ORIGINAL ARTICLE

Communication as the most important non-technical skill in the operating room

La comunicación como la habilidad no técnica más importante en el quirófano

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Abstract

Objective: *To carry out a review of the literature about the complementarity between communication in the surgical area as a non-technical skill and its fundamental aspect in surgical practice.* **Methods:** *A bibliographic search was carried out by consulting the databases of the National Library of Medicine, PubMed, SciELO and Google Scholar. Articles published in the last 10 years, in English and Spanish, were considered as inclusion criteria, according to a series of keywords.* **Results:** *The initial search provided 2597 titles, which were screened and 22 articles were recovered for study analysis.* **Conclusions:** *The process of communicating is not so simple and linear; communication must be clarified by the participants in the interaction since they must overcome certain internal and external variables for it to develop properly. Communication in the operating room must be assertive and effective, where everyone feels important and is able to understand what is happening with the ability to present their own opinions as a key factor for patient safety during the surgical time.*

Keywords: *Non-technical skills. Communication. Surgical competence.*

Resumen

Objetivo: *Realizar una revisión de la literatura acerca de la complementariedad entre la comunicación en el área quirúrgica como una habilidad no técnica y su aspecto fundamental en la práctica quirúrgica.* **Métodos:** *Se realizó una búsqueda bibliográfica consultando las bases de datos de la National Library of Medicine, PubMed, SciELO y Google Académico. Se consideraron como criterios de inclusión artículos publicados en los últimos 10 años, en idiomas inglés y español, de acuerdo con una serie de palabras clave.* **Resultados:** *La búsqueda inicial proporcionó 2597 títulos, los cuales fueron sometidos a cribaje y se recuperaron 22 artículos para el análisis del estudio.* **Conclusiones:** *El proceso del comunicar no es tan sencillo y lineal; la comunicación debe ser clarificada por los partícipes de la interacción, ya que deben superar ciertas variables internas y externas para que esta logre desarrollarse adecuadamente. La comunicación en el quirófano debe ser asertiva y efectiva, que todos se sientan importantes y sean capaces de comprender lo que está ocurriendo con capacidad de presentar sus propias opiniones como factor clave para la seguridad del paciente durante el tiempo quirúrgico.*

Palabras clave: *Habilidades no técnicas. Comunicación. Competencia quirúrgica.*

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Introduction

Communication is defined as the exchange or feedback of information, ideas, and feelings that promotes teamwork as a whole, ensuring that all members share the same vision during the effective completion of tasks.[1] Non-technical skills, in turn, are defined as cognitive, social, and personal aspects that complement experience and knowledge. There are five fundamental pillars of non-technical skills: situational awareness, decision-making, leadership, teamwork, and communication.[2]

Over the last decade, adverse events in health care, especially in the surgical setting, have been considered to arise from failures in behavioural aspects rather than from a lack of expertise. In this regard, it has been reported that up to 86% of adverse events in surgery are related to non-technical skills, with 43% attributed solely to communication failures.[3]

Through the systematic analysis of the study of human factors related to surgery, it is possible to observe that good-quality care is not limited solely to the technical interaction between the surgeon and the patient on the operating table. Thus, errors can also be explained by understanding the interaction between environmental conditions and personal skills, both technical and non-technical, which allow the surgeon to interact with and respond to this dynamic system.[3,4]

The objective of this article is to conduct a systematic review of the available literature on the complementarity between communication as a non-technical skill and its fundamental role in surgical practice.

Methods

We conducted a bibliographic search by consulting the databases of the National Library of Medicine, PubMed, SciELO, and Google Scholar. Articles published in the last 10 years (2014-2024), in English and Spanish, were considered as inclusion criteria. The following keywords were used: “non-technical skills”, “communication in surgery”, “medical competencies”, “non-technical skills in surgery”, “communication in surgery”, and their combinations using the Boolean operators AND and OR. Articles whose full text was not available were excluded.

Results

The initial review in the abovementioned databases yielded 2597 results, of which 2403 were excluded because they were duplicate studies, were unrelated to the selected topic, referred to specific diseases, or focused on another non-technical skill. During title screening, 152 of the 194 studies retrieved were excluded. The abstracts of 42 articles were reviewed, and finally 22 articles related to the study topic were selected.

Discussion

The training of surgeons has always focused on the development of knowledge, clinical experience, and technical skills. Other aspects, such as decision-making, effective communication, and leadership, are developed informally and tacitly rather than being addressed during training. Communication is considered the foundation of teamwork and one of the most important factors to consider in training and assessment.[5]

Communication and its relationship with surgical skill

The operating room is an environment filled with potential situations, many of which cannot be controlled. However, those that can be controlled, including the verbal and gestural language and tone of voice of team members, must be managed. Establishing clear and effective communication ensures that all members of a team share a common vision and, in this way, can complete their tasks appropriately.[3]

Studies supporting communication in surgery

It has been shown that a large proportion of adverse events occurring in surgery are based on communication problems that tend to recur systematically; therefore, if communication improves, teamwork will improve.[5] Data collected by the Joint Commission on Accreditation of Healthcare Organizations suggest that poor communication contributed to 70% of the sentinel events reported in 2005.[6]

Lingard et al.[7] identified 421 communication events and classified almost one third of them as failures. In the analysis by Greenberg et al.[8] on surgical malpractice claims, recurrent patterns and contributors to miscommunication resulting in patient injury were identified. In a study by Sánchez et al.,[9] communication failures among professionals during the operative

act were evidenced, with 179 errors occurring in 35 surgical procedures; the number of errors varied individually between 1 (12.8%), 2 (7.8%), 3 (7.8%), and > 3 (71.5%), with different types of causes underlying communication errors by the surgical team.

Currently, we are only beginning to understand the importance of communication and its contribution to the efficient and safe performance of the team during the surgical act.[10]

How to achieve communication and its impact on the surgeon's surgical competence

Holding work meetings before and after the surgical act allows team members to discuss intraoperative performance, expected progress, and opportunities for improvement, thereby achieving effective feedback. Similarly, any complication, unexpected finding, or unforeseen event (such as equipment failures) that may have occurred during surgery should be communicated and discussed. This communication routine becomes a tool that will allow the team to maintain a good relationship and prepare for the next surgery, and will help the team jointly develop its skills and prevent the same errors from recurring.[9]

Challenges and recommendations for surgical practice and communication in surgery

An important step in creating highly effective teams lies in teaching staff how to be part of that team. Without training, they will only be groups of people working in the same place, but not a true team. Training will shape this group of people into a single entity that will face problems and work together in patient care.[11]

Team communication is a key factor for patient safety during the surgical period, since this is a space in which multiple factors intervene, decisions are made, and ideas are shared and discussed in the patient's best interest. However, the communication process is not that simple and linear; communication must be clarified and negotiated by the participants in the interaction, since they are influenced by internal and external variables. Of note, communication can be subdivided into 3 branches: the 1st is verbal communication, which includes words (whether oral or written); the 2nd is non-verbal communication, which comprises the kinesic complex (body language) and proxemics (associated with body distance); and the 3rd is the paralinguistic line (referring to expression through sounds, but without words).[12]

Team members prioritise familiarity over formality and help one another to avoid mistakes. To encourage this approach in medical care, institutions can follow different actions, such as:[11]

- Using structured communication tools that eliminate hierarchies.
- Providing feedback to surgeons.
- Training teamwork.
- Addressing conflictive behaviours.

Common obstacles in the pursuit of surgical practice and communication

As with all skills, there are certain minimum parameters that must be met and exceeded to achieve effective communication in the surgical setting; these are known as internal and external barriers.

External barriers consist of noise, low voice volume, distance, time, and even lack of visual expression. Internal barriers, in turn, are differences in language, organisational culture, mood, and affective states among those involved.[13]

Surgical teams usually face challenges imposed by the sophisticated instruments they use, the need to rapidly transmit critical information, the changing nature of the patient's condition, and the uncertainty inherent to all surgery.[14] In addition, team members may know very little about one another or be unaware of the needs of a given patient or procedure. As a consequence, when surgical staff do not communicate efficiently, critical information may be lost, forgotten, or misinterpreted, thereby endangering patient safety.[14,15]

Strategies to overcome challenges and achieve surgical practice and communication in surgery

Understanding communication as a combined, multidirectional team process, with different senders, messages, and receivers, in which there must be a closed loop, we start from what was intended to be said, then move to what was said, what was heard, and finally what was understood. For communication to be effective, it must be complete, accurate, unambiguous, and clearly understood.[16] Some characteristics or aspects that the communicative process must

fulfil to be effective have been described, such as message clarity, timeliness, assertiveness, and active listening.[17] To meet these goals, the ISBAR strategy has recently been described, consisting of five components: identification, situation, background, assessment, and recommendation; it has been shown to improve communication in work teams, reducing errors and improving the satisfaction of both patients and staff.[18]

Conclusions

Traditionally, physicians, especially surgeons, have been trained to think more as individuals than as members of a team. However, patient safety requires an approach in which individuals with different training work together, share information, and coordinate their efforts to provide optimal care.[19] Highly effective teams do not allow hierarchical barriers to endanger safety. When hierarchical differences are emphasised, people at the base of the pyramid often feel uncomfortable or directly afraid to voice problems or concerns. Rude, aggressive, or intimidating behaviours by individuals at the top of the hierarchy endanger communication, making that person appear unapproachable. The team leader is the one who sets the tone for all perioperative interactions.[20]

Communication, both verbal and non-verbal, takes place in the operating room to ensure adequate performance and is affected by a series of internal and external factors. Factors that facilitate the development of good communication include clarity of expression and listening, respect, situational awareness, experience, and trust.[21] In addition, communication is not only a process limited to the operating room, since situations must be created in which hierarchies are eliminated both inside and outside surgery and, consequently, individualistic action is rejected. There must be participation not only from the surgical team, but also spaces must be created in which the organisational and administrative areas are integrated to understand errors and areas for improvement, while also recognising the successful actions correctly performed by the team. Thus, communication in the operating room must be assertive and effective, always seeking teamwork, ensuring that everyone feels important and is able to understand what is happening and express opinions about it.[22]

Management within the surgical area is a task that requires the collaboration of professionals from different disciplines; hence the importance of interaction so that it is adequate and maintains a similar perception of the situation, ensuring optimal teamwork and guaranteeing patient safety. The institution may also allocate resources to train members of the surgical team in communication, something that is generally not provided during undergraduate training and whose absence may affect patient outcomes and increase the risk of professional liability claims.

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Conflicts of interest

The authors declare that they have no conflicts of interest.

Ethical considerations

Protection of human subjects and animals. The authors declare that no experiments were performed on human subjects or animals for this research.

Confidentiality, informed consent, and ethical approval. The study does not involve personal data, medical records, or human biological samples; therefore, ethical approval is not required. The SAGER guidelines do not apply.

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