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THERE IS NEED FOR IMPROVEMENT OF QUALITY IMPROVEMENT - A SYSTEMATIC REVIEW OF THE PDSA METHOD IN QI STUDIES

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**Objectives:** Health care systems are challenged due to a multi-morbid and aging population, new technology, and expensive drugs in the context of public savings. Quality Improvement (QI) is regarded as a tool to maximise effectiveness and efficiency in health care and is prioritised in most healthcare systems, where PDSA cycles are becoming central in national QI strategies. Before the health systems start to enroll these vast strategies, it is important to document whether the PDSA method provide an effect in terms of better clinical practices and outcomes.

The scientific literature indicates that the PDSA method have not been used properly. Improper use of the method is a challenge for the internal and external validity of the method and makes it difficult to establish a relation between the use of PDSA and the effects on QI projects. However, in the recent years there has been an increased focus on uniformity in use and report of QI methods, with updated guidelines such as the SQUIRE 2.0.

The aim of this paper is to investigate whether the recently published QI studies are conducted according to key principles of the PDSA method.

**Methods:** A systematic literature search was performed in the PubMed, Embase and CINAHL databases for PDSA-based studies, published in English in peer-reviewed journals from 01.01.2015 to 22.11.2016. Empirical studies using PDSA to improve quality in a clinical healthcare setting were included. Conference abstracts, opinion articles and editorial letters as well as studies in which PDSA was not used as the main method for QI, were excluded from the study selection. The selected studies were assessed against a framework. First in accordance to how thoroughly the application of the PDSA method was documented. Secondly, those with sufficient documentation were further assessed against the key features: use of iterative cycles, prediction-based tests of change, testing from small to large scale and use of data over time. The assessment was performed by two independent reviewers.

**Results:** 106 of 176 individual studies identified met the inclusion criteria. 3/5 of these documented PDSA cycles sufficiently for inclusion in full analysis against the framework. Among these studies, about 2/3 documented the use of iterative cycles, though only very few had separate information on stages of cycles. About 1/3 both set an aim and established a baseline before testing a change. Approximately half of the studies used data over time. A substantial number of studies lacked information on sample size and almost none documented the use of small-scale, incremental testing. Detailed results will be presented.

**Conclusion:** In spite of a substantial growth in QI studies in recent years, it does not seem like authors report in a consistent and thorough way in accordance with the method. The variance in the application is too great to start drawing meaningful causal relations between the use of the method and the effects of the studies. This variation may compromise the internal and external validity of the PDSA method and further emphasise the need to use and document in accordance with the key principles. There still seems to be a need for improvement in quality improvement.

**Disclosure of Interest:** None Declared

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