Health care providers' communication with pediatric patients and carers: a best practice implementation project

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ABSTRACT

Introduction and objectives: Health care providers need a high level of communication skills in dealing with pediatric patients and their carers. The objective of this project was to evaluate current practice and implement best practices promoting health care provider communication with pediatric patients and carers in a children's hospital in Tabriz, Iran.

Methods: This project used the JBI Model of Evidence-Based Healthcare, which guided the conceptualization of evidence implementation, context analysis, project implementation, and evaluation of outcomes using evidence-based quality indicators. An audit and feedback strategy was adopted to measure baseline compliance with best practices, develop strategies to address areas of non-compliance, and conduct a final audit to measure any changes in compliance. Four criteria were developed for the baseline and follow-up audits. Criteria 1 and 2 were evaluated using a sample of 30 health care providers, while Criteria 3 and 4 were evaluated using a sample of 80 pediatric patients and carers.

Results: All four criteria improved at the end of the project. Criterion 1 (health care staff receive communication skills training) had the highest mean score at baseline and follow-up (63% and 83%, respectively). Criterion 2 (implementation of local strategies by health care organizations) increased from 45% to 55%. However, this rate of improvement was the lowest of all the criteria. Criterion 3 (pediatric patients receive relevant education) improved from low to moderate, rising from 18% to 49%. A more significant improvement was noted for Criterion 4 (parents receive relevant education), which rose from 19% to 56%.

Conclusions: The strategies implemented in this project successfully improved health care provider communication with pediatric patients and their carers. To ensure project sustainability, repeat audits will be conducted after 3, 6, and 12 months.

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What is already known?

- Effective communication between the health care provider and the patient or family is an essential skill that health care providers must acquire.
- Providing medical care to pediatric patients can be complex and stressful. Educational and emotional support is a well-known element of pediatric care that supports the success of medical interventions.
- Several barriers and facilitators to communication between health care providers, patients, and families can affect the quality of care and the success rate of health-promoting programs. Many of these barriers and facilitators fall into the category of psychological or spiritual parameters.

What this paper adds

- Health care providers are not routinely trained on communication skills; moreover, there is no dedicated trained nurse available to educate parents.
- Barriers to best practice communication with patients may include lack of awareness among health care providers.

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- Strategies to improve compliance with best practices regarding health care providers' communication skills may include providing appropriate training through workshops and lectures, and designating a trained nurse to be responsible for individual communication with parents.

INTRODUCTION

The ability to communicate effectively with patients is essential for any physician or health care provider. Communication can be defined as sharing information between health care providers, patients, parents, carers, and family members. Communication is essential for patients to obtain their informed consent, allow them to understand their health condition and treatment strategy, and to overcome any fear or anxiety.[1,2] When dealing with pediatric patients, this is even more important. This is because the way a physician talks to the family about their child's health condition has a critical impact on the relationship between the health care provider on the one hand, and the patient and their family on the other. The admission of a child to hospital is a traumatic event for both the child and the family. Health care providers' communication with parents in this stressful situation requires expert training. It is critical to communicate effectively with the family and pediatric patients, irrespective of their age, to meet their specific mental and physical needs and to obtain full consent for all diagnostic and therapeutic steps. Such successful communication will improve patient outcomes and parental satisfaction rates.[1,3-5]

With advances in medical science and the advent of new technologies, medical care has become more complex and time-consuming, and the social domains of care have become more important. Moreover, as the number of stakeholders increases, the complexity of care has also become more challenging. With the introduction of the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) in the United States (US) in 2006, communication skills have become a priority. In a patient satisfaction survey, communication accounted for 25% of a hospital's overall score. A children's version of the HCAHPS survey (C-HCAHPS) was recently tested and is in the process of becoming mandatory for children's Medicaid services in the US.[6]

In a study examining parents' perceptions of care, improving communication skills was the most important thing a hospital could do to increase satisfaction scores. To improve health care providers' communication skills, a useful strategy is to assess the barriers and facilitators to understanding and implementing the patient's diagnosis and treatment, and to plan with providers, patients, and families.[2]

Globally, patient and family engagement has emerged as an important strategy for improving care experiences and health outcomes, reducing costs, and improving the quality and safety of care. In pediatric care, the patient and family are inextricably linked, and family-centered care is key. Although family-centered care models have been applied in pediatric practice in many countries, the specific characteristics of family engagement in pediatric care are not yet fully understood in Iran.[6-8]

Research has shown that the cost and likelihood of medical errors can be attributed to poor communication skills by health care providers.[9] In pediatric care, the importance of effective communication is particularly high due to the unique developmental stages of the patients. It is therefore imperative to focus on improving information transfer and promoting communication skills. Effective patient communication can improve patients' rights and compliance with health care provider orders as well as reducing patient anxiety about diagnostic and therapeutic procedures.[10]

In health care related to children, there are several key barriers related to effective communication. Barriers that are most commonly cited by nurses include nursing staff shortages, nursing burnout, and lack of time. Other barriers are lack of communication skills, and insufficient attention to the cultural background of families. In addition, most nurses are trained using traditional education methods and are unfamiliar with new approaches to teaching and learning. Barriers related to health care systems include inappropriate organizational culture, lack of a friendly and supportive environment, inappropriate spaces and facilities for communication with patients and families, and lack of appropriate teaching and evaluation services in hospitals. Patient-related barriers include linguistic and cultural barriers, low patient compliance with medical team instructions, and parents' lack of awareness of their responsibilities regarding their children.[1,2,11–13]

Patients' treatment adherence is influenced by effective communication about the diagnosis and treatment. According to some reviews, key facilitators of patient communication included training dedicated

nurses to conduct patient education, offering patient education courses to nurses, increasing the number of nurses on each shift, conducting courses and seminars on educational strategies for nurses, and developing communication protocols for each ward.[1,4,11,13]

A qualitative study in Iran identified facilitators and obstacles to nurse–family communication in a neonatal intensive care unit. Facilitators included psychological and emotional considerations, empathy, comfort, trust, participation in decision-making regarding the patient's current condition, identification of data needed by the patient and caregiver, education of families, and guidance in selecting the best therapeutic approach.[14] Some studies have reported that written goals and targeted bedside conversations about the treatment plan of pediatric patients increase patient agreement with the treatment plan and parental satisfaction.[15] To improve adherence to a treatment plan, some studies suggest using written communication to accommodate pediatric caregivers' lack of time and to facilitate their decision-making. However, written communication strategies may be less useful for the pediatric patients themselves.[12] Potential barriers to effective communication can include confusion about treatment and needs, insights into the appropriateness of treatment, and issues related to nurses' professional life and environment.[8]

Considering the importance of the communication between medical team and pediatric patients, we aimed to evaluate current practice and implement best practices for health care provider communication with pediatric patients and carers in a general ward of a tertiary referral children's hospital in Tabriz, Iran.

OBJECTIVES

The aim of this project was to improve health care provider communication with pediatric patients and carers in a children's hospital in Tabriz, Iran. The specific objectives were to:

- Determine current compliance with best practice recommendations for health care provider communication with pediatric patients and carers in a general ward of a children's hospital in Tabriz, Iran.
- Identify barriers and facilitators to improving compliance and develop strategies to address areas of non-compliance.
- Evaluate changes in compliance with the evidence-based practice recommendations following the implementation of strategies to address identified barriers and enhance identified facilitators in health care provider communication with pediatric patients and carers.

METHODS

This project was guided by the JBI Model of Evidence-Based Healthcare, and specifically, the JBI Evidence Implementation Framework.[16–18] The JBI framework is grounded in an audit and feedback process, along with a structured approach to the identification and management of barriers and enablers to compliance with recommended clinical practices. It consists of seven phases, including (1) identification of practice area for change, (2) engaging change agents, (3) assessment of context and readiness to change, (4) review of practice, (5) implementation of changes to practice, (6) re-assessment of practice using a follow-up audit, and (7) consideration of the sustainability of practice changes. The project also used the JBI Practical Application of Clinical Evidence System (PACES) and the JBI Getting Research into Practice (GRiP) audit and feedback tool.

Setting

This evidence implementation project was conducted in a 40-bed pediatric ward of a children's hospital in Tabriz, Iran. The hospital has 335 beds with a patient-to-nurse ratio of 7.

Ethical considerations

The project was registered as a quality improvement activity within the participating hospital, and therefore did not require ethical approval. However, participation in the audit was voluntary. Before data collection, approval was obtained from patients (if they were from the appropriate age group); caregivers; and health care providers. The identity of the participants was kept confidential and anonymous.

Implementation planning

Phase 1: identification of practice area for change

Two members of the team, who were aware of the problems in the department, identified key issues in the ward. Resolving these issues would improve the quality of the department's services. Therefore the problem of health care providers' communication with pediatric patents was chosen as the practice area for change.

Phase 2: Engaging change agents

The project team members, who were the main agents of change, consisted of the director of the project, the physicians in the ward, the head of nursing in the hospital, the head of nursing in the ward, the head of the nursing education department, an experienced nurse who was responsible for education in the ward, the clinical psychologist of the hospital, the chief resident from the pediatric department, and research staff for data collection and analysis. The selection of the project team was based on their role in the management of patients. These team members had the necessary authority to make changes in practice. The team leader was the attending physician undergoing the JBI fellowship training course. This team member explained the goals and outcomes of the project to all stakeholders, designed the project, and managed the audit team throughout all phases of the project.

Phase 3: Assessment of context and readiness to change

In this phase, the context in which the project was to be implemented was assessed and all nurses were briefed about the project goals and outcomes.

Baseline assessment and implementation

Phase 4: Review of practice

After the baseline audit was designed, several formal and informal meetings were held. The audit criteria were derived from the best available evidence[4] and translated into Persian by one of the researchers. Two of the criteria were related to health care providers. These criteria were measured using questionnaires and by interviewing nurses and pediatric patients. The other two criteria were measured by interviewing parents and patients and completing questionnaires. Assistance was provided by the research team to any participants who were not able to read and write well enough.

An information session was held to introduce the project to stakeholders and team members. In this session, the audit criteria and data collection methods were described in detail. The baseline audit was conducted in July 2022. Table 1 shows the audit criteria for the baseline and follow-up audits as well as the number, sample size, and method to measure compliance with best practices. The sample size was determined based on the number of ward staff, the number of beds, and the patient turnover rate.

Phase 5: Implementation of changes to practice

This phase focused on gaining an understanding of the barriers to best practice recommendations. The baseline audit results were analyzed to identify these gaps. Prior to the analysis, the team summarized performance areas that were excellent ($>$ 75%), moderate (50%–75%), and low ($<$ 50%) based on a previously published article. Using the GRiP analysis, the team identified barriers to best practices, and brainstormed strategies and resources to address these barriers. This involved several meetings to solicit opinions from key stakeholders, including the director of the project, the physicians in the ward, the head of nursing in the ward, and the nurse responsible for education in the ward.

Impact evaluation and sustainability

Phase 6: Re-assessment of practice using a follow-up audit

The follow-up audit was conducted using the JBI PACES program and used the same evidence-based audit criteria as in the baseline audit. The follow-up audit took place over a 1-week period in November 2022 in the same ward with the same sample size. The same team members conducted the audit using prepared questionnaires and interviews as in the baseline audit.

Phase 7: Consideration of the sustainability of practice changes

The project team decided to assess the sustainability of the practice changes in the following order: for criteria achieving $<$ 50% compliance, assessment would occur every 3 months, for criteria achieving 50%–75% compliance, assessment would occur every 6 months, and for criteria achieving $>$ 75% compliance, assessment would occur every 12 months, using the same criteria.

ANALYSIS

JBI PACES, which includes automated reporting of compliance percentage changes, was used for data analysis. Quantitative methods were used to draw inferences from the data and for understanding variations within the data, including the effects of time as a variable. Data on changes in compliance were measured using descriptive statistics embedded in JBI PACES. A qualitative content analysis approach was used to analyze the results of meetings with

Table 1: Audit criteria, sample, and measurement method

Audit criterion	Sample	Method used to measure compliance with best practice
1. Health care staff caring for pediatric patients receive communication skills training.	• Baseline: 30 nurses and pediatric residents • Follow-up: 30 nurses and pediatric residents	Questionnaires and interviews with nurses and pediatric residents. • If they received communication skills training, it was considered a "yes". • If they did not receive communication skills training, it was considered a "no".
2. Health care units or organizations implement local strategies (e.g., use of scripts for improving health care provider–patient and family communication).	• Baseline: 30 nurses and pediatric residents • Follow-up: 30 nurses and pediatric residents	Questionnaires and interviews with nurses and pediatric residents. • If local strategies were implemented, it was considered a "yes". • If local strategies were not implemented, it was considered a "no".
3. Pediatric patients receive age-appropriate, relevant education that will allow them to engage and communicate effectively with their health care providers.	• Baseline: 80 patients aged 8 to 18 years • Follow-up: 80 patients aged 8 to 18 years	Questionnaires and interviews with nurses and pediatric residents. • If they received the education, it was considered a "yes". • If they did not receive the education, it was considered a "no".
4. Parents and families receive relevant education that will allow them to engage and communicate effectively with their health care providers.	• Baseline: 80 parents or other carers and families • Follow-up: 80 parents or other carers and families	Questionnaires and interviews with parents and families. • If they received the education, it was considered a "yes". • If they did not receive the education, it was considered a "no".

stakeholders to identify barriers and strategies. Initial coding was conducted after reading the responses multiple times. These initial codes were abstracted to a higher level to form categories. Latent themes were deductively derived from categories inspired by barriers and strategies observed in health care providers' communication with pediatric patients and carers.

RESULTS

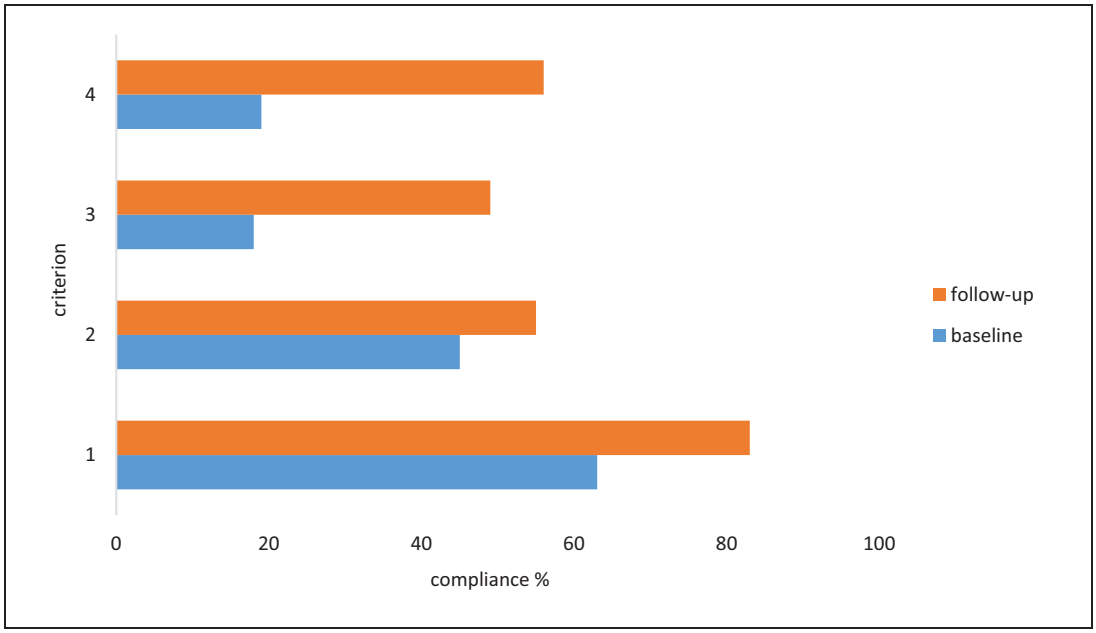
Phase 1: Stakeholder engagement and baseline audit

As shown in Figure 1, at baseline, a modest compliance rate of 63% was observed for pediatric health care staff receiving communication skills training (Criterion 1). A low compliance rate of 45% was recorded for the implementation of local strategies to improve communication between health care providers and patients or families (Criterion 2). Very low compliance (18%) was recorded for age-appropriate, relevant education that enables pediatric patients to communicate effectively with their health care providers (Criterion 3). Very low compliance (19%) was also observed for relevant education for parents and families that allows them to communicate effectively with their health care providers (Criterion 4). The last two items were least compliant with best practices.

Phase 2: Designing and implementing strategies to improve practice (GRiP analysis)

Three barriers to compliance with best practice were identified, and strategies to overcome these barriers were formulated and implemented, as shown in Table 2.

Barrier 1: Poor patient communication skills in pediatric nurses and residents. A training program for nurses and residents was developed and included workshops on communication skills with patients, parents, and carers. Separate sessions were held for the nurses and residents. One workshop was conducted by a clinical psychologist and four workshops were conducted by the project coordinator and the nurse specializing in patient education, each lasting 45–90 minutes. The results of these workshops were assessed using checklists to test the learning of the participants. The audit coordinator, the director of the project, and an attending physician who was participating in the JBI fellowship training course designed



Audit criteria

1. Health care staff caring for pediatric patients receive communication skills training. (30 of 30 samples taken)
2. Health care units or organizations implement local strategies (e.g., use of scripts for improving health care provider–patient and family communication). (30 of 30 samples taken)
3. Pediatric patients receive age-appropriate, relevant education that will allow them to engage/communicate effectively with their health care providers. (80 of 80 samples taken)

Note. The orange bars represent the follow-up audit, the blue bars represent the baseline audit.

Figure 1: Compliance with best practice audit criteria at baseline and follow-up.

Table 2: Getting Research into Practice (GRiP) analysis

Barrier	Strategy	Resources	Outcomes
1. Poor patient communication skills in pediatric nurses and residents.	Conduct workshop and lecture about communication skills for pediatric nurses and residents and evaluate their learning using a checklist.	• Lecture • PowerPoint slides • Checklist	• All nurses and pediatric residents were prepared for communication skill training (Criteria 1 and 2).
2. Lack of a trained specialist nurse to provide individual communication to parents and carers and to deliver communication skills training to other staff.	Designate a trained nurse to be responsible for individual communication with parents and families, education of parents and carers, and communication skills training for other staff.	• Nursing education	• A trained nurse, qualified to implement proper communication with pediatric patients and carers and teach other nursing staff (Criteria 3 and 4).
3. Insufficient interaction between health care providers and patients and carers.	Seek feedback from parents and carers regarding patient and parent complaints. Follow available evidence and guidelines.	• Sessions • Pamphlets	• Creating a respectful and friendly environment in the ward (Criteria 3 and 4).

the training program, engaged team members, and led the workshops. The training materials included the basics of communication skills and methods of communication specific to pediatric patients and carers.

Barrier 2: Lack of a trained specialist nurse to provide individual communication to parents and carers and to deliver communication skills training to other staff. A trained nurse was designated to improve communication between health care providers and patients and carers, and to educate parents so that they could be involved in their child's treatment. The nurse was also responsible for improving the communication skills of other nurses.

Barrier 3: Insufficient interaction between health care providers and patients and carers. The importance of interaction between health care providers and patients and their parents or carers was emphasized to all stakeholders (i.e., nurses, residents, patients, and parents or carers). The patients involved were aged 8 years or over. We held two sessions with nurses and residents and four sessions with the patients and parents or carers, listening to their feedback and seeking to involve them in the treatment process. Each session lasted around 60 minutes. We prepared pamphlets on the subject and distributed them to the parents and carers.

Phase 3: Follow-up audit

Figure 1 shows a comparison of the baseline and follow-up audit results. The compliance rate for Criterion 1 (*Health care staff caring for pediatric patients receive communication skills training*) improved from 63% to 83% at follow-up. The compliance rate for Criterion 2 (*Health care units or organizations implement local strategies, e.g., use of scripts for improving health care provider–patient and family communication*) increased from 45% at baseline to 55% at follow-up. The compliance rate for Criterion 3 (*Pediatric patients receive age-appropriate, relevant education that will allow them to engage and communicate effectively with their health care providers*) improved from 18% at baseline to 49% at follow-up. The compliance rate for Criterion 4 (*Parents and families receive relevant education that will allow them to engage/communicate effectively with their health care providers*) increased from 19% at baseline to 56% at follow-up. To confirm the sustainability of these changes, we plan to re-audit Criterion 3 after 3 months, Criteria 2 and 4 after 6 months, and Criterion 1 after 12 months.

DISCUSSION

The purpose of this project was to evaluate current practice and implement best practices related to health care provider communication with pediatric patients and their families in a tertiary referral children's hospital ward in Tabriz, Iran. Following a baseline and follow-up audit using JBI GRiP, improvement strategies were implemented, leading to an improvement in all criteria, and significantly so for Criteria 3 and 4, which had been particularly low at baseline.

For Criterion 1, the baseline audit showed that the health care providers in the ward had received communication skills training; however, this training was not adequate. The results of the follow-up audit revealed that after implementation of the strategies, compliance for this criterion improved from 63% to 83%. The ability to communicate effectively and constructively with sick children can be challenging for health care providers. Many are not equipped with appropriate skills, and often, their biggest concern is that their relationship may conflict with their professional duties. The first step in establishing effective and constructive communication with young patients is to identify their needs, which requires psychological and social support services. Perhaps the most important step in building a good relationship between the pediatric patient and medical staff is to create a safe environment where the child feels calm and comfortable. In such an environment, they would have a sense of solidarity with the medical staff and feel empowered to play an effective role in the treatment of their illness. Empathy with patients, educating parents, and considering the expectations of health care providers are useful strategies for achieving optimal compliance of pediatric patients with the medical team[1,2,11,12]

For Criterion 2, the compliance rate rose from 45% to 55%. This modest improvement was the lowest of all the criteria. This may be due to the significant role of the health care organization's leaders. This was the parameter over which the project team had the least control and authority to change. This result is similar to that found by Sandridge and colleagues in another best practice implementation project. The reason may be the unfamiliarity of health care providers and patients with local strategies.

For Criterion 3, the compliance rate increased from 18% to 49%. This criterion had the lowest compliance rate at baseline. Although a 31% improvement rate

was noted, this was lower than expected, yielding the lowest final score of the four criteria. This result may be due to the fact that our modification strategies were less useful for this sample group. The language of most people in Tabriz is Azeri, while the official national language is Persian. Many children, especially younger children and those who come from rural or disadvantaged areas, cannot understand or speak Persian well. As a result, formal education, conferences, and pamphlets are less useful to these children. Translating educational materials and conducting seminars in their native language is a time-consuming and costly task.

For Criterion 4, the compliance rate improved from 19% to 56%. This increase of 37% was the highest of the four criteria. Two of the four audit criteria in this study were concerned with patient and family engagement in the treatment process. We found a limited number of definitions of family engagement in the literature. Family-centered medical care has traditionally been defined as the involvement of the family in the process of diagnosis and treatment and including the family as part of the treatment team. In contrast, more recent descriptions of family engagement emphasize the dynamic roles of both families and the health care team and the family's interactions with health care providers and the organization.[3,12,19-21] In Iran, barriers to communication between nurses and families in family-centered care include nursing factors such as insufficient nursing education, lack of a system for nursing student selection, poor professionalization, and difficult working conditions.[14] A high number of neonates and lack of time are other barriers that lead to postponement of family education. Consequently, families' participation in care is delayed since nurses prioritize direct care to hospitalized newborns.[22]

Strengths and limitations

This project had several strengths. The first was its subject, which addresses an important problem in pediatric care. Another advantage of the project was the effective collaboration of the project team and the performance of the nursing team.

Despite the successful implementation of the project, there were a number of limitations. The first was a nursing staff shortage. This was the parameter that the research team had minimal opportunity to improve. The workload of the nurses can affect the success rate of strategies. In addition, due to time and financial constraints, the strategies were implemented in only one ward and one hospital. Therefore, the sample size was small and may not be generalizable to other hospitals. One of our challenges was that some of the health care providers felt it was unnecessary to conduct a project on this topic.

CONCLUSION

This project provided valuable insights into improving health care workers' communication skills and knowledge of evidence-based patient and family engagement in pediatric patient management. Appropriate infrastructure, human resources, an organized approach, and involvement of all levels of health care providers are key factors in implementing an optimal staff–patient and carer relationship. The results of this project provide a positive direction for implementing similar evidence-based projects in other organizations. The target satisfaction goals were partially achieved after approximately 4 months, but further steps are needed to sustain these positive changes. Future follow-up is needed in other health care centers with a larger sample size.

CONSENT FOR PUBLICATION

The authors have provided consent for publication.

AVAILABILITY OF DATA AND MATERIALS

All related data are included in the manuscript. The questionnaires are available upon request.

AUTHOR CONTRIBUTIONS

MS led the project and all phases; SH monitored and supervised the project; MS and NK drafted the manuscript; HSP and AT analyzed the data and worked with JBI PACES.

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