



The importance of the multidisciplinary team in complex surgeries

A importância da equipe multidisciplinar em cirurgias complexas

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ABSTRACT

The need for a multidisciplinary team to perform various types of surgeries is evident. And this article addresses the importance of the multidisciplinary team in more complex surgeries, highlighting the benefits of a collaborative approach in the effective and safe management of patients undergoing challenging surgical procedures such as organ transplants, tumor extirpation, bariatric surgeries among other surgeries. The review examines the specific roles of different medical specialties, psychologists, nutritionists, physiotherapists, nurses and other health professionals, who have their specific role in the multidisciplinary team, the positive impacts on reducing complications and improving clinical outcomes, as well as the importance of communication and coordination among team members. The main objectives of the research are to identify which are the specialties and professionals that make up the multidisciplinary team and their main functions in the scope of the most complex surgeries. Thus, how to identify if there really should be adequate communication to carry out well-performed procedures. We conclude by highlighting the continuous need to value and promote multidisciplinary collaboration to ensure the best possible care for patients in the preparations for surgeries, preoperatively, intraoperatively, postoperatively, and in the rehabilitation of these patients.

Keywords: Multidisciplinary team, Complex surgeries, Collaboration, Clinical outcomes.

INTRODUCTION

Complex surgeries can be defined as surgical procedures that involve a high degree of technical difficulty, high technological density and increased risks for the patient and a multidisciplinary approach to treatment. These procedures usually require extensive pre- and intraoperative preparation, a specialized team prepared for possible complications, and intensive postoperative care due to the delicate or extensive nature of the intervention (PAZ, et al. 2023).

These complex surgeries can encompass a wide range of procedures in various medical specialties, such as neurosurgery, heart surgery, organ transplantation, oncological surgery, tissue reconstruction, among others. Some examples of complex surgeries include surgeries to remove tumors, bariatric surgeries, cardiac bypass procedures, organ transplants, reconstructions of some part of the body, repair of injuries after severe trauma, among others (ZIMERMAN, et al. 2024).

The term "complex" can refer to the anatomical complexity of the area to be operated on, the severity of the patient's medical condition, the need for advanced surgical techniques, or the possibility of complications during or after the procedure. As such, these surgeries require a careful and thorough approach, involving a multidisciplinary team of highly trained healthcare professionals to ensure the best possible outcome for the patient. This multidisciplinary team should include a surgeon, instrumentator, anesthesiologist, circulating nurses, psychologists,



nutritionists, pharmacists, physiotherapists, intensivists, among other professionals. Each of which play a unique designated role in their own formation (ARRUDA, et al. 2019). In order to perform an adequate surgery, there must be adequate communication between the professionals involved in the patient's care, as well as responsibility, attention and expertise in the duty that each one must perform individually. Thus, Pessoa et. al. 2020, considers that:

Patient safety is not an individual problem, nor is it a problem of a single professional category, but the result of a process that involves the need for institutional transformation. Thus, there is a need to constitute patient safety in health organizations as a cultural process, in order to promote a greater awareness of each professional of the multidisciplinary team that works in organizations.

According to ANVISA, 2009. "At least seven million surgical patients are harmed by surgical complications each year, including at least one million patients who die during or immediately after a procedure." Based on this premise, it is important to analyze and verify and search for factors that pass through multidisciplinary care, and to reflect on which cases these deaths could be avoided based on good professional care.

Surgical treatment is extremely important, in some cases as a last resort to the patient's treatment. Therefore, it is important that health professionals offer the most humane and safe service possible. However, surgical incidents sometimes occur during the surgical procedure, such as: surgeries in the wrong place, foreign body forgotten inside the individual's body, and communication failures among the multidisciplinary team before, during, and after the operation. Thus, by establishing a routine, and having a trained multidisciplinary team, performing the established methods, it is possible to provide quality care for the patient. (ROSALINO et al., 2021; DOS SANTOS et al., 2023)

In Brazil, obesity is a disease that has a prevalence of 19.8% of the population, of which 20.7% are women and 18.7% are men, according to data provided by the Surveillance Survey of Risk and Protective Factors for Chronic Diseases by Telephone Survey (Vigitel) in its last survey in 2019 (VIGITEL BRASIL et al., 2019).

Unfortunately, an increasing increase in these numbers is expected due to the change in the population's lifestyle and eating habits. In view of this reality, body dissatisfaction, especially in the female population, is also increasing, corroborating the need for a joint path between obesity and eating disorders (CONSORTIUM et al., 2009).

In this context, deepening knowledge about the responsibility and role of the multidisciplinary team in complex surgeries is relevant for society in general, for health professionals and students, and for health service managers in the public and private hospital



spheres. (RIBEIRO et al., 2019; MORQUIONI et al., 2019; FASARELLA et al., 2013).

Based on this, the objective of this research is to deepen knowledge about the role of the multidisciplinary team in complex surgeries in Brazil, considering the possible advances, setbacks, limits, and possibilities of the procedure from the perspective of care (DE LACERDA et al., 2022)

METHOD

Considering that theoretical studies are an indispensable basis for field and laboratory research, we opted for a conceptual deepening and search for official data on the object of study, allowing the knowledge of the reality as well as the possibility of critical reflection on the subject within the scope of the Brazilian reality.

Based on the understanding of Creswell (2007) for whom the Literature Review is configured as a preliminary stage of scientific studies, then the research is a Bibliography Review, in which articles published in the National Library of Medicine (Pubmed), Virtual Health Library (VHL), Web of Science, Lilacs and Capes Journals by descriptors obtained by the Health Sciences Descriptors (DeCS) of the VHL were used as the basis of the study.

In a dialectical approach that, according to Minayo (1994), is the system of relationships that constructs the reality in which the object of study is inserted, research is characterized in the field of medicine with qualified data, considering the analysis of the elements that constitute as limiting or potentiating the procedure, according to studies analyzed.

SEARCH STRATEGY

This is a literature review of articles published in the National Library of Medicine (Pubmed), Virtual Health Library (VHL), Web of Science, Lilacs and Capes Journals by descriptors obtained by the Health Sciences Descriptors (DeCS) of the VHL.

A search was performed for the descriptors: *Patient Care Team AND General Surgery* in "All fields".

SELECTION STRATEGY

For the selection of articles, the following steps were followed: (I) search for articles in the databases; (II) reading of titles and abstracts, with analysis according to the eligibility criteria and; (III) full-text analysis of the studies, with only those required by the inclusion



criteria and did not meet any of the exclusion criteria being included in the systematic review.

INCLUSION CRITERIA

Published studies were eligible if they met the following criteria:

1. studies involving a multidisciplinary professional or team;
2. studies that had the object of study multidisciplinary team;
3. articles that studied complex surgeries and their consequences, and;
4. articles published in the last 12 years. There were no restrictions on sample size or foreign language.

EXCLUSION CRITERIA

Articles were excluded if: (1) published before 2007; (2) studied situations that do not include a multidisciplinary team and complex surgeries; (3) duplicates; (4) they were not directly related to the study of complex surgeries in relation to the multidisciplinary team.

RESULTS AND DISCUSSION

With the increase in life expectancy of the Brazilian population, together with an inadequate lifestyle, there is an increase in the number of chronic diseases such as hypertension, diabetes, obesity, neoplasms, so these diseases cause, among others, long-term damage to target organs and a poor quality of life (DE PAULA et al., 2012).

These organ lesions have a hierarchy of treatment whenever possible, starting with clinical treatment, if this is not effective, reconstructive surgeries are performed on these organs, in some cases these surgeries are not yet resolvable, so the last instance of treatment for severe patients is organ transplantation, in the case of severe patients with heart failure, Renal failure, cirrhosis, complicated lung diseases (DE PAULA et al., 2012).

In the case of high-grade obesity, more complex surgeries are also necessary, such as bariatric surgeries and, in situations of neoplasms, sometimes the excision of solid tumors, among other surgeries (MORQUIONI et al., 2019).

It is a fact that these reconstructive surgeries or even organ transplants are in many cases an indispensable procedure for some patients; these surgeries are the definitive treatment for several diseases, especially those that are terminal and cause organ failure (CAMPOS et al., 2015; MACHADO et al., 2020).



In Brazil, the Unified Health System (SUS) is the system that coordinates the most complex surgeries, such as transplants in the country. Thus, the number of transplants has been growing more and more in the country, thanks to technological advances and better professional qualifications (MARINHO et al., 2007).

Considering that the Brazilian population is getting longer and longer, due to the increase in life expectancy, it is possible to infer that more people may need more complex surgeries in the future, due to the deterioration of the body itself over time. A few decades ago, people did not have so many chronic diseases and their complications, precisely because they ended up dying before having the disease (MARINHO et al., 2007).

This prognosis of greater longevity of the population indicates that the Ministry of Health, in partnership with the Unified Health System (SUS) and the regulatory bodies of highly complex procedures in the country, should increasingly improve their regulations and carry out adequate monitoring of these professionals (DE SOUZA et al., 2008; MUCELINI et al., 2021; BARBOZA et al., 2020).

According to the Ministry of Health, 2021. "As a strategy for the Regulation of Access to Care, the National Center for the Regulation of High Complexity (CNRAC) was established within the scope of the SUS, through Ordinance GM/MS No. 2,309/2001, with the purpose of organizing the interstate referral of patients who need care in high complexity in the specialties of cardiology, neurology, oncology, traumatology and orthopedics and surgical procedures related to bariatric surgery" (TREVISÓ et al., 2020).

It is evident that there is a categorization among the most complex surgeries, and precisely these surgeries must have an adequate structure to provide a safe environment for the procedure, sufficient funding to accommodate all the necessary materials and professionals, and adequate training and advice of these professionals (LOPES et al., 2013).

Each professional has a unique role to be played in the proper care of the patient. In the context of surgery for tumors, organ transplantation, amputations or bariatric surgeries, good psychological care for these patients is of paramount importance. Their lives will be completely changed after the operation. Just like the nutritionist, they also have a gigantic role in the rehabilitation of a post-bariatric patient's diet and lifestyle. Another example is physiotherapists in the respiratory rehabilitation of patients with lung neoplasms, or after amputation of a limb where their mission is to rehabilitate patients with the use of prostheses, to allow these patients to have a more independent life as possible. (BALTAZAR et al., 2023; DOS SANTOS BARBOSA et al., 2022; SOUZA et al., 2012)



Not to mention the role of surgeons in general, anesthesiologists, nurses, instrumentators and circulators who play an immeasurable role at the time of the operation. The importance of each professional in the care of these patients is undeniable. And the sum of these precautions is revealed at the moment patients are discharged from the hospital (NISHIYAMA et al., 2007; LOPES et al., 2013; FARIA et al., 2021).

A study developed by Bohomol and Tartali (2013) indicates that the lack of adequate communication between the nursing team and physicians is one of the main causes of incidents and adverse events that occur within the operating room. This suggests that patient safety during surgery relies heavily on efficient communication between healthcare providers.

A solution to deal with this problem would be for nursing to implement care protocols, such as the checklist for safe surgeries, and also to use tools to improve communication, involving the entire team from different health areas (BOHOMOL; TARTALI, et al., 2013).

According to the WHO, patient safety in the operating environment can be achieved through three complementary actions, namely: preventing the occurrence of adverse events, making them visible if they occur, and minimizing their effects with effective interventions. Some of the examples of adverse events are: infection due to lack of hand hygiene, communication failure between professionals, inadequate infrastructure and equipment, among others.

Other serious adverse events are: surgical site infection, inadequate surgical positioning, procedure on the wrong side of the body, incorrect administration of medication, and problems in the anesthetic-surgical act. It is estimated that 50% of these serious adverse events are related to surgical care and could be avoided (BOHOMOL; TARTALI, et al., 2013).

To this end, the multidisciplinary team must be constantly improving, it must seek to adapt to the technical and scientific changes that have been growing over time. It is evident that the Surgical Center suffers an exponential increase in complexity and high technological, scientific and human relations density, which requires a new profile of the health professional in this sector, requires training, knowledge and commitment to implement actions that meet these changes. (CAMPOS et al., 2015).



CONCLUSION

High complexity surgeries are performed by general surgeons, oncologists, traumatologists, orthopedists, neurologists, among others. However, these procedures also present high risks of morbidity and mortality, considering several severe intraoperative and postoperative complications, including psychological complications, hence the great need for these patients to be monitored by a competent multidisciplinary team, to minimize the risks of complications and ensure a better quality of life and independence for these patients after hospital discharge.



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