The surgical residents' perception of feedback in their education: a scoping review protocol

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Table of Contents

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Abstract

Background: Feedback is an essential tool for learning and improving performance in any sphere of education, including the resident physician's training. The learner's perception of the feedback they receive is extremely relevant to their learning progress which must aim at providing qualified care for patients. Studies pertinent to the matter differ very much in methodology, population, context, and objective, which makes it even more difficult to achieve a clear understanding of it. A scoping review on this theme will unequivocally enhance and organize what is already known.

Objective: The objective of this study is to identify and map out data from studies that report the surgical residents' perception of the feedback received during their education, analyze them, determine knowledge gaps, and disseminate the research findings as well.

Methods: The review will consider studies on feedback perception of resident physicians of any surgical specialty and age group, attending any year of residency, regardless of the type of feedback given and the way the perceptions were measured. Primary studies published in English, Spanish, and Portuguese since 2017 will be considered. The search will be carried out in six databases and reference lists will also be searched for additional studies. Duplicates will be removed, and two independent reviewers will screen the selected studies' titles, abstracts, and full texts. Data extraction will be performed through a tool developed by the researchers. This scoping review protocol was registered in the Open Science Framework at https://osf.io/yexkb.

Results: Descriptive statistics and qualitative analysis (content analysis) will be used to analyze the data. A summary of the results will be presented in the form of diagrams, narratives, and tables. The findings of this scoping review will be submitted to an indexed journal in July 2024.

Conclusions: Conducting a scoping review is the best way to map what is known about a subject. Focusing on the feedback perception more than the feedback itself, the results of this study will surely contribute to understanding how to proceed to enhance internal feedback and surgical residents' learning progress.

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Abstract

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Conclusions: Conducting a scoping review is the best way to map what is known about a subject. Focusing on the feedback perception more than the feedback itself, the results of this study will surely contribute to understanding how to proceed to enhance internal feedback and surgical residents' learning progress.

Keywords: Medical education; Occupational training; Surgical residents; Feedback; Perception.

Introduction

Background:

Feedback is the delivery of information based on direct observation [1] that must always generate an action in the learner [2]. It constitutes specific information about the comparison between learners' performance or knowledge regarding a task and the desired standard, and the objective is that learners seek to improve their performance and reduce the distance between the ideal and the real [3]. In other words, it is a process in which learners acquire knowledge about their performance and use it to improve the quality of their work or learning strategies [4].

Thus, it is an essential tool for learning and improving performance in any sphere of education, especially in medical education and surgery [5–8]. Although its mechanism is not fully known, it is an important part of the resident physician's training [9], and it must aim at providing qualified care for patients [1,10]. For this reason, the delivery of feedback to residents continues to be an important area of study in medical teaching [5,11].

There are different ways of giving feedback to learners: orally, in writing, through simulation, by videotaping learners, using audience response systems, not to mention computer-based feedback and patient feedback, among others [6,11–13]. Likewise, many methodologies concerning the delivery of feedback have been described, namely: feedback sandwich, Pendleton, Pendleton plus, learning conversation, in groups, among peers, multisource feedback, and self-feedback [7,14–16]. However, independently of the approach, all of them must focus on the three learning domains: cognitive, psychomotor, and affective [17].

The large number of methodologies reflects the former paradigm related to feedback. At that time, the question that needed to be answered was: "How can we develop the best feedback?". Due to this, studies in this field focused on the quality of the information to be transmitted, how to transmit such information, and what would be the best moment to do so [10]. However, such paradigm has changed. It was noticed that the crucial question that needed to be answered was, in fact, "How do learners become attentive to feedback and use more effectively the information they receive?" [18]. Thus, the priority has become the progress achieved in learning and the learner's engagement in the process enabled by the feedback; the term used for this is feedforward [16]. Recent studies on the subject have been taking this path [2,7,10,15,19].

Therefore, how the feedback is perceived and the reaction it generates in the learner is as important (or even more important) as the methodology that is used, the moment when it is given, or the information that is provided. It is known that medical students and residents consider that the amount of feedback they receive is insufficient [11,12,20]. Furthermore, they usually have a different perception of it compared to the teacher's [3,9,18,19], although some studies have shown that residents and teachers can share similar opinions concerning the qualities of effective feedback [10]. Feedback is considered effective when it can generate results and promote positive and desirable development [3]. Some factors that reportedly influence that perception are: the teacher's credibility in the opinion of the learner; who is responsible for giving feedback when the teams are multidisciplinary; the manner and the environment in which feedback is given; teacher's educational beliefs; learner's individual experiences; learner's level of expectation and motivation; and the relationship between feedback and the reflection it generates in the learner [5,7,11,15,21,22].

In opposition to active, or external feedback, in which the teacher has a primordial role in the learning process, the reflection that the feedback generates in the learner, or internal feedback, enables them to go through stages of the competence awareness theory [23], when it becomes a metacognitive learning process - a step that is inseparable from the intentional learning process [3]. That is, the learner's perception of the feedback they receive is extremely relevant to their learning progress. Besides, the incorporation of metacognitive aspects in the learning process equips the student with skills to become a lifelong learner [24].

Prior work:

Surgery residents recognize that feedback provides useful suggestions for future improvement, and the lack of it can cause frustration [25] or affect self-confidence [26]. They prefer to receive feedback during or immediately after a case, face-to-face, and value it much more when received within one week of the event [27]. However, both resident and staff surgeons agree that post-operative feedback is given far less often than it should [28]. Moreover, surgery residents desire better feedback during residency to grow and develop as leaders [29].
Nevertheless, the studies pertinent to the matter differ very much in methodology, population, context, and objective, which makes even more difficult to achieve a clear understanding of it. As already known, among all the knowledge synthesis methodologies, scoping reviews are the best way to present a broad overview of evidence in heterogeneous scenarios, summarizing and promoting a better comprehension [30–32]. In addition, despite the relevance of the theme, in a preliminary search, few scoping reviews were found. Though all of them are focused on surgery residents' training somehow [33–35] none focused on their feedback perception during and over their formation. Therefore, it is evident that a scoping review on this theme would have an unequivocal contribution to the understanding and enhancement of the surgical residents' learning progress.

Aim of this study:

The present scoping review protocol aims to identify and map out data from studies that report the surgical residents' perception of the feedback received during their education, analyze them, determine knowledge gaps, and disseminate the research findings as well.

Methods

The scoping review proposed here will be carried out rigorously and transparently according to Arksey and O'Malley's [36] structure, using the first 5 stages: i) identify the research question, ii) identify relevant studies, iii) select studies, iv) map out the data and v) collate, summarize, and report the results. As this is a preliminary research, more studies on the theme will likely be finalized. Although the sixth stage of Arksey and O'Malley's structure (consulting) will not be completed in this review, the results of the review can inform this stage in a future study. The structure is congruent with The Joanna Briggs Institute's (JBI) scoping review methodology[32].

Research question

The research question was elaborated according to the objective of the review and through the PCC mnemonic conceptual model (Population, Concept, Context) as:
P: resident physicians of any surgical specialty.
C: feedback perception.
C: surgical education.
Therefore, the following research question was prepared: "What is known about the surgical residents' perception of feedback in their training?"

Inclusion criteria

The eligibility criteria to include articles in the study were:

Participants:

Studies whose population consists of resident physicians of any surgical specialty and age group who were attending any year of residency.

Concept:

Studies approaching the population mentioned above's perception of feedback will be included, regardless of the type of feedback given and the way the perceptions were measured.

Context:

The eligible studies will be those related to the teaching of the population in question, focusing on surgical education in any country.

Types of sources:

The following will be included in the review: studies with qualitative and quantitative approaches, primary studies, systematic reviews, meta-analyses and/or meta-syntheses, books, and guidelines, published in indexed sources. Publications of opinions, consensuses, retractions, editorials, websites, and advertisements published in the media were not included.

Exclusion criteria

It will be considered exclusion criteria: not meeting the eligibility criteria, not being published in indexed sources, being publications of opinions, consensuses, retractions, editorials, websites, and advertisements published in the media.

Search strategy

The search strategy will be performed by a librarian who is a specialist in digital search strategy, through the following descriptors: formative feedback, hospital medical staff, teaching, general surgery, and perception, with their correspondents in the Portuguese and Spanish languages, encompassing a period since 2017. For the combination of descriptors, the Boolean operators “AND”, “OR”, and “NOT” will be considered. The full search strategy that will be used is shown with details in Multimedia Appendix 1.

We will consult the databases of journals indexed in Medline, Directory of Open Access Journals, Directory of Open Access Scholarly Resources, Academic Search Premier, BioMed Central Open Access, and Wiley-Blackwell, using the descriptors and/or synonyms, according to *Descritores em Ciências da Saúde* and Medical Subject Headings, to each item of the strategy. These databases were selected because they are comprehensive and have broad coverage of publications in the area of health. The choice of databases will depend on the research question.

Study/Source of evidence selection

The duplicate articles will be excluded. The remaining articles will have their titles and abstracts analyzed by two of the researchers independently, to select those that meet the inclusion criteria. Articles that do not mention the eligibility criteria described above will be excluded. In case of divergence, a third researcher will be consulted and will give the final opinion about the relevance of the study in answering the research question. Additional sources can be included in the review after a manual search performed by the researchers, as long as they meet the eligibility criteria, are important to complete the study, and have not been identified by the search strategy.

To align the inclusion criteria among the researchers, the title and abstract of 25 random articles will be analyzed by three of the researchers. Disagreements regarding the inclusion or exclusion of the articles will be discussed until a consensus is reached.

The complete texts of the selected articles will be evaluated by the main researcher based on the inclusion criteria. The reasons for the exclusion of articles that are fully read will be registered and reported in the scoping review. Any disagreement that emerges among the researchers at any stage of the selection process will be solved through discussion or the addition of other researchers. A Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews flow diagram [36–39] will be used to present, in full, the results of the process of search and inclusion of studies in the scoping review.

Data extraction

After article selection, the main researcher will create a form for data extraction, which will be filled in after the article reading. The extracted data will include specific details about participants,

concept, context, and methods of study, as well as key information to the research question, such as method and model of feedback delivery, the strategy used, the study population's perception, and the impact of such perception on the resident surgical education, when such information is available.
The form draft is shown in Textbox 1. It can be modified and revised as the need arises during the process of data extraction from each included source. The modifications will be described in the scoping review. If appropriate, the authors of the articles will be contacted and asked about missing or complementary data, when necessary.
Textbox 1. Data extraction instrument developed by the researchers.

Publication details
- Journal
- Year
- Title
- Author
- Country
- Type of study

Inclusion/exclusion criteria
- Participants
- Concept
- Context
- Reason for exclusion

Findings
- Method of feedback
- Model of feedback
- Resident´s perception
- Impact

Analysis of the evidence

The data will be analyzed in light of the study's objectives. Quantitative and qualitative analysis (e.g., content analysis) will be performed through descriptive statistics (e.g., absolute and percentage frequencies) [40]. Basic data coding will be used for the qualitative analyses, if necessary, depending on the findings.

Registration

The present protocol was registered in the Open Science Framework database and received the identification https://osf.io/yexkb.

Results

The results will be presented graphically and in the form of tables. This information will be enriched by a descriptive text that will clearly show how the results are related to the research question.

Discussion

This protocol was designed according to the first 5 stages of Arksey and O'Malley's structure and is congruent with the JBI´s methodology. Conducting a scoping review is the best way to map what is known about the surgical residents' perception of the feedback received during their education and, therefore, to analyze related concepts and determine gaps in the published literature about this subject. Studies in this field focused on the quality of the information to be transmitted, how to transmit such information, and what would be the best moment to do so. However, recent studies on the subject showed that their priority has become understanding the progress achieved in learning

and the learner's engagement in the process enabled by the feedback.
For example, knowing the resident's perception of the feedback according to the method and model used to give it could help educators think again about how to effectively reach their educational objectives in surgery education. As part of the knowledge translation [41], such understanding could even propose modifications to the medical curriculum and its development and could be the topic of future research.
The findings of this study and the scoping review article will be presented at scientific meetings and events and submitted to a peer-reviewed journal in July 2024.

Limitations

This protocol has an important limitation. The search strategy has been made using descriptors in Portuguese, Spanish, and English, which surely excluded articles from different languages and cultures. Moreover, it is already known that feedback conception and practice differ according to the culture and environment [42]. Thus, maybe the findings of this scoping review will not depict the feedback perception worldwide.

Conclusions

Feedback is an essential tool for learning and improving performance in any sphere of education. Although its mechanism is not fully known, the delivery of feedback to residents continues to be an important area of study in medical teaching. Despite the relevance of the theme, the methodologies, populations, and contexts of the few studies pertinent to the matter are very different from one another, and a scoping review on this theme would unequivocally enhance and organize what is already known. Besides, focusing on the feedback perception more than the feedback itself, the results of this scoping review will surely contribute to understanding how to proceed to enhance internal feedback and the residents' learning progress.

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Funding statement

This study will not receive any funding.

Data availability

All data generated in the scoping review, including the list of included articles, will be published in future work.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Author contributions

CC is the main researcher and was responsible for the protocol conceptualization and will perform the data curation, investigation, formal analyses, writing the original draft, writing review and editing, and project administration. GS will contribute to investigation and data curation. ES, AE, AC, TS, WC, HC, AL, VB, TB, and AO will contribute to the writing review and editing. JA contributed to the protocol conceptualization and will contribute to formal analyses, writing review and editing, and supervision. All authors will contribute to the manuscript reading and the approval of the submitted version.

Abbreviations

JBI: The Joanna Briggs Institute's

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Supplementary Files

Multimedia Appendixes

Full search strategy.
URL: http://asset.jmir.pub/assets/cf6e53e2fcde6ec30f2934944f89a473.docx