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Original Article

When, why, and how osteopaths and physicians communicate: Lessons learned from the results of a mixed methods study

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ABSTRACT

Background: Communication between osteopaths and conventional practitioners is an important pillar of efficient interprofessional collaboration. This study aimed to explore empirically when, why, and how osteopaths and physicians involved with pediatric patients communicate in order to identify key challenges and formulate recommendations to improve the communication process.
Methods: Using an explanatory sequential mixed methods design, we first surveyed osteopaths and physicians working with pediatric patients in Quebec, Canada. Some survey participants were then purposively selected for an in-depth interview about interprofessional communication processes, methods, and practices.
Results: A total of 274 physicians (response rate 14%) and 297 osteopaths (42%) completed the survey and a subset of physicians (n = 10) and osteopaths (n = 11) participated in individual interviews. Communication, including when professional interactions are desired, is often one-way and occurs in the context of referrals. Written reports are the preferred communication method, and many professionals' intentions can motivate interactions, including learning from each other and developing professional relationships. Using patients as a hub for communication can lead to misinterpretation. Lack of feedback and interactions, as well as language issues, are the main challenges to improving interprofessional communication.
Conclusions: There is some communication between osteopaths and physicians involved with pediatric patients but it is not yet optimal. Initiatives to improve osteopaths' and physicians' communication skills and interactions should be explored and evaluated, particularly during training.

Introduction

According to the World Health Organization [1], collaborative practices optimize health services, strengthen health systems, and improve health outcomes and patient safety. Communication is identified as an important pillar of efficient interprofessional collaboration among health care professionals [2,3], and particularly between conventional and complementary and alternative medicine (CAM) practitioners [4–7].

Communication between physicians and CAM practitioners can be very ineffective [8]. Lack of feedback and interactions [5,6,8,9], language issues [9], and the absence of direct or standardized channels of communication [6,8] are some of the main barriers to this communication. For practitioners in private practice, patients' conditions and their own workload may also affect the willingness to communicate with physicians [10]. Physicians consider communication important when patients are seeking manual therapy, including osteopathy, and prefer to exchange short written reports after treatment is completed to provide information about the type of intervention, advice given, and clinical outcomes [11].

In clinical contexts, osteopathic patients' expectations about communication between osteopaths and physicians are still poorly met [12]. For parents of pediatric patients, communication between conventional and CAM practitioners is extremely important since,

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in their view, it impacts on their child's health and safety [13]. A cross-sectional study on communication involving pediatric patients revealed that, in addition to communicating clinical information and increasing the willingness to respond to the initial referral, the exchange of referral letters also influenced the development of collaboration between physicians and CAM practitioners [14]. However, there is a need to better understand communication difficulties within this dyad of practitioners in order to improve communication, continuity of care, and patient satisfaction [15]. Information regarding interprofessional communication between osteopaths and physicians involved with pediatric patients is not available in the literature.

This study aimed to explore when, why, and how osteopaths and physicians involved with pediatric patients communicate in order to identify key challenges and formulate recommendations for practitioners to improve their communication process.

Methods

This study explored the communication process, methods, and practices between osteopaths and physicians that emerged from the data of a larger explanatory sequential mixed methods study focusing on interprofessional collaboration between practitioners involved with pediatric patients in Quebec, Canada (manuscript submitted for publication). The study was approved by the Centre hospitalier universitaire de Sherbrooke ethics committee for health research on humans (#14–115).

Sampling and data collection

In fall 2014, postal questionnaires and reminders were sent to all members of Osteopathy Quebec (largest professional association in Quebec) as well as family physicians involved with pediatric patients and pediatricians without a subspecialty in Quebec, according to *Scott's MD Select 2013* directory. The development of the initial questionnaires was based on a literature review. Content was validated with two physicians, one pediatrician, three osteopaths, and an expert on IPC and questionnaire development. The validity and reliability of the questionnaires were not verified. The validated version was piloted (procedure and duration) with physicians ($n = 4$) and osteopaths ($n = 4$). The communication section of the questionnaires (Supplementary material) included questions about: 1) need to exchange information about common patients; 2) preferred communication methods; 3) referral methods; 4) reasons for using (or not using) written referrals (for physicians only); 5) who should initiate the communication; 6) a grid to document the referral method used for all new pediatric patients referred by physicians over a two-week period, and the reply/response, if any, from the osteopath (for osteopaths only), and 7) sociodemographic data. Participants were invited to add comments about collaboration at the end of the questionnaire.

Following the quantitative data analysis, semi-structured individual interviews were conducted with 10 physicians (6 pediatricians and 4 family physicians) and 11 osteopaths (April to August 2015). Participants were selected from their responses to the postal questionnaires using a purposeful sampling method. The main characteristics used to select interview participants were factors associated with referrals (presence or not) to the other practitioner, self-reported importance of collaboration (low/high), professional relationship with the other practitioner (yes/no), and sociodemographic data. Written informed consent was obtained prior to each interview. The first author conducted all interviews. Comments related to communication collected with the questionnaire guided the exploration of this theme during the interviews. Interviews were conducted face-to-face or by videoconferencing and were recorded. Field notes were completed during and immediately after each interview [16]. The process of interviewee sampling was repeated until saturation of the themes was reached. The initial interview guide is provided in Supplementary material.

Analysis

Quantitative data from the questionnaires were analyzed using descriptive statistics, including frequencies and percentages. Participants' qualitative comments collected with the questionnaires and the interview transcripts were uploaded in NVivo 10 (Burlington, MA) and categorized using thematic analysis. The interview transcripts were first read soon after transcription to reach a general understanding of the data regarding communication issues [17]. A two-stage cycle coding [16] was used to categorize data and established emerging themes related to communication between osteopaths and physicians. Five interviews were independently coded and discussed among the authors. After discussion, agreement was obtained for all themes. Sequential and concomitant data analyses were performed. Ongoing thematic analysis of interview content allows for complementary analysis of quantitative data from the survey in order to validate or invalidate hypotheses [18] and obtain an in-depth understanding of communication characteristics and challenges.

Results

The participants' gender and years of practice are shown in Table 1. Participation rate in the survey was 14% for physicians and 42% for osteopaths. All osteopaths selected for the interviews saw more than five pediatric patients on average per week.

When do osteopaths and physicians communicate?

Contexts in which osteopaths and physicians thought that communication was required related to two main themes: context of referrals and complexity of patient situation.

Context of referrals

The majority of physicians and osteopaths acknowledged the need to exchange information for common pediatric patients (Table 2). Communication was reported to occur mainly in the context of referrals. Nonetheless, one third of physicians and osteopaths reported providing written referrals (Table 2). However, in many cases this seemed to be as far as information sharing went. The majority of physicians interviewed said they almost never received a response, even after sending a written referral: *"It's a note they can bring to the professional that they are going to see; it briefly describes the reason for the consultation, for example, congenital torticollis. It's very, very rare … in fact, I don't think I ever got any feedback from an osteopath" (Physician 3).* After an initial written referral, osteopaths' responses were mostly verbal through the patient and two-way written communication was established in only one in five cases (Table 2). However, according to some survey comments and interviews with both physicians and osteopaths, in practice this verbal feedback might never reach the referring physician. Physicians interviewed who reported receiving a note from the osteopath after the referral also mentioned having a well-established professional relationship with that particular osteopath. Similarly, osteopaths who already had professional relationships with physicians reported using occasional phone calls to establish two-way communication *"when it would be time-consuming and difficult to explain the patient's problem in writing" (Osteo 1).*

Table 1
Characteristics of participants.

Characteristics	Physicians		Osteopaths	
	Survey (n = 274) Freq. (%)[a]	Interview (n = 10) Freq. (%)	Survey (n = 297) Freq. (%)	Interview (n = 11) Freq. (%)
Gender (female)	202 (73.7)	10 (100)	236 (79.5)	8 (73)
Work experience (yrs)				
0–4	22 (8.1)	3 (30.0)	55 (18.5)	1 (9.1)
5–9	34 (12.5)	1 (10.0)	97 (32.7)	2 (18.2)
10–14	34 (12.5)	0 (0.0)	64 (21.5)	2 (18.2)
15–20	45 (16.5)	2 (20.0)	43 (14.5)	2 (18.2)
21+	137 (50.4)	4 (40.0)	38 (12.8)	4 (36.4)

[a] Percentages reflect missing data (2 respondents).

Table 2
Need to exchange information and referral methods.

Need to exchange	Physicians Freq. (%)	Osteopaths Freq. (%)
Need to exchange information for common patients (yes)	213/263 (81.0)	253/297 (85.2)
Provide written referrals (yes)	96/269 (35.7)	96/297 (32.3)
Referral methods used by physicians to refer new pediatric patients (n = 269) and response from the osteopath[a]		
Verbal referral/response	168 (62.5)	102 (38.0)
Written referral/response	80 (29.7)	52 (19.3)
Phone referral/response	7 (2.6)	7 (2.6)
Fax referral/response	2 (0.7)	2 (0.7)
None	12 (4.5)	106 (39.4)

[a] Data from the grid in the osteopaths' questionnaire to document the referral method used for all new pediatric patients referred by physicians over a two-week period and reply/response from the osteopath.

Complexity of patient situation

The complexity of the patient's situation influences the need for communication. For osteopaths, communication (written or verbal) is deemed necessary when short-term medical attention is needed, when the condition or symptoms do not respond to osteopathic treatment, or when other interventions or suggestions might be needed. Otherwise, verbal advice to the patient is considered sufficient. Here again, very little feedback was received. This view was echoed by the physicians. According to more than half of the physicians interviewed and some comments on the physicians' surveys, information regarding prevention, well-being, or functional problems do not require written referrals or communication. However, written referrals are deemed useful for more complex conditions, such as torticollis, or when it is difficult for parents to be the communication hub: *"I also need to provide more substantive information when the situation's a bit 'sensitive' because the parents may not do it properly … it will help the osteopath to know what I might be concerned or wondering about." (Physician 10)*

Why do osteopaths and physicians communicate (or not communicate)?

Regarding the intentions that motivate the communication process as expressed by osteopaths, physicians or both types of practitioners, the main themes concern information about roles and competencies, patient well-being, sharing information, seeking complementary expertise, learning more about each other, and time issues.

Osteopaths' intentions

Communication appeared particularly important for osteopaths. With short written communications about common patients, osteopaths intended to inform physicians about their role for certain conditions, obtain more recognition of osteopathic competencies, share positive clinical results or increase their credibility:

"I could take the trouble to communicate more in writing with each physician who is following one of my patients, and over the long term people may learn more about osteopathic competencies." (Osteo survey)

"Even if the physician didn't refer the patient to me but the patient is going to see the physician, I'll write a note. I think that it's vital if we want to really prove to them that it's effective and that we know what we're doing …" (Osteo 1)

Osteopaths argued that communication must be also for the well-being of the patient, present and future. Communication is essential for coordinating services, including for *"understanding who does what and why" (Osteo 2).* According to osteopaths, written communication between them and physicians tends to reassure some parents and support them when they have a follow-up appointment with their physician: *"Often I'll get the parents to write a few things down but I won't necessarily write to the physician. What I really want is for patients to be well prepared when they go to their doctor's appointment. It's quick. They don't have a lot of time with the physician and they don't want to go back four times." (Osteo 3)*

Physicians' intentions

According to near half of physician survey respondents, written referrals were provided primarily to indicate the diagnosis and reasons for referral, pass on information about the initial medical assessment, or for insurance reimbursement purposes (Table 3). These reasons were confirmed in many physician' interviews, for example: *"When I write a referral, it's because I want to share my assessment." (Physician 2)* Other reasons reported by physicians for using (or not using) written referrals are presented in Table 3.

Common intentions

According to both osteopaths and physicians, communication is useful to validate a clinical opinion, benefit from

Table 3
Physicians' reasons for using (or not using) written referrals.

	Physicians (n = 108) Freq. (%)
Reasons for using written referrals	
Indicate diagnosis, reasons for referral or pass on information	46 (42.6)
Insurance reimbursement purposes	12 (11.1)
Clarify expectations, show interest and get feedback from osteopaths	9 (8.3)
Only if the osteopath is also a physical therapist	6 (5.6)
Reasons for not using written referrals	
Belief that patient could manage self-referrals	15 (13.9)
Not knowing any osteopath to refer patient to	12 (11.1)
Lack of scientific evidence about and recognition of osteopathy	9 (8.3)
Lack of knowledge about the scope of practice of osteopathy	4 (3.7)
Absence of formal procedures	4 (3.7)
Use phone calls instead	3 (2.8)

complementary expertise and obtain complementary information that may provide a new perspective or vision of the patient's problem. In this context, the intention is to exchange information and opinions rather than just give or receive information about a patient: *"When you send your patient to another professional, including osteopaths, it's always useful to know what the professional thought about it, if he had the same opinion as me or a different one." (Physician 3)* Following a positive experience of collaboration, some physicians asked for the osteopath' opinion about how to address a patient's problem, for example: *"Can you evaluate this patient? Do you think it's muscular or something else?" (Osteo 5)* For both types of practitioner, these interactions can be seen as beneficial for the client, including speed of assessment and intervention, and as sometimes reducing the costs to society of numerous medical tests.

Communication was considered by osteopaths and physicians as a way to increase knowledge about each other, including their scope of practice and professional boundaries. Learning more about each other may lead to a better understanding of one another's roles. For the practitioners interviewed, it is a virtuous circle: *"I refer someone to you and you get back to me; the more we communicate, the more we will learn about each other and the better we will understand each other." (Physician 8)* Written communication about a patient is viewed as a way to establish, over time, the foundation of a professional relationship and develop a collaborative network: *"… writing more letters so that physicians get to know me better … first it might involve sending results for someone he referred to me, an actual case, and exchanging emails, and then, if he has questions about other cases or if there are things he needs to know, we could communicate back and forth." (Osteo 7)*

For both type of practitioners, time can also influence the motivation to communicate. To avoid wasting time for every one, communication should be *"easy and fluid" (Osteo 10).* For some osteopaths, writing a letter can take a lot of time. Time is also a challenge for physicians in the communication process: *"… taking the time to call and discuss cases … It's time. It's unpaid time … so, often we don't bother and it's the patient who gives feedback and says 'yes, that helped me' or 'no, that didn't help." (Physician 7)*

How do osteopaths and physicians communicate?

This last section of the results covers themes related to how osteopaths and physicians communicate, including the communication methods used and who should initiate communication, the content and standardization of written communications, benefits and risks of having patients bridge the communication gap, impacts of feedback and interactions, and language issues.

Communication methods and communication initiator

Physicians' and osteopaths' preferred communication method was either in writing or verbal through patients (Table 4). When exploring this aspect in the interviews, both types of participants confirmed that they preferred written communication. Some osteopaths tried at some point to communicate by phone but their calls were rarely returned. The majority of participants indicated that either of them, physician or osteopath, depending on the case, could initiate communication (Table 2).

Content and standardization of written communication

According to both physicians and osteopaths, communication should include the patient's problem, objectives, interventions and suggestions or recommendations. Communications need to be short, less than one page, and osteopathic information should be as objective as possible and in a common language in order to trigger a productive exchange: *"I try to write a letter to the physician with comments that are as objective as possible, using the most standard language possible, so that it is clear and concise." (Osteo 11)*

Some osteopaths tried ideas to make written communication easier and reduce the time taken by using more standardized communication tools, such as small pads designed for exchanges with physicians or standardized tools used in the rehabilitation field: *"with my background in physical rehabilitation, where we learned to write letters to physicians using SOAP (subjective, objective, analysis and plan for treatment). That aspect helped me and I adapt it to osteopathy." (Osteo 6)*

Benefits and risks of using the patient as a communication hub

According to both osteopaths and physicians, communication is often done through the patient, and usually it works very well. Some parents who are not comfortable sharing or remembering osteopathic evaluation results ask osteopaths for a written note to give to their physician. According to osteopaths, the main aim of this note is to support parents rather than communicate with physicians, from whom, they say, they would not get an answer anyway. Although osteopaths do not receive a response very often, written notes seem to be appreciated by physicians: *"I'd rather get a note from the osteopath than just a report from the parent, who may have understood only half of what was done." (Physician 9)*

There was no consensus among osteopaths about whether it was useful or not to send written reports to physicians when patients could be the vehicle for communication. In the absence of a written report, some mentioned situations where patients' misinterpretation led to the physician making a phone call to ask for

Table 4
Communication methods and person who should initiate communication.

Methods of communication	Physicians (n = 107)	Osteopaths (n = 126)
	Freq. (%)	Freq. (%)
Written communication	38 (35.5)	57 (45.2)
Verbal through patients	39 (36.4)	48 (38.1)
Phone/in person	22 (20.6)	12 (9.5)
Email/fax	8 (7.5)	9 (7.1)
Communication initiator	**Physicians (n = 219)** Freq. (%)	**Osteopaths (n = 268)** Freq. (%)
Physician or osteopath depending on the case	181 (82.7)	240 (89.6)
Osteopath	22 (10.0)	8 (3.0)
Parent	12 (5.5)	19 (7.1)
Physician	4 (1.8)	1 (0.4)

clarification. Those osteopaths would clearly prefer to inform physicians themselves in writing and avoid patient misinterpretation. Other osteopaths reported that some physicians were more sensitive to the patients' concerns than to their recommendations. According to them, physicians might not consider osteopaths' opinions so they preferred to use the patient as a hub: *"I realized that sometimes, just to say to the client: 'Listen, there's this or that sign, go see your physician and talk to him about it, see what he thinks', I realized that it's almost as much work as writing to the physician. It's as if they have so little consideration for osteopaths' opinion that, regardless of whether I write or not, it's the client who brings his fears and concerns, and that seems to work best." (Osteo 6)*

Feedback and interactions

Feedback about patients' information provided in writing could influence osteopaths' confidence in further communication. Some physicians react positively to receiving an objective note reporting the results of manual tests but others do not like osteopaths to send this type of information to them. Even when their communications focus mainly on objective information, osteopaths experienced a variety of physician reactions and responses: *"… There are some physicians who respond: 'Don't tell me what to do.' There are others who say: 'Suggest some solutions.' It really goes from one extreme to the other." (Osteo 1)*

According to osteopaths, more interpersonal interactions between them and physicians would help them learn how to give information and adapt communication content and method: *"I would need to deal with a physician more frequently to see what he understands and doesn't understand and adapt accordingly. I think that would make me better informed and I could say: "Okay, I know what I can talk about. I know what is acceptable and what isn't." (Osteo 6)*

Osteopaths were sensitive to the fact that, in order to engage in two-way communication with physicians, they needed to be particularly respectful of professional boundaries. They mentioned trying to be as concise as possible, not trying to dictate, being respectful and paying attention to what is suggested because it is the physician's role to make the diagnosis.

Language

The language used in communications is described as the cornerstone of the relationship between physicians and osteopaths. Comments from the osteopaths' questionnaire mentioned that in order to facilitate communication, physicians must be more open to complementary medicine but osteopaths also admitted that they have a major learning curve with respect to talking to physicians. From osteopaths' comments and interviews, it would be very interesting for Canadian osteopathic training or continuing education opportunities to include communication skills. Many of them found writing letters to physicians stressful: *"I'm not comfortable writing to physicians. We received no training on what we can or cannot say in such a letter. I'm afraid to say something a physician may find insulting or unacceptable … It would be helpful to have our training include written standardized communication methods to follow up with other professionals so that we have a common language." (Survey osteo).*

Some osteopaths acknowledged that physicians do not understand osteopathic terminology and that they tend to say more generally whether the patient improved or not. Conversely, physicians are aware that they might not understand or know all the osteopathic terminology, but they expect osteopaths to provide a simple explanation of the treatment plan in comprehensible language: *"… they may sometimes talk about things I don't fully understand, but I'd like them to refer to a common anatomy of the human body." (Physician 6)*

One of the issues about language is the difficulty that osteopaths have in expressing appropriately the information obtained from palpation. Those who reported this acknowledge the need to learn how to translate sensation into words, develop the ability to speak plainly, and formulate credible explanations: *"Osteopaths have difficulty connecting what is in their hands, what they feel, to an anatomical structure or link that will explain what they are doing. I think that is the biggest credibility problem that osteopaths have in relation to medicine. If we are not capable of explaining and understanding correctly what we do and expressing it in more scientific language, it's much harder to collaborate with or at least be understood by the medical community," (Osteo 3)*

Misinterpretation related to language is possible especially when patients have to explain their treatment to the other practitioner in their own words. This can be confusing: *"In fact, it happened to me a few times that parents reported things where I said to myself: if that's what was said, it's impossible." (Physician 1)*

Discussion

This sequential explanatory mixed methods study identified empirically when, why, and how osteopaths and physicians involved with pediatric patients communicate. The results also point up some specific challenges to effective two-way communication when the intention is to exchange information and share expertise between these practitioners. These main challenges include a lack of feedback and interactions as well as language and communication skills issues.

Although physicians and osteopaths viewed communication about common patients as necessary and said that in many cases the intention when communicating was to establish a two-way

exchange of information in order to address patients' needs properly, the communication more often seemed one-way. This is consistent with previous studies looking at communication difficulties between physicians and CAM providers [8,15]. Interprofessional collaboration, including the communication aspect, is illustrated by some authors as a continuum along which practitioners should be able to accurately evaluate the complexity of the patient's situation in order to adjust the intention and intensity of interactions with other health practitioners [19]. According to our study, communications by osteopaths on the one hand are often initiated when they feel the patient's problem is beyond their scope of practice, is too complex, or when they do not obtain the expected results. These are, indeed, common reasons why health professionals [10] and CAM practitioners [5] communicate with physicians. They underline the need to combine the disciplinary knowledge of both types of practitioner to develop a coherent, comprehensive health services plan tailored to the patient's needs [19]. Even though, mainly due to time constraints, physicians do not respond very often, they appreciate receiving osteopaths' written notes in this context. Communications initiated by physicians on the other hand are mostly for referral purposes about specific, more complex clinical conditions. Although this might give osteopaths the chance to engage in a communication process that could allow them to share their expertise and objective clinical results, only one fifth of referrals by physicians received a written response. This lack of feedback about patient clinical outcomes, particularly positive outcomes, could mean a lost opportunity to demonstrate the efficacy of both the practitioner and the approach [8] and impede the transmission of useful information for future referrals [6,9]. This absence of communication interactions could also decrease opportunities to learn about each other [6] and develop professional relationships [14,20].

Our findings also shed light on current challenges to fluid communication between physicians and osteopaths. One hypothesis about why osteopaths hesitate to respond to initial referrals from physicians is that they endeavor to verbalize their assessment or intervention in a common language. Physicians and CAM practitioners previously identified the difficulty of communicating CAM patient assessments in language understandable to others [21]. The majority of osteopaths interviewed said they had difficulty making a verbal connection between what they do when assessing patients and specific biomedical explanations using proper anatomical links. However, in agreement with Hayward and Willcock's (2015) conclusion, when communicating with physicians, attention should be paid to conveying simple, clear clinical results that allow pre-post treatment comparisons and avoiding unnecessary information that may not be understood by physicians. In addition to communicating objective findings, both practitioners should be able to clearly express their desires when exchanging information in order to stimulate bidirectional communication [22].

As some osteopaths suggested, formal training about communication skills should probably be included in all Canadian osteopathic training. Exposure of CAM students to a structured course about communication skills seems to help them feel more empowered to communicate with conventional health care practitioners [23]. The main objectives of such a course could include the basics of medical terminology, evidence-based medicine perspectives, patient-centered care concept, communication skills, and attitudes conducive to easing communication with conventional health care practitioners including physicians [23]. Similarly, providing interprofessional communication opportunities and communication tools in health care education has a positive effect on practitioners, including physicians [24].

According to our results, communications between physicians and osteopaths may also benefit from utilizing standardized written communication methods. The essential content of written messages, including the patient's problem, objectives, interventions, outcomes and suggestions or recommendations, documented in our study is consistent with other studies [11,22,25]. The Situation-Background-Assessment-Recommendation (SBAR) technique is one example of an increasingly popular tool that provides a framework for interprofessional communication in health care settings [26] and facilitates respectful collaborative dialogue [24]. Since this tool is used during physicians' training in Canada for example, it could be adapted and taught to osteopathic students to facilitate two-way communication and decrease the time spent on interprofessional written exchanges for both practitioners.

Strengths and limitations

The mixed methods used in this study allowed us to address the entire communication process between osteopaths and physicians. Scientific rigor was enhanced by methodological choices for data collection and analysis, such as prior validation of the survey content, distribution to a large practitioner population, triangulation of sources, iterative analysis, cocoding, and research team discussions. However, this study has some limitations. First, although efforts were made to increase physicians' response rate, it is modest and hence generalizability of the results may be limited. In fact, the physicians' response rate reflects the general tendency in this group of individuals [27]. Since the physicians participating in the survey may favor a collaborative attitude towards osteopaths, results likely underestimate the challenges faced by practitioners. Triangulation of information about communication with a larger representative group of osteopaths and with interviews of purposively selected physicians, including contrasting profiles, might mitigate this response bias. Effects of the researcher on participants, and vice versa, during interviews and the analytical phase are possible. To minimize these effects, intentions were made clear to participants [16], they were given ample opportunity to reflect on the meaning of their experience regarding communication [28], and field notes were shared without delay with other members of the research team to identify potential misled and make adjustments for subsequent interviews [16].

Conclusion and future directions

Our empirical results show that communication between osteopaths and physicians involved with pediatric patients occurs most often in the context of referrals for specific patient situations and that the types of communication interaction mainly used (one-way) between osteopaths and physicians do not fit the intention behind those communication attempts. This mixed methods study provides a deep understanding of the intentions that motivate the communication process initiated by osteopaths and physicians. Intentions range from learning more about each other, informing each other about patient outcomes and gaining credibility, developing professional relationships, reassuring parents, and benefiting from complementary expertise. Challenges with obtaining feedback and using language understandable to each other seem to limit two-way interactions when the situation identifies the need for fluid exchanges. Further attention should be paid to educational initiatives specifically designed to increase the communication skills of both osteopaths and physicians when dealing with other health care practitioners, and evaluating the impact of these initiatives.

Conflict of interest

The authors declare that they have no competing interests.

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Ethical approval

The study design and procedures were approved by the Centre hospitalier universitaire de Sherbrooke ethics committee for health research on humans (Approval number #14-115).

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Appendix A. Supplementary data

Supplementary data related to this article can be found at https://doi.org/10.1016/j.ijosm.2017.10.006.

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