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Background

Publication of scientific research papers is important for professionals working in academic medical centres. Quantitative measures of scientific output determine status and prestige, and serve to rank universities as well as individuals. The pressure to generate maximum scientific output is high, and quantitative aspects may tend to dominate over qualitative ones. How this pressure influences questionable scientific research practises remains unknown. This is the first study who relates publication pressure with scientific misconduct and questionable research practises.

Methods

We performed an online survey inviting all medical scientist (n=2400) of 4 academic medical centres in Dutch speaking part of Flandres, Belgium to participate. Apart from demographic data, they were asked to fill out 2 questionnaires; a validated Publication Pressure Questionnaire and a questionnaire assessing 12 most common items of questionable research practises (QRP).

Results

In total, 316 medical scientists completed the questionnaires. among them, 72% judge that publication pressure 'has become excessive', 61% believe that publication pressure 'affects the credibility of medical research' and 52% judge that publication pressure has a 'sickening effect on medical science'. The QRP questionnaire indicates that more than 8 of medical scientists invented or manipulated their data and more than 52% has ever deleted data in order to confirm a hypothesis. Significant and strong associations between different QRP and the level of perceived publication pressure were found. The main limitation is the possibility of response bias.

Conclusion

A substantial proportion of medical scientists believe that publication pressure has become excessive, and have a cynical view on the validity of medical science. These perceptions are statistically correlated with questionable research practises. Further research should address the effects of publication pressure on scientific misconduct in more detail in a prospective study design and can be used to find alternative ways to prevent scientific misconduct.