ORIGINAL PAPER

Contribution of Healthcare Professionals in Issues that Relate to Quality Management

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ABSTRACT

Background: The health sector should adopt integrated quality systems because of the need to survive and develop in a highly competitive environment. Inefficiency of mechanistic procedures, along with inadequate administrative infrastructure, impose innovative appoaches to improve operations and increase revenues by reducing quality feilures. **Objective:** A health system that relies on quality healthcare services can directly benefit the entire society, may reduce mortality, disease severity, and increase life expectancy. The following literature review constitutes an attempt to assess the contribution of healthcare professionals in issues that relate to quality management over the course of recent years. **Methods:** This systematic review took place between May 2019 and June 2020 in the databases PubMed, Cochrane Library, Wiley Online Library, Web of Science, Google Scholar and Scopus search engine databases. Study Selection and Data Extraction: This review includes articles written in English language, which contain quantitative and qualitative analysis of healthcare professionals' involvement in quality activities. Correspondingly, the exclusion criteria were: languages other than English, secondary surveys (general and systematic reviews or post-analyses), letters to the publisher, and editorials or articles that did not illuminate the subject under study. After an extensive literature review, a standardised Excel spreadsheet was developed for data extraction from the included studies. The main characteristics of the studies were recorded (author's name, place and time of work, the article under study and the methodology) so that all research articles corresponding to the review could be included. 31 articles were included. **Results:** Healthcare professionals are engaged in quality improvement activities and there is high association between quality management strategies and clinical processes. A systematic approach on healthcare activities based on the input of healthcare professionals can help increase business performance, reduce errors, improve patient safety, and contribute to a more proactive care. **Conclusion:** Health professionals' contribution in the strategic planning of healthcare organisations that address quality activities can lead to better output, both in patient satisfaction and safety.
Keywords: Healthcare professionals, quality management, quality activity, quality improvement, patient safety.

1. INTRODUCTION

Historically, report content on the quality of health services shows diversity across the world. The transition from individual case inspection to statistical analysis of care delivery models was still ongoing at the end of the 70s, with a significant delay compared to the industrial sector, already having these models in place since the 30s. Until then, quality assurance in healthcare had been solely a field for academic research. Avedis Donabedian designed a review of the 1954-1984 period and recorded previous efforts, forming a quality assurance framework on the triptych, "sound structures, good processes and suitable outcomes" [1, 2, 3].

In the 1960s and 1970s in America, it was considered mandatory that systematic evaluation of Structures, Processes and Outcome should be introduced through a quality assurance framework. To this end, it became necessary for Health Organisations to be accredited by the Joint Commission of Accreditation [2].

The health sector should adopt integrated quality systems because of the need to survive

and develop in a highly competitive environment. Due to the inefficiency of mechanist procedures, combined with the absence of adequate administrative infrastructure to improve operations and increase revenues by reducing quality failures, innovation is a way to create an efficient product or service. Through the design and implementation of a quality system, team spirit amongst workers is cultivated, to secure a competitive advantage for the organization, in the form of elevated productivity and customer satisfaction as well as reduced cost [4, 5].

Despite the significant progress achieved in evaluation of quality care through a wide range of quality improvement strategies, such as accreditation systems, quality management organisational programmes, clinical screening, patient safety systems, clinical guidelines for practices, performance indicators and systems for taking opinions from patients, quality and safety issues persist, and the discussion of improving those strategies is more important than ever [6]. The following literature review constitutes an attempt to shape the contribution of healthcare professionals in issues that relate to quality management over the course of recent years.

2. AIM

This study aims to investigate the contribution of Health Professionals in issues related to quality.

3. METHODOLOGY

This systematic review took place between May 2019 and June 2020 in the databases PubMed, Cochrane Library, Wiley Online Library, Google Scholar, Web of Science and Scopus search engine databases. Articles published from 2008 to 2020 were located using the following keywords: healthcare professionals, quality management, quality activity, quality improvement, patient safety, and various combinations of these words. The link between the keywords with 'AND' was used to limit the results. More specifically, the following search was made: Healthcare professionals AND quality management, healthcare professionals AND quality improvement, healthcare professionals AND quality activity AND patient safety, quality management AND quality improvement, quality improvement AND patient safety, and healthcare professionals AND quality activity.

Additional references were also identified from the literature review directories. The criteria for inclusion in the studies were the existence of a clear correlation between the Quality activities and health professionals, the publications to be in English and to be original qualitative and quantitative. Correspondingly, the exclusion criteria were: languages other than English, secondary surveys (general and systematic reviews or post-analyses), letters to the publisher, and editorials or articles that did not illuminate the subject under study. After an extensive literature review, a standardised Excel spreadsheet was developed for data extraction from the included studies. The main characteristics of the studies were recorded (author's name, place and time of work, the article under study and the methodology) so that all research articles corresponding to the review could be included in this review inclusion and exclusion criteria.
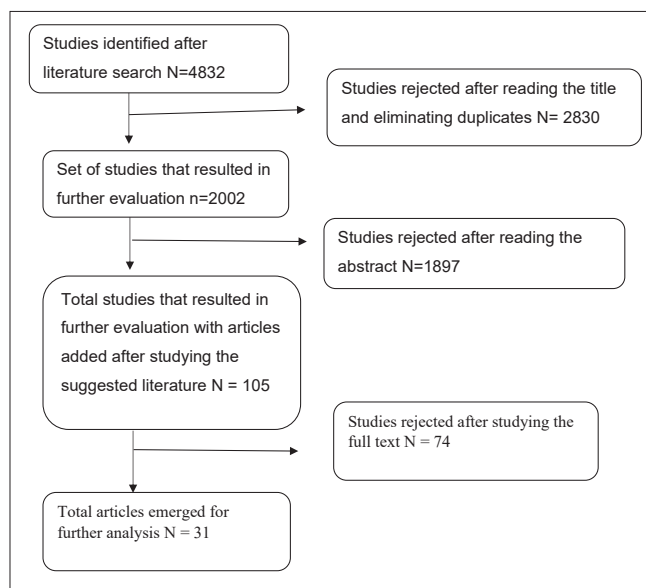

Figure 1. Article selection flow chart

4. RESULTS

The procedure for selecting the 31 articles that met the inclusion criteria is outlined in Figure 1. The first study was conducted in 2008 and the last in 2020. The majority of studies were conducted in Europe, two in America, and also in other countries as, Australia, Brazil and Saudi Arabia demonstrating that research on quality management systems is a global interest.

Hospital Quality Improvement Activities

Cohen et al. [1] examined the nature of hospital quality improvement activities. Health care workers reported that they have taken on roles and responsibilities far beyond traditional quality assurance. However, fewer than half of participants perceived a positive impact of quality assurance on their hospital (insurer relationships, inpatient volume, and hospital capacity to recruit and retain physicians). Yet, there is a very high commitment by hospitals to improve quality. Quality improvement activities related either to the prevention of adverse outcomes such as surgical site infections, adverse drug events, central line infections, and ventilator-associated pneumonia, or to reconciliation medication.

This study identified the need for greater innovation and creativity for continued performance gains, as well as coordinated efforts by managers, clinics, and policymakers to achieve organisational and holistic quality goals. Nevertheless, it has been asserted that further analysis was needed to examine the relationship of these activities to various hospital characteristics, performance measures (hospital mortality and quality system performance measures, hospital efficiency measures and levels of adoption of health information technology).

Strategies for hospital quality improvement

A group of studies [7-14] investigated the relationship between the implementation of hospital quality improvement strategies and the ability of hospitals to meet specified requirements using the MARQUIS project (Multicentre Medication Reconciliation Quality Improvement Study project). The data collected relate to seven quality im-

STUDY/PROJECT	PURPOSE	SAMPLE	METHODOLOGY	Results
Cohen et al. (2008) US [1]	Investigate the current state of hospital quality improvement activities and the relationship between quality improvement activities and quality managers' assessments of quality.	N=470 hospitals N= 4.222 personnel *CEO Senior *Managers *Other managers *Physicians *Nurses	Cross-sectional study	Very high commitment by hospitals to improve quality with activities related either to the prevention of adverse outcomes or to reconciliation medication.
Methods of Assessing Response to Quality Improvement Strategies (MARQuIS) Spain, France, Poland, Czech Republic, UK, Ireland, Belgium, Netherlands [7-14]	Investigated quality policies and improvement in healthcare systems across the European Union	N=389 acute care hospitals *Public hospital (80%) *Private hospital (20%) *Included university (23.5%) *Teaching (48.9%) *Non-teaching hospitals (27.6%)	Web-based questionnaire survey	All countries apply strategic qualities such as accreditation systems, quality management programs, process control and evaluation, patient safety systems, evaluation of performance indicators, patient satisfaction assessment.
Deepening our Understanding of Quality Improvement in Europe (DUQuE) Project Czech Republic, France, Germany, Poland, Portugal, Spain, Turkey, UK [15-24]	Study the relationship between organizational quality improvement systems, organizational culture, professional involvement and patient involvement in quality management and their effect on the quality of hospital care.	N=188 hospitals *9,712 professional questionnaires, *6,536 patient questionnaires *9,021 chart reviews, *366 external visits to departments and hospitals *177 sets of hospital administrative data	Cross-sectional, multi-method study	Utilizing clinical local leaders is more effective when combined with other complementary interventions such as reminders, inspections and feedback, remote visits, good promotion strategies, local consensus procedures, and patient mediation
Deepening our Understanding of Quality in Australia (DUQuA) Australia [25-31]	Examining the quality activities (organization-level quality management systems, department level quality management strategies and patient-level measures	N=32 hospitals, *31 quality management, *1334 clinician *857 patient questionnaires *2401 medical record reviews *151 external assessments	cross-sectional, multi-method study	Frontline interventions appear to be more influential than departmental interventions in shaping the quality of care by building multi-level strategies.
Model for Understanding Success in Quality (MUSIQ) Cincinnati, Ohio, USA [32-33]	MUSIQ shows how context influences the success of individual quality improvement projects	*Paediatric Hospital *Hospitals that depend on a quality improvement government program *Organizations that train quality improvement consultants [33]	cross-sectional study [33]	Effective use of structured quality improvement approaches requires teams to work closely with frontline staff to develop knowledge and views
Backman & Kyzer (2013), California [34]	Record quality improvement activities and identify gaps	Leaders of 35 office and divisions within California Department of Health Care Services.	Cross- sectional study	Healthcare professionals are likely to engage in quality improvement activities which may include evaluations of various forms of problems and developing strategic and programmatic priorities and resources in a multi-annual plan to optimise quality
Alaraki, M.S (2014) Saudi Arabia [36]	Investigation of total quality management in Saudi Arabian hospitals.	N= 4 hospitals in Tabuk Region N= 400 personnel.	Cross-sectional convenient sampling technique	A very large percentage revealed a lack of knowledge If the existence of a quality system
Costa et al. (2014) Brazil [35]	To analyse the nursing staff's opinions about the continuous quality improvement programme at a university Hospital.	N=82 nursing Professionals.	Descriptive study designed as a case study with a self-administered Questionnaire.	Strong positive relationship between leadership, employee management, information analysis, training, customer focus, continuous improvement, process management, supplier management and hospital performance

Table 1. Characteristics of the 31 studies included in the review

provement strategies (organisational quality management programmes, accreditation, patient safety systems, clinical practice guidelines, performance indicators, systems for receiving patients' views, audits and internal evaluations of clinical standards) and four dimensions of outputs (clinical, safety, patient-centeredness and cross-border patient-centeredness).

The involvement of health professionals in quality systems varies. All countries to some extent apply strategic qualities such as accreditation systems, quality manage-

ment programs, process control and evaluation, patient safety systems, evaluation of performance indicators, patient satisfaction assessment. Depending on their involvement, countries are distinguished in countries that have a well-established strategy for maintaining and improving quality, countries that are developing dynamically and have established policies and strategies, and countries that are slower to develop and do not have a specific policy. The strategies studied at MARQuIS are effective at the hospital level and are directly related to the external pressure exerted. The quality improvement strategies evaluated affect the implementation of different policies and procedures and are linked, to varying degrees, to the achievement of the goals by the hospital.

Quality improvement systems and professional involvement

The DUQuE project is a continuity of the MARQuIS and aimed to explore the relationship between organizational quality improvement systems, organizational culture, professional involvement and patient involvement in quality management and their effect on the quality of hospital care (clinical effectiveness, patient safety and patient experience) [15-24]. According to the project it seems that utilizing clinical local leaders is more effective when combined with other complementary interventions such as reminders, inspections and feedback, remote visits, good promotion strategies, local consensus procedures, and patient mediation. The attitudes and behaviours of health professionals are unique but have a direct impact on organizational culture and affect both individual, teamwork and motivation. It also has a direct impact on the interaction of healthcare professionals with patients. Also few leading doctors and nurses said they were fully involved in the management of their hospital. The implementation of quality management systems is generally positively related to teamwork and the security climate with most clinical leaders reported positive perceptions of teamwork and safety climate.

Accreditation and certification are positively related to clinical leadership, patient safety systems and clinical examination, but not to clinical practice. Both systems promote structures and processes that support patient safety and clinical organization, but have a limited impact on providing basic patient care.

According to the same project, the existence of quality as an issue on the agenda of the executive board enables the quality performance to be reviewed and discussed frequently. This improves hospital quality management after being associated with a higher quality management system score.

Extending the DUQuE model and refocusing the research design and building on the need to examine relationships between quality methods and interventions on the one hand and organizational and patient outcomes on the other, the same project contacted in Australia (DUQuA) seeking to advance internation knowledge in this area [25-31].

The project confirms that there is no single way to apply or improve quality. Stakeholders embedded in healthcare (policymakers, managers, clinicians, associated staff and patients) have been active in contributing to the quality enterprise and they desire for more improvement and faster.

Frontline interventions appear to be more influential than departmental interventions in shaping the quality of care by building multi-level strategies.

Also strong organization-level quality systems effect positively clinicians at safety culture and leadership. Accreditation results higher performing but measuring the influence of quality systems on other hospital factors can be difficult when all hospitals perform equally well.

A number of studies use The Model for Understanding Success in Quality (MUSIQ) that is based on the level of healthcare system and identifies 25 contextual factors likely to influence quality improvement success [32, 33]. Research shows that effective use of structured quality improvement approaches requires teams to work closely with frontline staff to develop knowledge and views. The involvement of frontline professionals seemed to significantly influence the changes the team made, as it allowed them to identify and adopt emerging barriers and opportunities. Also, a strong relationship between the team facilitated productive control and change implementation and professional diversity within the group, especially the participation of physician and clinician, increased staff motivation to implement change [33].

Within the context of the implementation of a quality healthcare system, healthcare professionals are likely to engage in quality improvement activities which may include evaluations of various forms of problems and developing strategic and programmatic priorities and resources in a multi-annual plan to optimise quality [34].This study showed various forms of problems, some of which appear to be systemic such as the lack of consistent measurements and data translation operations, while others expressed specific loss of bispecific and specific programmes, such as the treatment for smoking. A study in Brazil investigated the opinion of the nursing staff about the continuous quality improvement programme at a University Hospital. Although the hospital's quality improvement program has a positive interference to a large extent, a very large percentage revealed a lack of knowledge about the program and that they could not easily develop related activities [35].

A research who was conducted to fill the research gap on the impact of applying quality management practices on hospital performance in developing countries, particularly in Saudi Arabia showed a very strong positive relationship between leadership, employee management, information analysis, training, customer focus, continuous improvement, process management, supplier management, and hospital performance. The research also revealed the difficulty, in the hospital being investigated, engaging the clinical staff in their quality initiative, and that accredited hospitals have significantly applied total quality management practices rather than unaccredited hospitals [36].

5. DISCUSSION

The implementation of quality management systems is not generally described in terms of measures, and when reporting on systems, some studies simply report the results. Higher implementation scores were observed for formal structures and responsibilities for specific clinical performance measures. Effective implementation of

quality improvement activities, processes, and guidelines is associated with high performance. There is no single factor for the variability associated with the implementation of the systems. A combination of senior management commitment, monitoring, and professional involvement in implementation, further influenced by the quality of hospital boards, mentality, and organisational culture links to better outcomes in provided care [37,38].

While progress is being made toward improving patient care in many hospitals, there is a clear need for greater innovation and creativity for continued performance gains and coordinated efforts of managers, clinics, and policymakers to achieve organisational and holistic quality goals [1].

There are specific quality improvement activities which modify clinical activities and ultimately alter the results at the patient level. The need for hospital units to adopt such information-based quality improvement activities and interventions and the need to implement patient safety enhancements justify this link [3]. It has also been asserted in literature that the quality of healthcare can be improved in a similar way to financial reporting. Therefore, the quality assurance information must come from the healthcare institution's quality management system. Outcome can be measured using performance indicators and accreditation or certification. Indicators provide the most valuable information on the quality of healthcare. Unfortunately, they are the least available, and therefore, need further development. To provide valid and reliable quality accreditation information, independent boards must develop standardised quality indicators for healthcare and rules for measuring them. Moreover, preferably, other independent bodies, comparable to developers, are required to verify and validate the health score indicators. Only through the implementation of a coherent system can reliable healthcare information be produced and presented to the public. Accreditation on its own or in addition to the indicators can also produce valuable healthcare information. There must be valid and reliable information on the quality of healthcare for patients to be able to make the right decisions when choosing healthcare providers [39].

6. CONCLUSION

Healthcare professionals are engaged in quality improvement activities which may include evaluations of various forms of issues and developing the strategic and programmatic priorities and resources in a plan to optimise quality. Areas of involvement include information analysis, training, customer focus, continuous improvement, process management, supplier management, and hospital performance. The associations between quality management strategies and clinical process measures is significant. Generally, the implementation of quality management systems positively associated with teamwork as well as patient safety.

The involvement of all staff members in the design and implementation of a healthcare quality management system leads to higher motivation as employees identify themselves as owners of the system. The design and implementation of a quality management system often includes redistribution of responsibilities and restructuring.

Using the circle of Plan, Do, Study, Act there is a contribution in every step especially in the level of Study through Multi-Disciplinary cooperation and Scientific Contribution.

Limitations: In terms of methodology the studies are very heterogeneous. As the health sector is complex and with particularities in terms of geographical location and the system applied, it is very difficult to come up with a common approach. In addition, Quality Management Systems, although generally accepted as a concept, have variations in the way it is implemented and evaluated, and are often completely intertwined with certifications or accreditations.

The involvement of healthcare professionals can be enforced without a formal role and therefore difficult to trace and evaluate. Further investigation is needed to cover the gab. This investigation should also extend to the individual factors that shape the establishment, implementation and effectiveness of quality management by healthcare professionals.

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