,*]

[1]Department of Anesthesiology, Trident Health Center, Charleston, SC, USA and [2]Medasense Biometrics Ltd., Ramat Gan, Israel

*Corresponding author. E-mail: rachel@medasense.com

Keywords: analgesia; nociception monitor; opioid; pain; remifentanil; surgical stress

Editor—We are delighted to see more investigations into the clinical utility of nociception monitoring come forward.[1] However, we want to caution the reader of the article by Funcke and colleagues[1] of a nuance in their protocol. For nociception level index (NOL) values below the lower threshold value (10) for more than 30 s, Funcke and colleagues[1] decreased the remifentanil infusion rate by 0.03 μg kg^{-1} min^{-1} every 5 min *until finally stopped*, which occurred in almost half of the NOL-guided patients. Because of the extremely short duration of action of remifentanil, this likely resulted in periods during which there was no therapeutic analgesic level, resulting in elevated stress hormone levels and perhaps patient movement during noxious stimuli from this major surgery. Although the User Manual and the Pocket Guide recommend a target range for NOL between 10 and 25, the manual states that 'NOL *cannot predict or anticipate painful stimuli* and NOL should be used as an adjunct to clinical judgement during surgery'.[2,3] Consistent with this guidance and the pharmacokinetics of remifentanil, Meijer and colleagues[4] purposely did not reduce their target remifentanil concentration below 1 ng ml^{-1}, regardless of the NOL lower threshold, ensuring adequate analgesia during transitions in levels of stimulation.

Furthermore, we believe the differences in outcomes between nociception monitors is explained by the fact that not all nociception monitors measure the same axes of the nociception–antinociception balance (NANB), and thus require separate validation of clinical benefit. The clinical implementation protocol is of paramount importance when evaluating the impact of a patient monitoring device on patient outcomes.

Declarations of interest

FJO has received payments from Medasense Biometrics Ltd and serves as Medical Director to the company. RW serves as VP Clinical, Regulatory and Quality for Medasense Biometrics Ltd.

References

1. Funcke S, Pinnschmidt HO, Brinkmann C, et al. Nociception monitor-guided opioid administration in radical retropubic prostatectomy: a randomised controlled trial. *Br J Anaesth* 2020; **126**: 516–24

DOI of original article: 10.1016/j.bja.2020.09.051.

2. PMD-200. *User manual 2019*. Available from: www.medasense.com/clinical-guides-and-manuals. [Accessed 8 February 2021]
3. Longrois D, Overdyk F, Tzour A, Weissbrod R. *Monitoring nociception using NOL technology during anaesthesia – a pocket-guide for clinicians* 2019. Available from: www.medasense.com/clinical-guides-and-manuals. [Accessed 8 February 2021]
4. Meijer FS, Martini CH, Broens S, et al. Nociception-guided versus standard care during remifentanil–propofol anesthesia — a randomized controlled trial. *Anesthesiology* 2019; **130**: 745–55

doi: 10.1016/j.bja.2021.01.022
Advance Access Publication Date: 23 February 2021

Gender differences in the authorship of contemporary anaesthesia literature: a cross-sectional study

Lisa Q. Rong[1,*], Faiza M. Khan[2], Ajita Naik[2], N. Bryce Robinson[2], Irbaz Hameed[2], Lillye P. Anderson[1], Mohamed Rahouma[2], Ajit Monteiro[2], Sigrid E. Sandner[3], Leonard N. Girardi[2], Kane O. Pryor[1] and Mario Gaudino[2]

[1]Department of Anesthesiology, Weill Cornell Medicine, New York, NY, USA, [2]Department of Cardiothoracic Surgery, Weill Cornell Medicine, New York, NY, USA and [3]Medical University Vienna, Vienna, Austria

*Corresponding author. E-mail: lir9065@med.cornell.edu

Keywords: anaesthesia; authorship; gender; gender gap; woman authorship; women

Editor—Previous analyses have described a gender gap in authorship in the anaesthesiology literature.[1–5] However, there is a lack of recent data to determine if the gender gap is improving in the current era. We sought to update the literature on the topic; we also aimed at identifying factors associated with woman authorship as compared with man authorship.

For this purpose, we evaluated the prevalence of woman first author and last author in articles published from 2008 to 2018 in the five general anaesthesia journals with the highest 2018 impact factor (excluding subspecialty journals).

This study was registered with the International Prospective Register of Systematic Reviews (registration number: 151092). The journals *Anesthesiology*, *British Journal of Anaesthesia*, *Anaesthesia*, *European Journal of Anaesthesiology*, and *Anesthesia and Analgesia* were included (based on Thomson Reuters–Clarivate Analytics; Supplementary Fig. S1a). Original research articles, systematic reviews, and meta-analyses published in 2008, 2010, 2012, 2014, 2016, and 2018 were selected. For each article, year of publication, departmental affiliations, number, genders, academic degrees and titles of the first and last authors, type of study, country of origin, and source of funding were extracted. Gender was assigned according to the name and appearance of the person. Where author genders could not be determined by name and institutional website of the authors, the US Social Security Administration database of names and naming websites were used.[6] Studies for which author genders could not be determined (<0.6%) were excluded. Articles with either a first or last woman author were classified as 'woman-authored'. All others were classified as 'man-authored'.

Continuous variables were all not normally distributed and were reported as medians and inter-quartile range (IQR) and compared using the Mann–Whitney *U*-test. Categorical variables were reported as counts and percentages, and compared using the χ^2 test. Logistic regression analysis was used to determine factors associated with woman authorship. Results were reported as odds ratio (OR) and 95% confidence interval (95% CI). Two-sided significance testing was used and *P*-values <0.05 were considered significant.

Of the 4720 articles, 1872 (39.6%) were woman authored, with a woman first author in 1084 (22.9%) articles, woman last author in 475 (10.1%) articles, and woman first and last author in 313 (6.6%) articles. The median number of authors was 6 (IQR: 5–8) of which a median of 1 (IQR: 1–2) was a woman. Woman-authored articles constituted 37.3% of articles in 2008, compared with 45.7% in 2018 (*P*<0.001) (Table 1). The number of woman first authors increased over the course of the study period (*P*-trend <0.001), whilst the number of woman last authors remained stable (*P*-trend=0.15) (Supplementary Fig. S1b).

Compared with men, woman first authors mostly held PhD (48.1% *vs* 51.9%; *P*<0.001) or non-medical academic degrees (45.6% *vs* 54.4%; *P*<0.001); woman last authors mostly held non-medical degrees (38.0% *vs* 62.0%; *P*<0.001). On multivariable regression, woman-authored articles were significantly associated with first author holding a PhD (OR: 1.64; 95% CI: 1.20–2.24; *P*<0.01) or non-medical degree (OR: 1.71; 95% CI: 1.21–2.41; *P*<0.01), last author holding a non-medical degree (OR: 3.28; 95% CI: 1.87–5.79; *P*<0.001), and the number of woman co-authors (OR: 2.08; 95% CI: 1.94–2.23; *P*<0.01). Compared with articles originating from North America, articles from Europe were more likely to be woman-authored (OR: