

THE RELATIONSHIP BETWEEN CLINICAL EXPERIENCE AND QUALITY OF CARE AND ITS OUTCOME

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Abstract

Quality assurance and performance evaluations, have become central issues in medicine. There are several studies which indicates that general patients care is suboptimal in many different medical conditions and clinical settings^{1,2}. Delivering high-quality care is important to all clinicians, but this issue may be more relevant to certain subgroups, such as those with less specialised training and those who deal with smaller number of patients³. There is also a general believe that the longer clinicians are in practice the more experienced they will be, and therefore it is assumed that this group of medical doctors are able to provide a high quality of care. But there are some studies that found a consistently or partially negative association. The aim of this report is to discuss this subject further and reach some conclusions.

Introduction

Medical advances are continuous and frequent. Technology is evolving and subspecialties are either already established in major centres or under way in others. The explicit knowledge, which is already possessed by medical staff during their training and clinical practice may easily become out of date. Quality assurance and performance evaluation' have become pivotal issues in medicine.

Medical Doctors in particularly specialists are generally believed to have accumulated knowledge, skills and experience during their years in practice, which will enable them to deliver high-quality care. The longer they are in practice; and the more they are experienced will reflect positively on their care outcome. However, is this belief true and universal, and what is the robustness of the relationship between clinical experience and quality of care?. Although experience is defined as the number of years a medical doctor

has been in practice, doctor age and time in practice are highly correlated.

Factors affect quality of care

Several factors will be discussed. These includes knowledge, adherence to standards of practice for diagnosis, screening, and prevention, adherence to standards of appropriate therapy, outcomes, and doctor's interpersonal style on Patient's Satisfaction/outcome.

Studies, which explored these factors basically involved a selection of a topic related to a specific speciality, surveying the belief of a group of generalists and/or specialists in their knowledge to that topic or how to handle a specific problem, and collecting/analysing the obtained data. That specific topic chosen is based on conclusions drawn from of a well established randomised, controlled trials. The larger number of the surveyed group (sample size), and the higher response rates coupled with the

presence of good sampling methods then the better is the robustness of the data. Also the rigorous criteria to evaluate different factors and performing multivariate analysis are essential⁴. The method of data collection from these surveys may also influence the conclusion. The assessment may be based on using self-reported data or more objective measures such as the use of chart audits or administrative databases⁴.

Knowledge: Out of several studies, two which fulfilled the previously mentioned criteria are quoted. Ayanian and colleagues⁵ surveyed specialists and generalists to test their beliefs about the survival benefits of therapies for acute myocardial infarction based on conclusions from well-established randomised, controlled trials. They found that although specialists were more knowledgeable than generalists, however, after adjustment, doctors younger than 40 years of age were more likely to believe in the value of therapies that improve survival. Similarly Salem-Schatz and colleagues⁶ interviewed surgeons and anaesthetists to assess their knowledge of the indications and risks associated with the transfusion of blood products. They found a highly significant negative association with the number of years those doctors had been in practice.

Adherence to standard of practice for diagnoses, screening, and prevention: Several studies have assessed the appropriateness of doctor use of diagnostic and screening tests, and preventive health care⁴. Overall 63% of these studies demonstrated that doctors who were in practice for more years were less likely to adhere to standards of practice. In the largest of these studies, Czaja and colleagues⁷ surveyed participants to assess their adherence to cancer screening guidelines endorsed by the American Cancer Society and the National Cancer Institute. They found

that doctors who had graduated more than 20 years before the survey undertaken were consistently less likely to adhere to these recommended practices. Using other topic for assessment, other researchers⁸ had similar finding even after adjustment for patients and doctor's practices. However, other studies using other topics provided contrary results⁹. While others found a concave relationship between years in practice and adherence to standards of practice¹⁰ in which medical doctors in practice for 6 to 15 years provided the most appropriate care when compared to those with more or fewer years of experience who provided less appropriate care.

Adherence to standards of appropriate therapy: Out of several studies conducted to assess this matter 73% found a partially or consistently negative association between age and adherence to standards of appropriate use of therapy⁴. While in a large and well-designed study by Beaulieu and colleagues¹¹ the results were inconsistent.

Outcome: Norcini and colleagues¹² analysed mortality for 39007 hospitalised patients with myocardial infarction managed by 4546 cardiologists, physicians, and general practitioners. After controlling for a patient's probability of death, hospital location and practice environment, speciality, certification, and the volume of patients seen, they observed a 0.5% increase in mortality for every year since the treating doctor had graduated from medical school.

Hartz and colleagues¹³ assessed the association between experience and mortality rates for surgeons performing cardiac artery bypass operations. After adjustment for both patient and specialist variables, they found that surgeons who have been in practice longer had higher operative mortality rates. In contrast, Burns and Wholey's¹⁴

found no difference in mortality rates of patients hospitalised for various conditions, although doctors in longer practice had longer patients' hospital stay.

Doctor's interpersonal style and patient satisfaction / outcome: Observational studies using patient reports suggest an association between doctor's interpersonal style and patient outcome. In order to possibly confounding such associations, Franks and colleagues¹⁴ conducted a survey completed by 4700 patients of 96 medical doctors. These surveys included health status changes during the previous year, perceptions of their doctor (satisfaction, trust, knowledge of patient, and autonomy support), and sociodemographic and clinical covariates. They found significant adjusted relationships between patient perceptions of their doctor and reported health status changes; better perceptions were associated with smaller risk of health status decline. However, Multi-level analysis suggested that this relationship is not a doctor effect; it may reflect unmeasured patient confounding¹⁴.

Discussion

Choudhry et al⁴ in their thorough review of the literature found 59 articles that reported data on 62 groups of relevant outcomes, which formed the basis of their review' criteria. As it has been mentioned before their systematic review suggests that doctors who have been in practice for more years and older doctors possess less factual knowledge, are less likely to adhere to appropriate standards of care, and may also have poorer patient outcomes. The authors⁴ thought that these findings have many possible explanations. Doctor's experience gained during training may not be updated regularly. Besides, older doctors seem less likely to adopt newly proven therapies and

may be less receptive to new standards of care^{4,15}.

In addition, innovations in practice that involve changes in the overall management protocols, may be harder to incorporate into the practice of those group of doctors who have trained long time ago and already established their own scope of practice, which is different from the recent innovations.

The findings may also reflect the substantial changes that have occurred in medical practice over the past several decades. Evidence-based medicine has been widely adopted, and audits / quality assurance criteria, such as disease management and performance evaluation, are frequently used⁴. More experienced doctors may be less familiar with these strategies and may be less willing to accept them.

On the other hand these survey studies may have several limitations. Choudhry et al⁴ who conducted in depth systemic review critically evaluated the results of their review and its limitations. Because these limitations could affect the reality of the medical practice I found it worthwhile to go through their main remarks. First, the search strategy may have missed reports, which reflects the limited attention to this issue. In addition, studies that found no association may have been less likely to be submitted for publication or may be submitted but rejected because the editors / reviewers found the results not relevant to the clinical practice. Second, few reports in their review were specifically designed to evaluate length of time in practice as their main interest. Consequently this might affect the conclusions. Third, disagreements may exist between clinical practice guidelines⁷, and thus, establishing appropriate protocols may be difficult. Therefore, assessing performance on the basis of guideline adherence may not determine the quality of health care. Fourth, length of time in practice may

be associated with other aspects of quality of care. For instance, older doctors may be more effective in delivering humanistic aspect of medical care, and they may have better care in complex cases or may be better diagnosticians.

Franks et al¹⁴ also critically discussed the limitations of their study. First, the cross-sectional design used retrospective assessments of health state changes. Also prospective assessments are not without their own problems¹⁶. Thus, it is not clear that serial measurements of health status are the best and most bias-free way to address the question of patients' ratings of their doctors relate to health outcomes. Second, doctors who agreed to participate in these studies probably represent a selected, narrow spectrum of styles.

Conclusion

The issue of delivering high-quality care is important and should be the main goal of all clinicians. A group of generalists and specialists may be vulnerable in compromising the delivery of their quality care over the years in practice. Because this is a real concern then the reasons for that should be identified and a serious attempt to rectify them should be implemented.

Conducting survey studies may be beneficial to clarify and identify few matters but they have their own limitations. The ability of behaviour change strategies to reduce the disparities in quality created by age

should be evaluated in well-controlled clinical trials.

The apparent medical doctor effects on care can be difficult to interpret. Patients with differing levels of negative effect or other characteristics may be attracted to different medical doctors. Evidence also suggests that patients who are more optimistic and have high levels of self-efficacy are also more satisfied with their doctor-patient relationships¹⁴. Conversely, patients with more negative stereotypes of doctors also report lower satisfaction and adherence. Therefore careful research and analytic approaches, including multilevel analyses, will be necessary to tease out the components of doctor behaviours that contribute to better patient outcome.

I believe that longer years in practice will provide not only a wealth of experience but also personal and clinical maturity. Once these are able to be utilised well they should reflect positively to the quality of care. However, these gained characters must be maintained otherwise they could partially or consistently be lost. *It is a fact* that the effect of age of medical doctors both generalists and specialists who routinely collaborate with other colleagues, who frequently engage in evidence-based discussions, or whose practices are influenced by disease management, performance feedback, and computerised reminder systems *may be* different from that of doctors who practice in relative isolation or in more traditional settings.

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