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Evaluating communication with parents in paediatric patient encounters: a systematic review protocol

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ABSTRACT

Introduction Breaking bad news and dealing with difficult patient encounters is a skill that medical residents must learn during their curriculum. Many different tools are available to measure communication quality, but their development and validation processes are often missing. In this paper, we present the protocol of a systematic review aiming to identify the validated tools for measuring communication skills or communication effectiveness with parents in a paediatrics setting in general, including for difficult patient encounters.

Methods and analysis We will conduct our systematic review in accordance with the methodology suggested by COnsensus-based Standards for the selection of health Measurement INstruments (COSMIN) and will report this paper following the guidelines of the Preferred Reporting Items for Systematic reviews and Meta-Analyses. We will include the studies in which authors developed and/or validated tools for assessing the quality of communication with families by residents and/or physicians during patient encounters in paediatric settings. Studies assessing communication in telemedicine and studies that use the tool to measure a different outcome than its validation will be excluded. Our search strategy will be developed by a scientific librarian and validated using the Peer Review of Electronic Search Strategy (PRESS) tool. Two reviewers will independently screen the studies for selection, extract data of the ones included and assess their level of risk of bias using the COSMIN Risk of Bias checklist. We will perform a narrative synthesis on the study selection process, the characteristics of studies and study population, the characteristics of tools identified, their process of development and/or validation and their psychometric properties. If sufficient data are available, we will do quantitative analyses for each psychometric property.

Ethics and dissemination Approval from an ethics committee is not required, as there is no primary data collection. Our findings will be disseminated through a peer-reviewed publication and at local, national and international conferences.

PROSPERO registration number CRD42020151642.

Strengths and limitations of this study

- This systematic review will provide not only a list of tools for evaluating communication with parents in paediatric patient encounters but also their validation proofs.
- The search strategy will be revised by a second scientific librarian using the PRESS tool.
- Appropriate guidelines, COnsensus-based Standards for the selection of health Measurement INstruments, will be used for conducting the present systematic review.
- Grey literature will not be explored.
- Interviews taking place in a telemedicine setting will not be explored for inclusion.

INTRODUCTION

As medical technologies evolve at an accelerating rate, it would be easy to ignore or forget some of the historically fundamental pillars of the medical profession. Among those bases, the patient–physician interaction is a key aspect that requires the continued development of skills, and this appears to be overlooked in some medical faculties.[1–3] To many physicians and residents, difficult patient encounters are a source of anxiety, and they find their approach leaves room for improvement.[3 4] In paediatrics, communication can be especially challenging because of the patient–parent–physician triad that is present at almost every consultation.[5 6] Moreover, the way bad news is delivered can influence subsequent patient–parent–physician interactions and the parents' perception, coping capability and acceptance of the disease as well as affect patient outcomes.[3 5 7 8] Not a lot of literature exists regarding communication between physician and paediatric patients as the child's opinion regarding his doctor's communication skills is less reliable and harder to evaluate with a validated tool.[9] In contrast, many studies focus interest on communication with the patient's parents. As is the case for many skills, a physician's ability to effectively interact with families must be learnt and improved during medical training.[1 5 8 10 11]

There are many aspects to consider when assessing difficult patient encounters. The main aspects often cited are those relating to the patient and parent's reality, those relating to the patient's disease, those relating to the medical team's capabilities and those relating to the environment where the encounter takes place. It seems obvious to state that parental anxiety, understanding of the situation and personality will influence the parent–patient–physician relation. Moreover, a complicated medical situation (in terms of severity of illness, prognosis, treatment options) will influence the encounter and add tension to the physician's relation with parents. The physician's experience, personality and workload will also influence the encounter. Environmental factors, such as the healthcare system's organisation and the hospital or clinic's facilities, can influence the way news will be received by a parent or given by the physician.[6] Those are only some examples of the multitude of factors that can influence difficult patient and parent encounters.

Many medical faculties have taken a recent interest in improving their curriculum's ability to learn communication skills in difficult patient encounters and there are a growing number of tools in literature that are offered to help that achievement by residents. Many residents report high levels of anxiety and low levels of confidence in their communication skills for breaking bad news.[4] In the paediatric objectives of training of the Royal College of Physicians and Surgeons of Canada, some emphasis is made on the importance of good communication as an acquired skill.[12] There is currently a reform in Canada for residency programmes to include a competency by design approach to learning, and residents will be specifically evaluated on their communication skills. No official curriculum is, however, currently available for paediatric residents.

Communication quality is somewhat subjective as many aspects cannot be quantified, and every patient's needs are different.[7] In that context, developing an assessment tool that could accurately measure communication skills is difficult. An ideal assessment tool should consider the clinical setting. For example, delivering bad news in the emergency ward is not the same as doing so in a palliative care unit. Many tools have been developed to evaluate communication in different clinical settings, but there appears to be a lack of validation for these tools.[13] To our knowledge, no comprehensive and systematic review has identified the validated tools for measuring communication skills or communication effectiveness with parents in a paediatrics setting in general, or for difficult patient encounters. Identifying which validated tools exist and have been tested in paediatrics settings would prove very useful to better assess residents' needs regarding their learning of key communication skills for parent–physician interactions and eventually, better address these needs. We took specific interest in difficult patient encounters, because we strongly felt that it is in these situations that communication is more challenging and would benefit the most from better expertise and related training.

OBJECTIVES

The present review aims to identify the validated tools for measuring communication skills or communication effectiveness with parents in a paediatric setting in general, including for difficult patient encounters.

METHODS

We will conduct a systematic review according to the methodology suggested in COnsensus-based Standards for the selection of health Measurement INstruments (COSMIN) guidelines.[14–16] We reported the protocol of our review according to the guidelines of the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA).[17]

Eligibility criteria

We defined the eligibility criteria of studies using four key elements recommended in the COSMIN methodology: the construct; the population(s); the type of instrument(s) and the measurement properties of interest. We will also consider study designs and the settings in which the studies are conducted.

Construct

The construct of interest will be the evaluation of communication quality in paediatric doctor–parent encounters. We will include doctor–parent encounters for which review of the interaction will be evaluated. Many aspects of communication can be evaluated: the words used, the pace of the interview, the body language are some important aspects that we think will be identified in this review. To be included, the authors will have to present a tool that evaluates communication between a physician and the family of a paediatric patient.

Population(s)

The target population will be doctors of any medical field interacting with paediatric patients' parents or guardians. We believe that a tool evaluating a certified doctor's communication would be applicable to a resident as well and, therefore, we will not limit ourselves to studies focused on medical residents. Studies focusing solely on communication between patients and other medical professionals will be excluded. Evaluation of medical student's interactions with parents will be excluded as their learning objectives and expectations differ from those of a resident. If the study includes adult patients, the tool's validation analysis will need to be done at least with a paediatric subgroup (with a patient sample of at least 80% of participants under 16 years old). We chose 16 years old because we believe that beyond that age, the adolescent's parents are less often present during consultations and communication quality assessments should be focused on the adolescent himself and not his parents.

Type of instrument(s)

No restriction will apply as to regarding the format of instrument studied. We expect to find many different

types of instruments. We expect to find some that are administered by peer review, by the parents themselves or by self-evaluation. Some will be filled in electronic format, others in paper format. In the electronic format, we expect that different means of completion will be used: fillable electronic documents, application-based documents, web-based documents. We will only consider instruments that evaluate the construct of interest as a main goal. Therefore, tools that measure general satisfaction following a hospitalisation or that measure communication quality with the medical team as a whole and not just doctors or residents specifically will be excluded.

Measurement properties

The measurement properties of interest will be any psychometric parameter as defined in the COSMIN taxonomy.[18] Only studies reporting a tool with at least one validation proof or fidelity assessment will be included. The proofs of validation will have to be reported or referenced through other sources in the studies.

Study designs

The study designs considered will be development and/or validation studies. We will exclude studies in which authors used the tool for the outcome measurement without its process of development and/or validation as suggested by the COSMIN guidelines.[14]

Settings

The settings considered will be anywhere physicians or residents interact with parents during a medical encounter. We will exclude interactions taking place in a telehealth context (encounters over the phone, over web platforms, over videoconference, etc).

As cited earlier, many aspects of communication must be taken into account when considering difficult patient encounters. We believe that it would be impossible to address all those aspects in our search strategy. Although articles that analysed clinical situations that did not represent an aspect of difficulty (eg, that analysed everyday communication with a patient's family) were not an initial focus of our study, we will not exclude them during the selection process and to instead consider the setting in which the tool was used in the analysis. This will allow us to reduce the possible selection bias of having a search strategy not constructed precisely for difficult patient encounters or having to use our judgement to decide which studies took place in a difficult patient encounter setting. The only restrictive criterion regarding the setting will be that the encounter should take place in person. As previously mentioned, medical encounters via electronic messaging, phone or other indirect channels present some specific considerations, and we will not be analysing them. This protocol was first conceptualised before the COVID-19 pandemic and, at that time, telemedicine was not widely used in practice, although it is now expected to gain significant importance. We believe that we would find little literature regarding the evaluation of communication in a paediatric setting via telemedicine, and that many criteria for measuring communication quality in face-to-face interviews will be applicable for telemedicine.

Information sources

We will use bibliographic databases such as Medline, Embase, Web of Science, CINAHL, PsycINFO, ERIC-EBSCO and the Cochrane Library. We chose a wide range of databases to cover comprehensive literature on what is available regarding the evaluation of communication in the paediatric setting. We will also consult the lists of bibliographic references in existing relevant reviews (if we find any), and in studies that will be included in the present review.

Search strategy

We developed the preliminary search strategy in Medline with the help of a scientific librarian. We used the following main concepts: communication with families, tools for assessing, paediatric, doctor or resident and measurement properties. Free and controlled vocabularies of these concepts were combined providing the first version of search strategy. The results of this latter were discussed with team members and their comments were integrated providing a new version. This latter was submitted to another scientific librarian for a revision using the Peer Review of Electronic Search Strategy (PRESS) tool.[19] The final version of search strategy was approved by team members (see online supplemental material). We will translate the final version of search strategy in other databases mentioned above.

No language restriction will be applied in the search strategy. If a study seems to be of interest to our review and the full text is neither available in French nor English, we will be unable to read it entirely and will mention its omission in our data synthesis.

Grey literature

After consideration, grey literature will not be explored during this review. It certainly would be interesting to explore tools developed that may not have gotten published but doing so in a systematic manner would require tremendous resources and time. There may exist institutions that have created personalised tools that evaluate our construct of interest. Even if these tools have not been validated rigorously, the fact that they may have been used for a long time could serve as validation proofs. However, an environmental scan, including a literature search and/or surveys,[20] would have been required to exhaustively identify these tools not published in peer-reviewed journals as well as their proofs of use. Finally, we believe that most tools that have gone through a rigorous validation process were created with the ultimate objective of being published. Therefore, we have limited the present review to the tools published in peer-reviewed journals making irrelevant the grey literature.

Study records

Data management

We will export the citations identified from bibliographic databases to EndNote file. The citations will be merged, and duplicates will be removed to obtain unique citations for the selection of studies. The file will then be exported on Rayyan, a web app designed to facilitate the selection process in systematic reviews.[21]

Selection process

We will perform the process of study selection in three steps. Step 1: a pilot will independently be done by the two reviewers (OC and JM) based on 10% of unique citations. This pilot will permit the reviewers to have a common understanding of eligibility criteria. Step 2: after a conclusive pilot, OC and JM will independently perform the selection of studies by title and abstract to exclude early non-eligible articles. Every study selected by one or both reviewers will then be considered for the next step. Step 3: OC and JM will independently select the studies retained at step 2 based on the full texts and will document the reasons for exclusion. A third person (CC) will be consulted in case of discordance or uncertainty. We will also contact, through emails, the study authors when information is not clear or missing.

Data collection process

We will develop a codebook and a grid for our data extraction based on the COSMIN methodology.[16] The codebook will include our variables of interest, their definitions, modalities to extract and specific comments for particular cases. The grid including the variables and their modalities will be used for data extraction. The codebook and grid developed will be independently tested on two articles by two reviewers (OC and JM) to ensure a common understanding. After the conclusive pilot, OC and JM will independently extract the data from included articles. Disagreements observed after data extraction will be discussed by OC and JM for consensus. When the consensus is not reached, a third person (CC) will be consulted for a final decision.

Data items

We will extract data items characterising the construct, the population, the type of instrument and the measurement properties of interest. We will also collect information on the development and validation processes and the characteristics of studies.

Here are some of the main elements that will be extracted, when available:

- *Study characteristics*—name of first author, year of publication, setting, study design.
- *Construct characteristics*—name, definition, content, number of items, range scores, time to complete, ease of use, if and how feedback is provided to the evaluated doctor.
- *Target population characteristics*—profiles, mean age in years (of the patient and his parent), patient's age group (infant, toddler, preschooler, adolescent), men/women ratio.
- *Physician's characteristics*—mean age in years, experience, specialty, men/women ratio.
- *Setting of the encounter*—degree of urgency, amount of people in the interview, time of the interview, medical field concerned (emergency, hospital wards, general clinics, specialty clinics).
- *Type of instruments*—name, format, administrative type, total number of items, subjective status.
- *Development process*—development steps, profiles of people involved, statistical methods used.
- *Validation process*—validation steps, validation type, profiles of participants, mean age of participants, percentage of women participants, statistical methods used, etc.
- *Psychometric properties*—reliability (type, name of parameter, value of parameters, p value, etc), validity (type, name of parameter, value of parameters, p value, etc), responsiveness (type, name of parameter, value of parameters, p value, etc), interpretability (type, name of parameter, value of parameters, p value, etc).

Risk of bias in individual studies

After a conclusive pilot for the assessment of study quality, OC and JM will independently evaluate the quality of included studies using the COSMIN Risk of Bias checklist.[15] A four-point rating system will be used to grade the methodological quality of each study (very good, adequate, doubtful, inadequate). Content validity, structural validity, reliability, measurement error and other pertinent elements will be evaluated with a rating system with the use of the checklist—a total of 10 boxes will be verified.[15] Each study will be graded according to its lowest rating methodological aspect. OC and JM will discuss the discordances or uncertainties and will consult CC for the final decision if a consensus is not reached.

We will also apply the updated criteria for good measurement properties for the classification of identified tools.[14] Each of the eight criteria will be rated sufficient, insufficient or indeterminate according to the standards described in the COSMIN methodology.[14]

Synthesis

We will describe the selection process using the PRISMA flowchart and frequency counts. We will determine the concordance between reviewers at steps 2 and 3 of study selection calculating a Cohen's kappa coefficient. The concordance will be considered sufficient if the kappa is equal or greater than 0.70.[22]

We will perform a narrative synthesis using descriptive statistics. Characteristics of studies, construct, population, instrument and measurement properties will be analysed using frequency counts for dichotomous or categorical variables and means, medians and IQRs for continuous variables. We will also analyse the data on the study quality assessment, the tool development and validation processes using graphic and frequency counts. We will especially be

interested in looking at the context and the population characteristics the tool was used in, including the age of the patients, which criteria the tool used to assess communication quality and how was the tool validated.

If we obtain sufficient data on parameters of psychometric properties, we will perform a quantitative analysis on each of them following the methods suggested in COSMIN guideline.[14]

Meta-bias

Because of the nature of our review, we will not assess meta-biases. As is stated in the COSMIN methodology, publication bias is difficult to assess in systematic reviews of patient-reported outcome measures because of a lack of registries for studies on measurement properties.[14]

Confidence in cumulative evidence

The strength of the body of evidence will be assessed using the modified grading of recommendation assessment, development and evaluation (GRADE). As proposed in the COSMIN methodology,[16] we will use four of the five GRADE criteria: risk of bias, that is, the methodological quality of the included studies; inconsistency, that is, unexplained inconsistency of results across included studies; imprecision, that is, total sample size of the available included studies and indirectness, that is, evidence from different populations than the population of interest in the review.[14] The quality of the evidence will be graded for each measurement property separately. The starting point will always be the assumption that the pooled or overall measurement criteria is of high quality. The quality of evidence for each measurement property will be subsequently downgraded by one or two levels per criterion to moderate, low or very low.[14]

Ethics and dissemination

No ethical approbation is necessary as there is no primary data collection. Our findings will be disseminated through a peer-review publication, at local, national and international conferences. It will also be disseminated to the team's affiliated university for possible improvement of the curriculum. This protocol was registered with PROSPERO (CRD42020151642).

Patient and public involvement

Patients or the public were not involved in the design of this study. The results of this study will be disseminated through a peer-review publication and at local, national and international conferences, which will not necessarily be open to public. As no primary data collection is required, patient involvement's added value is assessed as minimal in this context.

DISCUSSION

We believe that this review's methodological quality will be high because of the different choices we have made along the elaboration of this protocol. Every step of conceptualisation of this review was performed in accordance with the PRISMA and COSMIN guidelines.[14–17] The search strategy was developed by a team of qualified researchers and revised by an independent librarian with the PRESS review.[19] The selection process and analysis will be done rigorously by two independent reviewers. We will unfortunately not assess meta-biases and search for grey literature during this review, which is a limitation.

This review was elaborated during the COVID-19 pandemic and will not be addressing encounters over a telemedicine setting. We believe that literature addressing telemedicine is prone to expand greatly in the next couple of years as an increase in usage of telemedicine technologies is currently seen all around the world. It would be interesting, as a subsequent study, to review the literature analysing the evaluation of communication quality over a telemedicine setting. This review's methodological construct and content will regardless be of use to whoever may take interest in this topic.

We believe this systematic review will serve as a portrait of the available evaluation tools with their validation proofs that measure the quality of communication in paediatric encounters. It will be available to use for physicians and researchers who want to use those tools in a trial, to educators who want to further their teaching abilities and to faculties or institutions who aim at evaluating adequately their residents' communication skills. Medical schools' curriculums could benefit by having a better understanding of their resident's communication skills during their paediatric rotations and potentially a better idea of precise aspects they need to work with a resident to improve those skills. We believe that this review could set guidance in which ways communication should be evaluated by the Royal College of Physicians and Surgeons of Canada, specifically in paediatrics. Furthermore, the ultimate goal is providing physicians with the best tools to improve their communication with families, especially during difficult patient encounters, thus improving parent satisfaction. We believe having the highest quality of interactions with families can and will improve patients' quality of care and satisfaction with clinical encounters.

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Contributors OC (corresponding author): substantial contribution to all stages of the review, approved the final version and agrees to be accountable for its content. JM: substantial contribution to the interpretation of the data for the review, revision of all its versions, approval of the final version and agrees to be accountable for its content. CC: substantial contribution to the conception of the review, revision of all versions of the protocol, approval of the final version and agrees to be accountable for its content. HTVZ: substantial contribution to the design of the review, revision of all its versions, approval of the final version and agrees to be accountable for its content.

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