

COMMUNICATION IN MEDICAL TEAMS: A LITERATURE REVIEW

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Abstract. Teamwork based on proper communication, social skills of interdisciplinary team members and proper division of roles has a direct impact on the quality of patient care. Incorrect interpretation of messages or delayed reaction to the received message cause significant problems in a teamwork. Nurses and doctors are two of the most important healthcare providers. They perform separate but complementary tasks in health care. An electronic literature search was conducted in the PubMed and ScienceDirect databases with the aim of analysing research on cooperation in healthcare teams, with a particular focus on the aspect of mutual communication between doctors and nurses. Empirical evidence may indicate that formal practices that strengthen communication and relationships among providers through participation in joint training have the potential to increase physicians' awareness of teamwork and thereby support effective team behaviours. Of the studies reviewed, some were conducted using unvalidated survey instruments. Some examined the opinions of only one professional group, without comparing them with the opinions of other groups involved in the collaborative process. Consequently, the present findings are inadequate as a reliable foundation for scientific conclusions.

Keywords: communication; cooperation in the medical team; nurses; doctors; teamwork; medical teams

INTRODUCTION

Teamwork has a direct impact on the quality of patient care. It is particularly important in healthcare, where there are interdisciplinary teams operating in changing conditions, often under time pressure. Interdisciplinary teams not only improve patient health, but also reduce the sense of burnout among healthcare workers [O'Leary, Ritter, Wheeler, et al. 2010, 119].

Leadership is critical to improving patient outcomes, and a shared leadership role is the most effective team approach [Ezziane, Maruthappu, Gawn, et al. 2012, 434]. Proper leadership encourages the use of open communication, which leads to a sense of team membership among employees [Armstead, Bierman, Bradshaw, et al. 2016, 180].

Communication is the process of transferring information between two or more parties [Frydrychowicz 2020, 14]. The sources in the communication process are people who are the senders and receivers of information. When communicating, there should be either feedback or a message confirming the receipt of the information. Therefore, the sender is at the same time the receiver of the message, which the receiver sends back, becoming the sender of the feedback [Wajda 2006, 154]. Signs are an important element of communication, and in specific medical terminology also professional expressions, which constitute a kind of code that is not always legible to the recipient. The key factors in this process are the ability of both the sender and the recipient to understand the transmitted content and, consequently, to use it appropriately. Clear communication is the basis for effective teamwork. Interpersonal communication in patient care uses verbal and non-verbal forms, e.g. written. Disruptions in this area of interpersonal communication can result in wrong decisions, which will burden the patient the most [Kuriata-Kościelniak 2020, 130].

Nurses and doctors are two of the most important healthcare providers. They perform separate but complementary tasks in health care. They are expected to cooperate effectively in order to provide quality services to patients.

Cooperation is an active process that requires perseverance and effort from all parties pursuing a common goal, but also personal motivation, education and information sharing. All of these aspects of the daily work of cooperating parties in patient care can be difficult to achieve [Zwarenstein, Goldman, and Reeves 2009, 4]. However, collaboration between nurses and physicians involves sharing responsibility for problem-solving and decision-making regarding the formulation and implementation of patient care plans [Ushiro 2009, 1499].

Cooperation between nurses and doctors can be influenced by factors: systemic, organizational, interactional and variables that characterize the staff themselves [Bender, Connelly and Brown 2013, 169]. Systemic factors are outside the organization and are elements of social, cultural, educational and professional systems [Brown, Lindell, Dolansky, et al. 2015, 208]. Organizational factors include the facility's mission, management structure, and administrative and clinical leadership [Regan, Laschinger and Wong 2016, 57]. Interactional factors refer to the attitudes of professionals toward each other during the work process, i.e., effective communication, mutual

respect, and willingness to cooperate [Bender, Connelly, and Brown 2013, 165-74]. Staff characteristics include educational level, length of service, and employee personality traits.

An electronic literature search was conducted in the PubMed and ScienceDirect databases with the aim of analysing research on cooperation in healthcare teams, with a specific focus on the aspect of mutual communication between doctors and nurses. The search strategy was based on headings: communication skills, cooperation in the medical team, nurses, doctors, teamwork, medical teams.

1. TEAMWORK IN THE OPERATING ROOMS AND INTENSIVE CARE UNITS

One of the topics of research on teamwork in terms of communication is errors and their consequences in the evaluation of teamwork in the operating room. Teamwork in the operating room between two groups: one comprised solely of surgeons, and the other consisting of surgeons and nurses was assessed. Surgeons among themselves rated the quality of cooperation and communication as high or very high in 85% of cases. In contrast, nurses rated their cooperation with surgeons as high or very high in only 48% of cases [Makary, Sexton, Freischlag, et al. 2006, 749].

In the opinion of most nurses, frequent interruptions in communication between doctors and nurses generate failures in teamwork related to communication and are significant sources of errors in the operating room [Hu, Arriaga, Peyre, et al. 2012, 39; Teunissen, Burrell, and Maskill 2019, 68; Silero and Buil 2021, 775].

Similar results were found in other studies that evaluated the relationship between interruptions, team familiarity and miscommunication. A positive correlation was found between the number of intraoperative breaks and the number of miscommunications by the medical team [Gillespie, Chaboyer, and Fairweather 2012, 584]. Incorrect interpretation of messages or delayed reaction to the received message cause significant problems in teamwork [Soemantri, Kambey, Yusra, et al. 2019, 153].

Other results show that 56% of intraoperative and postoperative complications result from communication errors.¹ Inadequate communication in the operating room has also been identified as the most common behavioural factor contributing to events such as wrong surgical site/side, wrong implant, retained foreign object, or wrong procedure [Thiels, Lal,

¹ The Joint Commission. Sentinel Event Data – Root Causes by Event Type – 2004 to third quarter 2011, <https://www.nerc.com/pa/rrm/hp/2012%20Human%20Performance%20Conference/Chuck%20Mowl%20Joint%20Commision%20Healthcare.pdf> [accessed: 07.11.2023].

Nienow, et al. 2015, 518; Schuenemeyer, Hong, Plankey, et al. 2017, 855]. Good communication is therefore essential for both incident prevention and incident recovery [Siu, Maran, and Paterson-Brown 2016, 126].

A study in Sri Lanka found that surgeons in the surgical team have a poor sense of shared identity with other professions. Most surgeons consider surgical assistants, anaesthesiologists, and nurses as separate teams working in the same operating room. Moreover, operating physicians believe that they play a more important role in the operating room compared to other colleagues [Jayasuriya-Illesinghe, Guruge, Gamage, et al. 2016, 61].

Another study found that the greatest obstacle to creating effective relationships between doctors and nurses is the lack of doctors' recognition of the professional role of nurses [Matziou, Vlahioti, Perdikaris, et al. 2014, 529]. Problems include a lack of clarity about the role of each team member and conflicting views on appropriate interaction in operating rooms [Weldon, Korikiakangas, Bezemer, et al. 2013, 1684]. Most conflicts in operating rooms usually occur between nurses and surgeons. The existence of a hierarchy among health care workers makes nurses working in operating rooms feel that they are not fully perceived as members of surgical teams [Lafamme, Leibing, and Lavoie-Tremblay 2019, 307].

In case of improper teamwork between specialists, the risk of surgical complications is approximately five times higher [Mazzocco, Petitti, Fong, et al. 2009, 681]. A study conducted in an operating theatre simulation setting with surgeons, anesthesiologists and nurses identified barriers to communication in the work of such teams. These included lack of cordiality, low commitment to their duties and inappropriate role hierarchy [Shi, Marin-Nevarez, Hasty, et al. 2020, 239].

Improper communication between doctors and other healthcare providers has direct consequences for patients, such as delays in the provision of care, a reduction in its quality and, consequently, dissatisfaction of recipients [Norgaard, Ammentorp, Kyvik, et al. 2012, 95]. Most of these errors occur in wards where intensive care is provided in a fast-moving, dynamic environment, where proper communication, cooperation and coordination of activities are essential for providing effective care [Courtenay, Nancarrow, and Dawson 2013, 57].

Nurses and junior doctors working in the intensive care unit had different views on the extent of cooperation in the team. Nurses described the degree of collaboration as insufficient, while junior doctors were satisfied with this collaboration. The views between the groups were most divergent when it came to overall satisfaction with the team's decisions [Nathanson, Henneman, Blonaisz, et al. 2011, 1819].

A study was conducted in intensive care units and found that members of different professions behaved differently during team meetings. Although the researchers found that teamwork was reasonably effective, there were significant differences in perceptions of cooperation between doctors and non-doctors. They found that a lack of communication between members of the healthcare team remains a common cause of errors in patient care [McCulloch, Rathbone, and Catchpole 2011, 475].

Statistically significant differences were observed between physicians' and non-physicians' perceptions of teamwork [Walter, Schall, DeWitt, et al. 2019, 15].

Communication in medical teams was assessed. At joint meetings of interdisciplinary teams, physicians spoke longer than other team members – for an average of 83.9% of the duration of each meeting while non-physicians spoke for an average of 9.9%. This can be interpreted as the dominant role of the physician at the meeting [Lingard, Vanstone, Durrant, et al. 2012, 1764].

2. COOPERATION IN AN INTERDISCIPLINARY TEAM

Another study looks at the relationships between doctors, nurses and unlicensed support staff. Unlicensed support staff are important members of healthcare, possessing a high level of experience and skill. These include nursing assistant, nursing auxiliary, patient care technician, home health aide/assistant, geriatric aide/assistant, psychiatric aide.

The findings show that most of the time doctors, nurses and unlicensed assistive personnel act as separate providers who hardly talk to each other. Doctors consider themselves the main decision makers in patient care. Doctors and nurses consult with each other on patient care issues. In contrast, unlicensed ancillary staff are rarely included in discussions about patients. Lack of agreement between these groups can interfere with interdisciplinary communication and collaboration. An appropriate model of patient care in a hospital should recognize the contributions of physicians, nurses and unlicensed assistive personnel to care; promote better communication and collaboration and thereby enhance patient safety [Lancaster, Kolakowsky-Hayner, Kovacich, et al. 2015, 281].

3. FACTORS THAT MAKE COOPERATION DIFFICULT

However, effective direct and indirect exchange of patient information is only one dimension of good team communication. Poor communication is cited as a leading cause of poor patient outcomes and healthcare errors.

Clear communication is especially important when discharging a patient from the hospital [Scotten, Manos, Malicoat, et al. 2015, 898].

When a patient is discharged from the hospital, there should be standards for communication and handling of processes that require inter-institutional cooperation [Pinelli, Papp, and Gonzalo 2015, 1304]. This is particularly important for patients in intensive care units [Goldman, Reeves, Wu, et al. 2016, 7].

In China, the influence of interactional factors (effective communication, perceived respect and willingness to cooperate) on the perception of cooperation between nurses and doctors was investigated. Cooperation between nurses and doctors was assessed as moderate. According to the nurses' opinion, the main factor determining proper cooperation is perceived respect, the second factor is effective communication, and the weakest element is the willingness to cooperate. Effective communication was at a medium-high level [Wang, Wan, Guo, et al. 2016, 76].

This result is consistent with other empirical studies [Collette, Wann, Nevin, et al. 2017, 476; Luetsch and Rowett 2016, 462] in which collaboration has been correlated with timeliness of communication and accuracy in collaboration. Timely communication allows team members to stay updated on the progress of patient care [Havens, Vasey, Gittell, et al. 2010, 935] and contributes to achieving work coordination [Rundall, Wu, Lewis, et al. 2016, 94]. Accuracy and understanding of the information received prevents errors and delays and contributes to patient safety.

According to some nurses, some doctors attach importance only to treatment and believe that a nurse is not necessary in this process. In the nurses' opinion, this view also exists at the management level. Nurses pointed out the lack of formal communication processes and proper exchange of information between the two groups; for example, nurses do not attend morning meetings of doctors where patients' cases are discussed, and after these meetings they are not provided with information on the further management plan for the patient. The main communication between doctors and nurses is through verbal exchange of information during shift work and patient records. The findings described were based solely on the observations of doctors and nurses. It would be reasonable to expand these analyses, to include the opinions of other members of the interdisciplinary team related to health care, as well as the patients themselves [Morag and Zimmerman 2021, 78].

The aim of the research conducted in Greece was to learn the views of doctors and nurses on communication and cooperation in the medical team, as well as the factors that may influence them. Significant factors differentiating the nurses' opinions were work experience, clinic size and education. In the case of doctors, gender was an additional differentiating variable.

Nurses and doctors do not share the same views on the effectiveness of communication and the role of nurses in the decision-making process regarding patient care. The most important barrier in building good relations between these groups of professions was the lack of recognition of the professional role of nurses. The study also found that a lack of inter-institutional collaboration may result in more errors and omissions in patient care. Therefore, in everyday practice, both nurses and doctors should be aware of the importance of effective communication in patient care. They should also develop principles of mutual interinstitutional cooperation in this area. Nurses must continually strengthen their role in decision-making and patient care, especially in countries with a limited culture of inter-institutional cooperation. Additionally, factors that improve physicians' attitudes toward collaboration and effective communication need to be further explored [Matziou, Vlahioti, Perdikaris, et al. 2014, 526-33].

Other studies pointed to a lack of communication and cooperation between the medical team. During daily rounds, some doctors did not provide nurses with sufficient patient information. This also applies to incorrect explanation of medical orders, which is the basis for generating many errors at the stage of issuing a prescription, transcription, recording the wrong drug or the wrong dose [Farzi, Irajpour, Saghaei, et al. 2017, 162]. The nurse-doctor relationship is significant, and the main goal of these two related professions is to ensure patient safety and quality care. Conflict between members of the medical team can jeopardize patient safety and reduce the quality of care [Fassier and Azoulay 2010, 662]. 60% of adverse events result from lack of communication between members of the medical team [Martin, Ummenhofer, Manser, et al. 2010, 5].

A survey in Hong Kong found that doctors and nurses perceive open communication differently in their clinical environment [Ng, Pun, So, et al. 2017, 8]. Lack of open communication may be due to limited opportunities and time to discuss patient care among medical teams. Therefore, introducing training for medical teams on team action strategies and tools used to increase efficiency and patient safety could be a way to educate all members of the health care team in proper communication [Clapper 2018, 243].

CONCLUSIONS

This paper presents a review of empirical evidence on work in medical teams, with particular emphasis on the aspect related to mutual communication between doctors and nurses. This evidence has been obtained mainly in the last decade. Although the evidence is limited and fragmentary due to the small number of scientific reports on selected aspects, leaders have provided some indication of what would need to be done. The data provide

evidence that collaboration requires different efforts by the professionals involved in teams.

Healthcare teams face several challenges that non-healthcare teams do not necessarily have to address. These challenges include the need to share professional roles and expertise, planning and decision-making while providing quality care for patients in various health/disease states.

If the team is to succeed, communication must be a priority, and barriers to communication must be identified and removed. Effective communication among health care professionals is the foundation for good collaboration. Hospital administrators and department managers could lead efforts to improve effective communication between nurses, doctors and other members of medical teams.

Strategies such as team training to better understand teamwork and collaboration can improve professional understanding of each other's roles and values. Despite working together as a medical team, doctors and nurses rarely participate in training together. To develop mutual understanding and trust, collective education through various forms of training, such as role-playing and discussions, is necessary. Communication processes will be supported by a large number of formal opportunities for information exchange such as training in simulated conditions, team-building meetings, information and knowledge exchange forums, organisational arrangements that provide opportunities for mutual learning.

Management should develop tools to accurately assess collaboration in medical teams. Knowledge of barriers to interpersonal communication and their effective identification should be an important part of organisational management.

The awareness that the messages sent may not be understood by the recipients allows for very frequent monitoring by senders. The immediate reaction of senders will prevent conflicts in the organisation. Errors in communication between sender and receiver will be reduced the stronger the motivation for their mutual understanding.

The issue of communication in interdisciplinary medical teams made up of people of different ages may present a new challenge for organisational managers. The authors of this study found no scientific reports on cooperation and mutual communication in intergenerational medical teams. It is worth including the aspect of generational differences in future research.

Of the studies reviewed, some were conducted using unvalidated survey instruments. Some examined the opinions of only one professional group, without comparing them with the opinions of other groups involved in the teamwork process. Therefore, the current evidence cannot be used as a solid basis for scientific inference. The quality of scientific data

on teamwork and communication was moderate to poor. The different measurement techniques used reduce the comparability of the research and confidence in the validity of the findings and the generalizability of the results.

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