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Communication in interprofessional health care teams from the perspective of patients and staff

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ABSTRACT

Introduction: The quality of communication among health care professionals is an important aspect of interprofessional teamwork. As there is a gap in research on communication in interprofessional teams as assessed by team members and patients, the aim of this study was to analyze interprofessional team communication and team participation in a Slovenian general hospital from the perspective of health care professionals and patients.

Methods: This was a case report study using a multi-methods study with a survey (n = 150) and a qualitative approach with focus groups (n = 27) and in-depth interviews with interprofessional team members (n = 22) and patients (n = 20).

Results: Interprofessional team members rated communication as relatively good, being least satisfied with equal participation in team communication, especially communication with physicians due to interdisciplinary rivalry. Nursing assistants particularly emphasized the lack of time for communication with patients, dissatisfaction with communication with physicians, and overload with documentation. The patients were relatively satisfied with the communication of the team members. However, they criticized the lack of communication between team members and patients and inconsistent messages of team members.

Conclusion: Communication in interprofessional teams was moderately good in this setting. Low staffing was a primary driver of communication problems.

Keywords: Teamwork; integrated care; communication; participation; multilevel analysis

INTRODUCTION

Interprofessional teamwork is considered the cornerstone of integrated care in specialized health care settings (1-4). Previous research has shown that interprofessional teamwork is a solution to improve patient outcomes (5-7), it provides plans that treatment plans are better tailored to patients' needs and makes health treatment more efficient (8-11). While "interdisciplinary" refers to interactions between specialties or sub-disciplines and "multidisciplinary" to interactions among groups of various disciplines working alongside each other with minimal interaction, "interprofessional" implies interactions between various professions (12). Thus, the term "interprofessional team" is used in this study as a generic term of reference for these health teams, which included a range of health workers, with the majority coming from professional groups. Despite decades of research and support for interprofessional teamwork, there is still a lack of consistent teamwork between nurses, physicians, and other professionals (13-15).

Communication is described in this context as the ability of an individual health care professional to converse effectively with other health professionals, patients and families in their setting and is a key universal skill that health-care professionals need in order to collaborate effectively (16). Communication in the health care team is verbal or non-verbal (voice and body language) and involves the use of different communication channels, from basic face-to-face conversations to telecommunication channels such as telephone or email, to computerized channels such as the medical record, and various forms such as informal orders, informal conversations, and formal and informal team meetings (7,16-18). The quality of communication among health-care professionals is an important aspect of interprofessional teamwork (7,17,18). It has been reported that 70% of all errors related to communication involve staff communication (18-21). In a review of eight studies on the introduction of integrated care for older people, communication (especially between health care professionals) was highlighted as a key success factor ensuring the quality patient care (22).

Communication among nurses and physicians and other professionals is considered to be a key factor for effective interprofessional collaboration. An integrative review of

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22 studies that examined facilitators and barriers to physician-nurse communication shows that mutual trust, information sharing, and personal characteristics contribute to effective physician-nurse communication and that nurses and physician lacked interpersonal skills, meaning that nurse-physician communication still remains ineffective. The authors recommended that future studies examine interpersonal communication across all healthcare professionals (23). Barriers to communication between nurses and physician were described as the existing hierarchy of physician over nurse, the differences in communication style between the two professions, the lack of a unified structure and language, as the well-entrenched hierarchical authority structure and sexism complicate nurse-physician communication (24). An integrative review of 28 articles on integrative communication among health care professionals revealed that nurses and physicians have different training and communication styles (19).

Patient perceptions have been used in a number of health care contexts and have proven valuable as health care professional's communication skills have been explanatory variables for patients' perceived quality of care in different health care settings (25-27). Patients' perception of communication appeared to influence patient confidence in the team. Indeed, when patients observed that providers were nice to each other, they considered the team to be functioning well and gained confidence in their treatment (26). Studies in integrated care show that the key to the successful implementation of integrative care is in the active and competent participation in interprofessional teams in which he or she contributes specialized knowledge and skills to solve complex health challenges, develops team communication strategies in terms of fostering collaboration among team members, sharing relevant information and coordinating in appropriate health decisions (28-30). Forms of communication for successful collaboration include addressing, listening, receiving, and sharing information with team members (31). Since each member of a multidisciplinary team has specific knowledge and experience that is essential for making informed decisions about patient care, it is critical that each team member finds the best ways to share relevant knowledge and information with the entire team (32). As no study of interprofessional team communication from the perspective of health care professionals and patients has been conducted to date, the question arises as to how health care professionals and patients assess the interprofessional team communication. Exploring interprofessional communication from the perspective of health care professionals and patients could further improve our understanding of health care professionals' communication (33). The main aim of this study was to determine interprofessional team communication and team participation in a Slovenian general hospital from the perspective of health care professionals and patients.

METHODS

A case report study was used with multi-methods study with a survey and qualitative approach with focus group and in-depth interviews. Data collection was part of the project "Impact of clinical pathways on patient outcomes, communication and cost-effectiveness" funded by the Slovenian Research Agency (No. L7-2631-3824-2020). The research was approved by the Commission for Medical Ethics of the RS (No. 0120-189/2021/3).

The research was conducted in the Novo mesto General Hospital. The hospital covers southeastern Slovenia with a population of about 200,000 people. The hospital has about 1,200 employees, performs outpatient specialist activities, hospital activities, dialysis activities, and primary health care activities - gynecological outpatient clinic. It has around 1,200 employees, including 580 nurses, 208 physicians, and 412 other staff. The hospital has 400 beds and admits 20,000 patients per year. The average length of stay is 4.69 days. The research population consisted of healthcare professionals treating patients in the three interprofessional teams for chronic kidney disease, stroke, and total hip arthroplasty as these are among the most commonly treated conditions in the older population (34-38), such as physicians of various specialties, nurses, pharmacists, psychologists, and other health and other professionals. The data were collected through an online survey. All members of three interprofessional teams (more than 200 members) were invited by email with a link to the online survey. One hundred and fifty questionnaires were completed.

For data collection, we used a structured questionnaire based on similar questionnaires (8,38). We only adopted questions from the instruments that related to interprofessional teamwork and communication. Since the measurement of communication is based on group communication, we also included individual team communication (expressing opinions, listening to opinions, and solving communication problems) based on the theoretical findings (7,16-18). Our final instrument consisted of closed-ended questions with a range of response options. The first question measured the assessment of the "Communication in an interprofessional team." It included seven statements that participants rated on a five-point scale from 1 – "I do not agree at all" to 5 – "I totally agree" and "I do not know" (Table 1). The second set, "Participation in an inter-disciplinary team," which explored the individual's collaboration in an interprofessional team, included six statements on a five-point scale from 1 – "Never" to 5 – "Very often" (Table 2). The third set, which included socio-demographic variables, contained five questions on gender, age, educational level, and profession.

At the request of the participants, the questionnaire was distributed in printed form. The questionnaires were collected

TABLE 1. Socio-demographic characteristics of sample (*n*=150)

Socio-demographic characteristics	*n*	%
Gender		
Male	20	13.3
Female	130	86.7
Level of education		
Secondary school	48	32.0
Bachelor's degree	78	52.0
Specialisation and master's degree	19	13.0
Doctorate	5	3.0
Professional groups		
Nursing assistants	51	34.0
Registered nurses	59	39.3
Medical physicians	21	14.0
Others	19	12.7
Physiotherapists, health administrators clinical pharmacists, clinical dietitians psychologists, social workers, hygienist		

TABLE 2. Assessment of interprofessional team communication by professions (Kruskal-Wallis test)

Statements	Answers					x̄(SD)	*p*-value
	I don't agree at all	I don't agree	I can't decide	I agree	I completely agree		
Communication in the team is limited to formal communication							0.091
Nurses	9 (8.3%)	61 (56.5%)	14 (13.0%)	19 (17.6%)	5 (4.6%)	2.54 (1.03)	
Physicians	3 (25.0%)	8 (66.7%)	1 (8.3%)	0 (0%)	0 (0%)	1.83 (0.58)	
Other professionals	1 (5.0%)	11 (55.0%)	3 (15.0%)	3 (15.0%)	2 (10.0%)	2.70 (1.13)	
Conflict communication prevails among team members							0.036*
Nurses	19 (17.1%)	70 (63.1%)	12 (10.8%)	5 (4.5%)	5 (4.5%)	2.16 (0.92)	
Physicians	3 (25.0%)	7 (58.3%)	1 (8.3%)	1 (8.3%)	0 (0%)	2.00 (0.85)	
Other professionals	5 (26.3%)	10 (52.6%)	2 (10.5%)	1 (5.26%)	1 (5.3%)	2.11 (1.05)	
Team members mostly communicate passively (react poorly)							0.361
Nurses	21 (18.9%)	69 (62.2%)	10 (9.0%)	10 (9.0%)	1 (0.9%)	2.11 (0.85)	
Physicians	3 (25.0%)	7 (58.3%)	0 (0%)	2 (16.7%)	0 (0%)	2.08 (1.00)	
Other professionals	4 (22.2%)	9 (50.0%)	4 (22.2%)	0 (0%)	1 (5.6%)	2.17 (0.99)	
All team members are equally involved in team communication							0.050*
Nurses	3 (2.7%)	16 (14.4%)	14 (12.6%)	51 (45.9%)	27 (24.3%)	3.75 (1.07)	
Physicians	0 (0%)	4 (33.3%)	2 (16.7%)	5 (41.7%)	1 (8.3%)	3.25 (1.10)	
Other professionals	0 (0%)	1 (5.9%)	6 (35.3%)	6 (35.3%)	4 (23.5%)	376 (0.90)	
I can easily express my opinion among team members							0.031*
Nurses	0 (0%)	5 (4.5%)	16 (14.4%)	56 (50.4%)	34 (30.6%)	4.07 (0.79)	
Physicians	0 (0%)	2 (16.7%)	0 (0%)	6 (50.0%)	4 (33.3%)	4.00 (1.04)	
Other professionals	0 (0%)	0 (0%)	2 (10.5%)	12 (63.2%)	5 (26.3%)	4.16 (0.60)	
The team members listen to my opinion							0.228
Nurses	1 (0.9%)	8 (7.2%)	13 (11.7%)	60 (54.1%)	29 (26.1%)	3.97 (0.87)	
Physicians	0 (0%)	2 (16.7%)	0 (0%)	7 (58.3%)	3 (25.0%)	3.92 (1.00)	
Other professionals	0 (0%)	1 (5.3%)	3 (15.8%)	12 (63.3%)	3 (15.8%)	3.89 (0.74)	
By communicating in a team I can easily solve a problem							0.021*
Nurses	3 (2.7%)	4 (3.6%)	16 (14.4%)	52 (46.8%)	34 (30.6%)	4.01 (0.92)	
Physicians	0 (0%)	1 (8.3%)	2 (16.7%)	7 (58.3%)	2 (16.7%)	3.83 (0.83)	
Other professionals	0 (0%)	0 (0%)	4 (21.1%)	11 (57.9%)	4 (21.1%)	4.00 (0.67)	

*Statistical significant at 0.05 (*)

from 7 June to 15 July 2021 in the Nephrology, Neurology, and Orthopaedics Department of the Novo mesto General Hospital. This hospital was selected because it represents a typical general hospital in Slovenia, one of ten. Descriptive analysis, Kruskal-Wallis one-way analysis of variance (ANOVA) as non-parametric method was used for testing whether there was a statistically significant difference between the assessment of interprofessional team communication between three groups (physicians, nurses, and others), and multiple regression analysis to determine the influence of individual team communication (x) on team participation (Y). Data were coded and analyzed using SPSS 24.0.

Qualitative methodology offers the opportunity to explore topics and add to our understanding of the phenomena of teamwork behaviors from the patient and health care professionals' perspective in health institutions (38). All health care professionals treating patients with chronic kidney disease, stroke, and total hip arthroplasty at SBNM were invited to participate in focus groups and 27 individuals responded. Three focus groups were conducted with 8–10 nursing assistants and registered nurses in each group. The purpose of using the focus group was to verify the data obtained from a quantitative survey and to identify the reasons for the communication assessed. As many individual professionals were unable to participate in focus groups due to the workload of the Covid-19 epidemic, we also conducted 22 in-depth interviews with physicians (10), head nurses (4), physiotherapists (2), psychologists (1), social workers (1), pharmacists (1), clinical dietitians (1), clinical pharmacists (1), and health administrators (1). The average age of physicians was 42 years and that of non-physicians 36 years. Men predominated among the physicians (seven out of ten) and women among the non-physicians (thirty out of 39).

Focus groups and in-depth interviews were conducted in September and October 2021 at SBNM. Two main questions were asked (1) how they evaluate the communication with the interprofessional team and (2) what are the reasons for such evaluation of the communication. The focus group and in-depth interviews discussions were recorded with prior consent of the participants and the (anonymized) statements of the participants were transcribed.

In October 2021, we conducted in-depth interviews with 20 patients with total hip arthroplasty who had undergone surgery in the SBNM Orthopaedic Department. Access to patients in the other two departments was no longer possible due to the Covid-19 epidemic. All patients who underwent surgery for total hip arthroplasty between 11 October and 29 October 2021 were invited for in-depth interviews and all responded. The researchers conducted interviews during the process of discharging patients from hospital. Participants were aged between 51 and 91 years (M = 67), 14 men and 6 women. The main topic was the evaluation of communication of the interprofessional team. The in-depth interview, which lasted on average about 45 min, were recorded

with prior consent of the participants and the (anonymized) statements of the participants were transcribed.

The data were analyzed using thematic analysis. After familiarisation, the thematic framework was identified with the formation of descriptive statements and the data were analyzed according to the questioning route. The third stage was indexing, which consisted of sifting through the data, highlighting and sorting out quotes, and making comparisons both within and between cases. The next stage, charting, involved removing the quotes from their original context and rearranging them within the newly-developed appropriate thematic content. The final two stages were mapping and interpretation, involving the analysis of individual quotes and the construction of relationships between quotes, and connections between the data as a whole.

The integration of the results of the qualitative and quantitative study was done by complementing and explaining the results of the quantitative analysis with the results of the qualitative analysis in a narrative manner that provided a deeper insight into the problem being analyzed.

RESULTS

The questionnaire was completed by nursing assistants with a finished high school (34.5%), registered nursed or graduated nurses (39.9%), physicians (8.9%), physiotherapists (4.8%), and other professionals (11.9%) such as clinical pharmacists, psychologists, social workers, clinical dietitians, and health administrators. The sample was dominated by women (86.7%). 32% of the respondents had secondary education, 52% had tertiary education, 13% had a specialization or master's degree and 3% had a PhD (Table 1).

Health care professionals' assessment of interprofessional communication

Table 3 shows that the assessment of the quality of interprofessional team communication is relatively high. The majority of respondents (66.4%) reported that communication in an interprofessional team is not limited to formal communication. Similarly, most believed that conflictual (80.3%) or passive (80.2%) communication is not prevalent among team members. The results also showed that 67.2% of all team members are equally involved in team communication, 82.4% of them easily express their opinion in the team, 80.2% of them reported that their opinion is heard and 78.9% of them easily solve a problem through team communication.

Table 2 shows a statistically significant difference in the assessment of interprofessional team communication by different professional groups for four statements. The largest proportion of respondents who disagree with the statement that conflictual communication prevailed among team members is physicians (83.3%), followed by nurses (80.25%) and respondents from other professions (78.9%). That all team members are equally involved in team communication is agreed by a large proportion of nurses (70.2%) and a small proportion of physicians (50.0%). The majority of respondents from other professions reported that they can easily express their opinion among team members (89.5%), followed by nurses (81.0%) and physicians (53.3%). Similarly, respondents from other professions (79.0%) agreed with the statement that they can easily solve a problem through communication in the team, followed by nurses (77.4%) and physicians (75.0%).

Table 4 shows that the assessment of cooperation between the members of the interprofessional team is relatively high. The majority of respondents are most likely to inform each other about changes in the patient's health status (93.4%), followed by joint planning and coordination of work between team members (92.7%) and joint decision-making and successful problem solving (92.7%), and least likely to ask another competent person in the team for an opinion on decisions (81.7%).

Individual team communication explained 22.9% of the variance in participation in an interprofessional team ($r = 0.495$; $r^2 = 0.229$; $p < 0.001$). An individual's participation in a multidisciplinary team is statistically significantly influenced by team communication or equal participation of all team members in communication ($p < 0.001$), while formal communication, conflict communication, and passive communication have no statistically significant influence. Listening to opinions ($\beta = 0.299$; $p < 0.05$) and solving communication problems ($\beta = 0.235$) have the greatest influence on team participation, among the independent variables included in the research, but the latter is not statistically significant (Table 5).

TABLE 3. Assessment of interprofessional team communication

Statements	Answers					$\bar{x}$	SD
	I don't agree at all	I don't agree	I can't decide	I agree	I completely agree		
Communication in the team is limited to formal communication.	13 (9.3%)	80 (57.1%)	18 (12.9%)	22 (15.7%)	7 (5%)	2.5	1.03
Conflictual communication prevails among team members.	27 (19.0%)	87 (61.3%)	15 (10.6%)	7 (4.9%)	6 (4.2%)	2.1	0.93
Team members mostly communicate passively (react poorly).	28 (19.9%)	85 (60.3%)	14 (9.9%)	12 (8.5%)	2 (1.4%)	2.1	0.87
All team members are equally involved in team communication.	3 (2.1%)	21 (15.0%)	22 (15.7%)	62 (44.3%)	32 (22.9%)	3.7	1.05
I can easily express my opinion among team members.	0 (0%)	7 (4.9%)	18 (12.7%)	74 (52.1%)	43 (30.3%)	4.1	0.79
The team members listen to my opinion.	1 (0.7%)	11 (7.7%)	16 (11.3%)	79 (55.6%)	35 (24.6%)	4.0	0.86
By communicating in a team, I can easily solve a problem.	3 (2.1%)	5 (3.5%)	22 (15.5%)	72 (50.7%)	40 (28.2%)	4.0	0.88

TABLE 4. Assessment of individual participation in an interprofessional team

Statements	x̄(SD)	Answers				
		Never	Rarely	Occasionally	Frequently	Very Often
As a member of team, I rely on documentation to monitor the patient's medical condition.	4.44 (0.86)	3 (2.2%)	0 (0%)	15 (10.9%)	35 (25.5%)	84 (61.3%)
When I make decisions, I ask another competent person in the team for an opinion.	4.30 (0.92)	0 (0%)	9 (6.6%)	16 (11.7%)	37 (27%)	75 (54.7%)
Team members inform each other about changes in the patient's health.	4.68 (0.65)	1 (0.7%)	0 (0%)	8 (5.8%)	24 (17.5%)	104 (75.9%)
As part of the team, members exchange opinions on the necessary activities for the patient.	4.47 (0.88)	2 (1.5%)	4 (2.9%)	12 (8.8%)	29 (21.2%)	90 (65.7%)
Team members plan and coordinate work together.	4.60 (0.69)	0 (0%)	3 (2.2%)	7 (5.1%)	32 (23.4%)	95 (69.3%)
Team members make important decisions together and solve problems successfully.	4.61 (0.67)	0 (0%)	2 (1.5%)	8 (5.9%)	31 (22.8%)	95 (69.9%)

TABLE 5. Influence of individual team communication on team participation - Multiple regression model

	B	*SE (B)*	*ß*	*t*	*p*
Equally involvement	1.023	0.250	0.318	4.093	0.001
Formal communication	0.438	0.263	0.156	1.668	0.097
Conflict communication	0.574	0.415	0.192	1.383	0.169
Passive communication	−0.258	0.424	−0.087	−0.609	0.544
Expressing opinion	−0.044	0.531	−0.010	−0.082	0.934
Listening to opinions	1.168	0.518	0.299	2.257	0.026
Resolving communication problems	0.899	0.475	0.235	1.895	0.060

Team members' assessment of interprofessional communication

The in-depth interviews and focus group interviews partially confirmed these findings and provide their interpretation and reasons for this assessment of communication (Table 6). Participants from other professions reported in the in-depth interviews that they generally communicate very well in interprofessional teams because they have a special position and are respected by their colleagues as they ask them to solve urgent problems. In this regard, some participants, such as a pharmacist, a psychologist and a social worker, said that their good communication is mainly due to the fact that they do not regularly participate in interprofessional teams due to the lack of staff in their profession and the resulting overload, and are therefore unable to collaborate. They only come when they are asked to help solve urgent problems. A typical statement comes from a psychologist: "I communicate very well with everyone. It is true that I come only when I am called for serious problems like preoperative distress. There is no other option because I am the only psychologist in the hospital. Because of the overload, I only respond when I am really needed. And then we communicate flawlessly. Because they need me. Maybe it would have been different if I had been present on a regular basis."

The in-depth interviews also enabled us to explain why only half of the physicians reported being equally involved in team communication. In fact, their assessment of communication was based on their perception of communication with other physicians in the interprofessional group. For example, some surgeons claimed that anesthetists communicate inappropriately and do not take into account their disagreements; on the other hand, some anesthetists claimed that surgeons do not communicate equally with them. The typical statement of a physician 1 was: "The fact is that surgeons do not communicate with us reciprocally. They think we have to be docile to them and just obey them. That is a big problem."

The in-depth interviews and focus group interviews revealed differences in the assessment of communication between departments. In one department where all participants interviewed stated that communication was generally poor, nurses reported that team communication was also poor, as manifested by inadequate team discussions, unresolved ongoing problems, and frequent conflicts with physicians and nurses, which expressed in the physicians blaming the nurses for their mistakes. The main reason was staff shortages and turnover in general and the overwork due to the Covid-19 epidemic in particular. The result is staff overload and burnout. A typical statement comes from a nursing assistant 1 from the neurology department: "We have quite poor communication. This can be confirmed by everyone here. The main reason is that there are too few of us, that we have been transferred from other departments and that we just do not have time to communicate. But now, at the time of Covid-19, there is an even bigger problem, there is a real shortage of staff and we are burnt out. And then the conflict escalates. And quite often. And it's all our fault. The physicians attack us! We are always to blame for their mistakes. The communication is really bad. The whole atmosphere is bad."

In the focus group interviews with nursing assistants, the main issues highlighted were the lack of time to communicate with patients and too much work with documentation, which is also duplicated. A typical statement was that of a nurse 1 from the nephrology department: "We already have too little time because there are too few of us and we should take more care of the patients, and then this bureaucracy! Double documentation. I write on paper and then have to type it into my computer! This is absurd!"

Some nurses and physicians also pointed out the relatively common communication conflicts that arise when they communicate with physicians who work only part-time in a hospital and are not available when various complications arise with patients: "Recently there was a problem

TABLE 6. Key themes from professionals and patients

Themes of professionals	Typical narrative of professionals	Themes of patients	Typical narrative of patients
Good assessment of team communication by non-departmental team members based on respect as they solve urgent problems	"I am very satisfied with the communication in the department because they respect me … Because they need me to help them solve the problem." (Social worker)	Good assessment of communication with team members compared to other hospitals	"In this hospital it is disproportionately better compared to ." (Patient 5)
Good assessment of team communication by team members of the same profession	"We orthopedic surgeons get on well together." (Physician 3)	Poor assessment of communication with team members due to lack of time	"There is really less communication now because they do not have time." (Patient 6)
Poor assessment of team communication between physicians of different disciplines due to rivalry	"Surgeons do not stick to agreements because they do not respect our work." (Physician 4)	Poor assessment of communication due to inconsistencies between statements and actions	"I notice that one is talking and the other is working." (Patient 7)
Poor communication between physicians and nurses due to lack of staff	"They shout at us for doing something wrong or something not getting done because we are too few. Then it's the nurses' fault." (Nurse 5)		
Frequent conflicts with part-time physicians and other team members	"I have to take care of his complications because he is only part-time here. When he comes to the hospital, he acts like it's not his problem anymore!" (Physician 6)		
Interlinked communication and cooperation	This is inevitably linked. There is not one without the other. (Nurse 6)		
Impairment of communication and participation in teams due to differences in funding of patient care and work organization by the department and personal characteristics of members.	"There are several reasons for poor communication and participation in the team. In my opinion, the difference in funding between different programs and departments is crucial. And also personal characteristics." (Physician 8)		
Poor communication by nurses with patients due to staff shortage	"I know we should communicate better because we are just rushing, but we do not have time because there are too few of us." (Nurse 7)		

with complications where the doctors who operated on the patient were shouting at me on the phone that he does not know why I am calling him when they are not in the hospital that day. Yes, but he is responsible for the patient!" said the nurse 2 in the orthopedic department.

The in-depth interviews and focus group interviews confirmed that members of interprofessional teams, where participants indicated that all team members are equally involved in team communication, listen to each other and plan and coordinate work together to a greater extent. A common argument was that communication and participation are interrelated, that they are mutually dependent: "You do not know which came first, whether communication or participation. Everything is interrelated because you cannot participate without communication and vice versa," said the physician 2.

The in-depth interviews and focus group interviews revealed that communication and participation in interprofessional teams are hindered by various reasons, such as differences in funding of patient care by health insurers, differences in work organization by departments, but also personal characteristics such as envy. Communication conflicts can hinder work and lead to non-compliance with team agreements and hinder work. So said the orthopedic nurse 3: "The fact is that we have received extra funding from the health insurance for orthopedic surgery and are now working like crazy, even though the situation is already quite serious because of the Covid-19 epidemic. This means that we also get paid better. Partly it's a systemic problem, but also personal characteristics - they talk bad about us because they are envious. And not only that. They also hinder our work. Let us say they do not stick to agreements. I'll give you an example: the anesthetist does not give us appointments for preliminary anesthesiological examinations on time - as agreed. Or they do not give us appointments for the operating theatres until the afternoon. Or they call our nurses and specialists to the Covid-19 department even though they do not need them and we have an insane staff shortage."

The analysis of the in-depth interviews with the patients revealed that the common feature of all participants' statements is a relatively good assessment of team communication in general, based on a comparison of communication in other public and private health institutions. A typical statement came from patient 1, who had previously been operated in a hospital in Ljubljana: "Everything is good here. Communication is good here, especially compared to those in Ljubljana."

The answers to a more detailed question about the quality of communication showed that most participants have a common point of criticism, namely that there is not enough communication from all members of the team in general: "Yes, something bothers me. There is very

little communication, we rarely see the physicians. And the nurses just come and go. I miss conversations. We are left alone," said patient 2.

A few patients highlighted the problem of inconsistency between statements of interprofessional team members or between statements and actions. Thus, patient 4 said, "Yes, I would say that the nurse told me differently than the physician. They specifically promised us that we would get good food, but this is not good."

Two patients also pointed out that the communication between the website and the physician's communication is inconsistent: "I think the website is outdated because it does not match what Dr. said" says patient 3.

DISCUSSION

The combination of qualitative and quantitative methods was useful as it provided a broader and deeper insight into the communication of interprofessional teams. The qualitative information from the focus group interviews and the in-depth interviews partly differed from the survey results, as respondents were more negative about communication and highlighted the reasons for such an assessment. Thus, the qualitative methods allowed the respondents to assess the communication situation in their own way and in their own words, which made the communication challenges in the team more visible.

The results showed that the members of the interprofessional team generally rate communication as moderately good. They are least satisfied with the lack of equal participation in team communication. The fact that most nurses and about half of the physicians stated that all team members participate equally in team communication contradicts other literature showing the opposite - that physicians rate interprofessional teamwork better than nurses (19,23,24). This can be explained by the fact that nurses have gained importance and role in health care teams, health care organizations, and society in general, especially during the Covid-19 pandemic, when the health care system was forced to involve them in the co-management of the pandemic (39).

In the in-depth interviews, interdisciplinary rivalry was particularly noticeable among physicians. This is consistent with the findings of other studies, which indicate that interdisciplinary rivalry is seen as one of the main causes of conflict among health care professionals worldwide, manifesting itself in significantly divergent opinions on health team leadership, patient management, establishment positions, and monetary issues (40-42). From this, we might conclude that physicians rate interprofessional communication highly, but communication within the profession rather poorly.

Some differences in communication among members of interprofessional teams may be due to the fact that different health care professionals have different training and communication styles (19). Nurses have historically taken a subordinate role to physicians, which can lead to a lack of self-confidence. Nurses view the patient from a holistic perspective that is complex, systems-oriented, and characterized by emotional intelligence. Nurses struggle with best communication practices due to hierarchical structure, ego, fear of humiliation, and feeling that their opinion is not valued. Physicians are trained to value an objective/cognitive approach to patient care that is structured, objective, and concise. The way of presenting in each discipline is philosophically different and thus risks failure in communication (19).

The majority of respondents are most likely to inform each other about changes in the patient's health, followed by joint planning and coordination of work between team members and joint decision-making and successful problem solving and least likely to ask another competent person on the team for an opinion on decisions. This is consistent with other studies where sharing relevant information and coordinating on appropriate health decisions is the most important team participation (28-30).

Multiple regression analysis showed that an individual's participation in a multidisciplinary team is statistically significantly influenced by team communication or equal participation of all team members in communication. Listening to opinions has the greatest statistically significant influence on team participation. The in-depth interviews and focus group interviews confirmed that members of interprofessional teams where participants indicated that all team members participate equally in team communication also listen to each other's opinions and plan and coordinate work together to a greater extent. They also showed that communication and participation in interprofessional teams are hindered by various reasons, such as differences in funding of patient care by health insurers, differences in work organization by departments, but also personal characteristics such as envy.

Patients rated communication in interprofessional teams as good, and the biggest problem was the lack of communication of all team members with patients. Patients interviewed reported some inconsistent messages between team members when communicating with patients, information conveyed through different forms of communication, and some differences between what was promised and what actually happened. It is well known that lack of time has been predominantly reported by professionals worldwide as the greatest barriers to effective communication between professionals and patients (43,44).

The results revealed that both staff and patients are aware of the lack of communication with each other and with patients due to staff shortages. The shortage of physicians and nurses is a major challenge for the Slovenian health system, as stated in State of Health in the EU: Slovenia (45), as the number of physicians per capita in Slovenia (3.1 per 1 000 population) and the number of registered nurses (3.4 per 1 000 population) is far below the EU average, as only 32% of nurses meet the requirements of the Directive on regulated health professions, all other being associate professional nurses (44). Understaffing leads to increased overwork and burnout. These conditions lead to depersonalization and a lack of compassion as the main component of burnout, which is increasingly recognized and prevalent not only in Slovenia but worldwide (45-47). Hospital-based healthcare workers have experienced substantially increased burnout during the Covid-19 pandemic. For example, before the Covid-19 pandemic, severe burnout was typically found in Canada in 20%-40% of healthcare workers; however, by spring 2021, rates >60% were found among physicians, nurses, and other healthcare professionals (47). Therefore, sustaining the health professions will benefit from additional employment

of interprofessional team members and retention of current staff through financial compensation and promotion of supportive workplace characteristics such as good communication and supportive leadership, continued professional development, appropriate autonomy, and collegial relationships among team members.

To improve interprofessional team communication, different types of team training could be considered, for example., a mixture of cross-training, self-correction, and team-building exercises. In such training, the effects of certain common communication patterns are highlighted and team members provide feedback on them and establish new forms and types of communication.

The main limitation is that only one Slovenian hospital participated in the study. The results can only give us an insight into the challenges of interprofessional team members communication in Slovenia and in comparable Eastern European countries. Another important limitation concerns the unusual situation related to the Covid-19 epidemic, where work, communication, and collaboration were different than before the epidemic.

CONCLUSION

Since there is a gap in research on communication in interprofessional teams as assessed by team members and patients, the first study showed that interprofessional team members rated communication as moderately good, being least satisfied with equal participation in team communication, especially physicians due to interdisciplinary rivalry. It could be concluded that physicians perceive interprofessional communication highly, but communication within the profession rather poorly. Nursing assistants particularly emphasized lack of time to communicate with patients, dissatisfaction with communication with physicians, and documentation overload. Patients were relatively satisfied with the communication of team members. However, they criticized the lack of communication between all team members and patients.

Since the main reason for conflictual communication is lack of staff, additional employment of interprofessional team members, financial compensation, and supportive leadership are urgently needed. Team training could be introduced to improve interprofessional team communication.

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DECLARATION OF INTEREST

The authors have no competing interests to declare.

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