ARTICLE

FORMAL COMMUNICATION CHANNELS IN A STATE HOSPITAL: A QUALITATIVE STUDY

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ABSTRACT

Background: Tasks in healthcare settings are dispersed in time and space. Thus, task interdependence is very high in healthcare settings. In order to prove a comprehensive and error-free health service, effective information flow between employees is crucial. In this study, effectiveness of formal communication channels in a state hospital is investigated. **Methods:** *A qualitative research methodology was adopted. Researchers set twelve face-to-face interview with staff and collected data.* **Results:** *Healthcare staff have the flexibility to choose proper communication channel while interacting with other employees from all levels of hierarchy. Formal communication channels are generally accepted as sufficient to satisfy information needs of employees. The staff do not need to search for information from informal channels. Some staff have concerns about their reports to top management. Top management sometimes fails to provide feedback, which may also convey the message that top management pays attention to information flow from the employees.* **Conclusions:** *Face-to-face communication is the most efficient way of communicating in healthcare settings. Mediums, which are capable of providing similar communication experience with face-to-face communication, have more chance to be adopted. Written communication tools need to be supported as they cover some deficiencies of verbal communication such as knowledge accumulation.*

INTRODUCTION

In the simplest form, "communication" is defined as the transmission of information between any sender and receiver in order to reduce uncertainty [1, 2]. If the sender is very sure that the receiver has fully understood the message, communication is not necessary. However, this is a hypothetical situation and it does not happen usually [2]. Therefore, communication is an inevitable component of societies.

Staying away from society seems to be a condition of not being involved in communication. Yet it is not that simple. People have more requirements than they could satisfy by themselves. Thus, when they try to satisfy their requirements or aim to realize their goals, which are too comprehensive to grasp alone, they create organizations. Although the division of work allows people to actualize their goals, an effective information flow among members of organizations is also necessary as a critical success factor [3].Communication increases organizational commitment and performance [4]. Competitive advantages originated from effective communication advance as the quality of information-sharing improves [1]. Thus, people have been searching for effective ways of communication for centuries and invented different ways of communication.

With the inventions in alternative ways of communication, the complexity of communication becomes evident. This complexity pushes people to investigate and understand the nature of communication. In literature, a number of theories, which explain the nature of communication, exist. However, advancements in information and communication technologies (ICT) keep transforming the way people communicate and reset the rules of communication. Accordingly, the nature of communication has been transformed. This transformation has effects on both personal and professional lives. As the new and easy-to-use communicational tools are introduced, old fashion and ineffcient systems are abandoned [5].
Not more than a century ago, geographically dispersed colleagues used to send letters to communicate the problems and potential solutions for their new venture [6], whereas printed letters are only used for official reasons in today's business world [7]. In an article about communication problems in hospitals, which was published in 2011, authors pointed out the problems emerging from the use of pay-telephones by nurses [8]. Currently, it is very hard to find a pay-telephone in public places in Turkey and hospitals are no exception. With the adoption of cell phones, problems that were pointed out in the mentioned article disappeared without any additional efforts. As these examples indicate, some communication problems evaporate with the advancements in ICT. Unfortunately, new technologies are not altogether problem-free though they definitely lead to improvement in communication.

In the age of digital communication, ICT melt down organizational boundaries and increases the feasibility of time-consuming projects with a large number stakeholders here and there [9], which are impossible to execute without the support of new ICT. These capabilities reshape tasks, organizations, societies, and lifestyles of people.
Communication is a broad research subject. The theme of this article is restricted to the communication means of a state hospital located in İzmir. A qualitative research is conducted to investigate the formal communication channels of the hospital. In that regard, first of all, a literature review on organizational communication will be provided, than communication in healthcare institutions and the role of information and communication technologies in healthcare will be discussed and finally the research methods and the findings of the research will be shared in the following pages.

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Organizational communication

Internal communication is the interaction among employees to execute daily operations in line with the organizational goals. As every organization has a hierarchical structure, information flows in different directions. Communication takes place between employees of the same or different hierarchal level in the organizational scheme. When it is of the different hierarchal levels, it has two directions, bottom-up and top-down. The flow of information in organizations creates a complex, internal communication network[1]. In order to manage the information flow in organizations regardless of their size or structure, organizations need to define the ways of sharing information clearly. These ways constitute "Formal Communication" paths. However, in some cases, information may not want to be shared with everyone in the organization. Especially, top management favors to keep some strategic information secret or wait for the right time to share it. In such cases, new communication paths emerge unintentionally, and information, which should be kept in secret, flows from these undefined paths. This way of information flow is named as "Informal Communication" [1]. The presence of informal communication is unavoidable in organizations and can be influential depending on the context. However, as informal communication is not a predefined way of communication, it is riskier and more error-prone [10,11].

Employees not only interact for business purposes, they also create social networks within organizations. The members of these networks discuss work-related issues as well as topics outside business subjects. When the flow of information about business issues collide with the informal means in these networks, it could strengthen the informal information flow, mislead employees, destroy satisfaction, and reduce the levels of commitment. Thus, managers should have an eye on informal information networks while strengthening formal communication channels [10,11].

The communication channels, in other words, mediums, have the potential to create different outcomes as well as the communication paths. They have different effects on both sender and receiver. They are likewise affected by social norms. For example, texting has more influence on the self-esteem of the sender than verbal communication channels [12]. Another interesting example emerges in cases where multiple messages are conveyed to a receiver through different channels. In such cases, social norms determine which message would get attention first. As an example to these cases, the interruptions via phone calls during face-to-face conversations could be given. People who involve in face-to-face communication usually do not react negatively in such situations, because giving priority to phone calls is an accepted norm for majority [13].

Regardless of the formal or informal communication paths, the sender uses a medium to convey his message. The medium preferred carries a message by itself apart from the content of the message. This fact is pointed by McLuhan by the statement: "Medium is the message" [14]. The chosen communication tool delivers more than a message; people also communicate with the attributes of the tool that they choose [5]. Messages, which are not supported with the behaviors in accordance with message content, would fail to reach its audience [8].

In light of the aforementioned realities of communication paths and mediums, organizations tend to create a communication culture, and a communication climate, which supports the desired communication culture within the organization. Setting communication culture is far more difficult than setting a communication climate. Basic assumptions, beliefs, and values of the employees form the culture. In contrast, it is easier to influence climate. Zaheeret. al. clarify the distinction between communication culture and communication climate as "different layers of the same phenomenon" [15]. When there is an established culture of communication, it is easier to shape the communication tool in accordance with the preferences of the employees. Employees tend to use promoted tools even if there are no written rules for communication. For instance, in organizations that promote e-mail, employees try to communicate through e-mails albeit the receiver of their message is physically close enough to set a face-to-face conversation. Moreover, employees try to use a formal, and polite language and pay extra attention to the rules of grammar while writing their e-mails [16].

Communication climate functions as a connection between employees and their organizations. Researchers studying organizational climate define organizational communication climate as either open or close. In open communication climate, employees can make suggestions, share their opinion, and complain about the problems that they have[17]. Open communication, notwithstanding the direction of communication, helps employees to feel appreciated and improves their loyalty [18]. Accordingly, it sustains organizational commitment and trust, and enhances information flow in all directions. On the contrary, close communication climate blocks information flow within the organizations [17].

Organizations, which value knowledge, try to support communication and collaboration among their employees by creating and sustaining an open communication climate. The assumptions behind IT investments is that IT systems enhance communication and collaboration among employees and expand information and knowledge management capabilities[19, 20].

When a sender targets a specific receiver, feedback mechanism ensures the sustainability of communication. Any sender wants to be sure that the targeted receiver receives his message, thus sender

expects to get a reaction from receivers. Feedback is one of the strategies that relieves the sender, and it can be defined as the return of the same message to its initial sender after being paraphrased by the recipient [2].

In some cases, the sender shares his knowledge on an issue without targeting any defined audience group. Most known version of this way of communication is social media. In social media, shares are accessible by either a specific society or by everyone. Organizations tend to use this advantage of social media by creating enterprise social media (ESM). Unlike social media, ESM is open to employees only. Employees are encouraged to use ESM to achieve business objectives. Instead of peer-to-peer knowledge sharing, employees use ESM as a platform to ask questions to their colleagues and also to answer questions of their peers. This way of knowledge-sharing accumulates tacit knowledge, makes it available to everyone and shortens learning period [21].

Organizational communication in healthcare settings

The current business world has a tendency to use ICT to enhance communication effectiveness. However, in healthcare settings, depending exclusively on ICT is not appreciated as much as it is in other industries [22]. As the effectiveness of communication has a critical importance in healthcare services, regarding patient-physician information-sharing, patient behavior, health outcomes, and safety [23], healthcare professionals prefer to use multiple channels to reduce deficiencies emerging from communication via single channel [22].

Care in healthcare systems is distributed to different units. Yet these units are interdependent. High quality and individualized care require intense communication and knowledge-sharing among healthcare staff [2]. Therefore, health services heavily depend on fast and intense communication [24]. Accordingly, in healthcare organizations, employees do not hesitate to be in close relationship with their supervisors. They give priority to verbal communication tools and prefer to support communication with visual aids. As face-to-face communication can usually prevent underaccommodation, it is preferred as long as it is possible [8]. However, healthcare services are non-stop services. Most healthcare institutions serve for 24 hours in a day therefore use of a variety of communication mediums is unavoidable [25]. However, mediated interaction, unlike face-to-face communication, is riskier regarding the possibility of the misinterpretation of carried messages [25]. Time-lagged, insufficient and incomplete information flow is defined as the main communication problem in healthcare settings and occurs more frequently when a mediator is used [8].

Hewett, Watson, and Gallois compared how well doctors could interpret reports of their own discipline and specialty or of others. Their findings clearly demonstrate insufficiencies of doctors in interpreting the reports of different disciplines due to the terminology differences between different disciplines. In the same paper, doctors suggest repeating the examinations instead of using reports from their colleagues as a solution to underaccommodation [25].

Zaheeret. al., handled patient safety issue within a communication framework. Patient safety is a critical issue in healthcare institutions, which would create a chain of undesired consequences for both patients and healthcare staff. Active error reporting system would reduce the occurrence of errors and its impacts. Yet, the error-reporting system is also part of the communication system of healthcare settings and therefore the factors affecting the efficiency of the communication system influences the error-reporting system as well. As stated by Zaheeret. al., the perception of front-line staff in communication culture plays a significant role in the effectiveness of the error-reporting system. "Ease of Reporting", "Norms of Openness", and "Participative Leadership" improves the perception of patient safety by improving the collaboration among healthcare staff within healthcare settings [15].

There are other factors affecting the use of mediated communication tools in hospital settings. Popovici et al. listed these factors as "interruptions", "issues with numeric pagers", "lack of integrated communication tools", "lack of awareness of consultation status", "inefficiencies related to the paper chart", "unintuitive user interfaces", "mixed use of electronicand paper systems", and "lack of up-to-date contact information" [26].

Problems in communication do not always originate from the tools [27–29]. Ergünler and Fener group these factors as "physical and technical", "physiological and social", and "organizational". The physical structure of the organization, inefficiencies in the feedback mechanism, an excessive amount of information flow, hierarchical structure, management style and differences in status are organizational factors to be addressed [30].

Moreover, face-to-face communication and mediated communication should be handled as different realms of study. Managing these two ways of communication compels different knowledge, skills, abilities, and other capabilities. Thus, Schulze et al. suggest that it is very crucial to choose the employee who has proper capabilities for existing communication environment. As an example, managers should select people who can communicate via computer-mediated channels for virtual teams [31]. Thus, managers should be aware of the communication channels, which are already dominant in specific settings, and learn how to cope with problems of these channels.

ICT in healthcare settings

ICT not only improve internal communication in healthcare but also enhance interaction with patients [32]. The potential of ICT in healthcare settings has been discussed from different perspectives. Setting an Health Information System (HIS) in healthcare organizations is usually harder than other industries as the number of stakeholders included is more, the structure of payment is more complex, and legal constraints are tighter [33]. Besides these complexities, ICT have the potential to simplify process within healthcare settings, and reduce risks by minimizing errors arising from interruptions in information flow [34, 35].

ICT convey information within organizations very fast if it is not real time. They raise the variety of communication channels by enabling a number of tools such as email, question-answer programs and synchronous communication channels. They also improve communication among colleagues. Although professionals do not perceive all of these tools equally beneficial, these tools improve communication among colleagues as long as they fit in organizational requirements and personal competencies [36].
One of the most discussed technologies used in healthcare is Electronic Medical Records (EMR). Use of EMR generally enhances the availability of medical records in terms of time and place, hinders loss of reports, simplifies patient flow, and reduces paperwork [37]. Healthcare staff criticize EMR only because they reduce face-to-face communication possibilities. As it is easier to leave a note, healthcare staff sometimes do not strive to interact directly [22].

Intranet solutions mostly come with different features to improve communication and share up-to-date information with healthcare staff. It forms the infrastructure to develop departmental websites. These websites not only serve as information sources but also as platforms to announce upcoming events [38]. It already replaced the staff newsletters [39].

The community of practice forums appear as inter-organizational knowledge sharing platforms. It assists health professionals who have limited colleague support or have to work alone. Professionals share their tacit knowledge, which they gain from their experiences. These sharings become available to everyone regardless of time and space. Moreover, they help knowledge accumulation [40].

The benefits of ICT increase as healthcare staff use IT systems regularly. Low acceptance of any IT system ends with failure [33]. Although problems in the design process of IT would emerge from both technical and non-technical sources, non-technical reasons seem to be more common and dominant [41]. The degree of utilization of any IT system depends on its ability to reflect the expectations and requirements of its users. Thus practitioners generally claim user involvement during system development [41].

Unsuccessful experiences with older technologies would sometime restrict the adoption of new systems [42]. For instance, during the use of radio pagers, messages were frequently interrupting workflow, they were usually undocumented thus available information about any event was limited with the memory capacity of staff. Although a more efficient tool was not available during this period, clearly this technology was not a perfect fit for healthcare settings [24] when compared to other advanced technologies, which support access to information from different information sources without any interruption in workflow [43].

MATERIALS AND METHODS

Data collection

Authors of this research aim to investigate the efficiency and effectiveness of formal communication channels of a state hospital by examining communication problems among healthcare professionals. The hospital under study has been serving secondary healthcare institution for ten years. It has more than 30 units with 151-bed capacity. 406 healthcare staff work in the hospital actively. The hospital gives service to nearly 6000 outpatient and 800 inpatients each month. As it can be seen, the hospital is large in scale, therefore constitutes a proper case to investigate communication problems in healthcare.
With the aforementioned aim, a qualitative research was carried out. Semi-structured, twelve face to face interviews were conducted with twelve healthcare staff from different departments; namely Operating Room, Surgical Intensive Care Unit, Internal Medicine, Orthopedics, Pulmonology, Neurology, and Pediatrics [Table 1].

Participants answered the following questions after a short introduction about this research;
- Question 1: How do you get information about the decisions of upper management?
- Question 2: Which channels do you use in order to report to upper management?
- Question 3: Which channels do you use in order to communicate with employees or managers of other units?
- Question 4: Which channels do you find more effective for communication?
- Question 5: Do you think your reports reach to top management?
- Question 6: Which channels are frequently preferred for sharing information in the hospital?

Table 1: Profile of participants

Participants	Sex	Age	Marital status	Educational status	Profession	Total experience	Experience in the hospital
1	F	44	Married	Bachelor	Nurse	25 years	23 years
2	F	39	Married	Bachelor	Nurse	23 years	12 years
3	F	52	Married	Two-year degree	Nurse	31 years	27 years
4	F	29	Married	Bachelor	Nurse	6 years	2 years
5	F	39	Single	Bachelor	Nurse	20 years	8 years
6	F	38	Married	High school	Nurse	21 years	1 year
7	F	36	Single	High school	Data entry staff	3 years	3 years
8	M	42	Married	High school	Staff	4 years	4 years
9	M	38	Married	Two-year degree	Technician	15 years	5 years
10	F	45	Single	Two-year degree	Nurse	25 years	8 years
11	F	35	Married	Two-year degree	Nurse	16 years	10 years
12	F	35	Single	Two-year degree	Nurse	14 years	2 years

RESULTS

Participants generally indicate that they, in most cases, learn officially approved decision of the top management via the intranet. In some cases, setting a meeting with staff is another way of communicating top management decisions. The announcement system is used for operational decisions that need to be spread quickly. The telephone is commonly used communication technology to deliver the top management decisions as well. Participant 2 states that she gets informed informally: "*I mostly get information informally, and I learn official ones through intranet*". Thus, even though people have some informal information sources, they are connected to formal channels.

For reporting to upper management, all participants prefer formal channels. Writing a petition, reporting through Patient Information Management System (PIMS), or reporting to a senior manager via face-to-face interaction, are the ways to transfer their information to upper management. In case of emergency, verbal communication tools are preferred. Participants indicate that they mainly choose face-to-face communication instead of written communication tools.

Communicating with colleagues from different units likewise leans on formal channels, yet tools used for communication depends on the particular situation, and the units. The telephone is the most favored tool, followed by face-to-face conversations. Written communication tools are used infrequently. Participant 11 claims that she uses PIMS to communicate with technical units, and for other units, she prefers telephone or face-to-face interaction. Answers of other participants support participant 11. Participant 6 summarizes it as: "*sometimes written, sometimes verbal*".

Participants have quite different preferences considering the effective ways of communication, though ten participants out of twenty mention that they favor formal channels. Only participant 2 emphasizes informal communication by saying: "*Of course informal ways are more permanent and effective*". Participant 9 does not foresee any difference between formal and informal ways and rates both ways equally important. Other participants agree that formal ways are more effective than informal ways. Most importantly, they point out the importance of using the right in compliance with the situation. For some cases, face-to-face communication is the best option. Participant 7 clearly denotes her first choice as the "*meetings that everyone attends*". Participant 4 strictly points out the significance of documentation:

"The information we receive in written form is more effective and lasting. Spoken words fly away, written words remain."(Participant 4).

Generally, participants agree that effects of written notifications have long-term consequences, thus it is more effective.

Disagreement becomes evident for question 5. Six participants believe that their reports to top management are delivered whereas two participants disbelieve. Other participants are not sure whether their reports reach to the top management. Some examples quoted from their answers are as follows;

"My reports reach only to head-nurse and do not go any forward. They are relayed only if no solution can be found" (Participant 3).
"Yes, they reach. They reach as much as the counter side can perceive them, yet they still reach" (Participant 9).
"Partially, written ones may reach" (Participant 4).
"Yes, usually" (Participant 5).
During the interviews, authors observe that the participants have some concerns about their reports reaching to the top management as they are. They cannot be sure if the whole contents of their reports are delivered to the top management although half of them connote that they believe that their reports arrive. The rest of the participants openly share their concerns.

In general, two third of the participants specify formal channels as more frequently used communication channels while the rest identifies informal channels as commonly used channels for communication. For formal communication, written tools are preferred more frequently than verbal tools. PIMS and intranet are the two most commonly used tools for written communication. PIMS is specifically designed to support internal communication, and it is the favorite tool for some of the staff. Intranet mainly performs the dissemination of information from top management. Communication among colleagues mostly occur through telephone or face-to-face communication [Table 2].

Table 2: Summary of answers

Questions	Answers		
1	Formal: 10	Informal: 2	Both: 0
2	Formal: 12	Informal: 0	Both: 0
3	Formal: 12	Informal: 0	Both: 0
4	Formal: 10	Informal: 1	Both: 1
5	Yes:6	No:2	Partially:4
6	Formal: 8	Informal: 4	Both: 0

In sum, participants trust formal communication more than they do informal communication. They find it more reliable. The tools used for formal communication change with the direction of information flow. When information flows top-down, PIMS and intranet are effective tools. For reporting to upper management, both verbal and written ways can be preferred. Horizontal information flow occurs through verbal discussions generally.

CONCLUSIONS

There is a suitable medium for each situation; the key is to be able to find that medium. The differences among mediums are characterized by three dimensions; interactivity, channel capacity, and adaptiveness [5]. According to medium preferred, the receiver would provide feedback simultaneously, synchronously or continuously. Mediums address sense organs differently. Written messages can only be read. Verbal communication mediums deliver both message and intonation whereas face-to-face communication conveys the message, intonation, and gestures. Even if the message content is the same, each medium delivers it with different intensity. On the other hand, adaptiveness is defined as the ability to adjust message for varying receivers. Thus, senders choose the most appropriate medium to convey their messages to receivers.

Findings of this study are in line with this description of the medium. Messages send from top management are usually informative, and target at least a group of employees or the whole organization. Intranet forms an effective platform for information flow in a top-down manner. Conversely, bottom-up information flow is usually case specific and addresses an exact supervisor or a small group of top managers. Therefore, employees prefer to interact with their supervisor directly. This interaction can be either face-to-face or phone call conversation. These two mediums both enable fast feedback, and have relatively larger and flexible capacity. In case of disagreement or misunderstanding, the conversations among communicators can be extended.

In order to report to top management, employees choose to communicate in written form and do not expect a fast feedback. Some employees even do not expect a return at all, and they are not sure whether the top management receives their messages. At this point, a deficiency in communication becomes apparent. This clue is enough to believe that top management fails to sustain mutual interaction. If the belief that reports from employees are not taken into consideration by the top management becomes widespread, employees would inevitably feel under-valued. Accordingly, both the quality and the quantity of information flow from bottom-up would decrease. Top management would lose the chance to get fully informed in a timely manner.

The study had certain limitations. First, the study was conducted in a state hospital, thus findings are not generalizable. All state hospitals use the same information system infrastructure. Thus, findings demonstrate that the system is use is sufficient. Hospitals having trouble with the systems should concentrate on non-technical areas such as training, IT support etc. In this study, researchers did not have any contact with top management. Therefore, the perspective of top management is missing. In the next step, perception of top management can be targeted. The differences between employees and top management may provide more insights and improvement opportunities may be defined.

In general, it can be said that formal communication paths in the organization satisfy the communication needs. Use of alternative tools is encouraged and employees can choose any tool suitable according to their needs. Informal communication is not overvalued. Unlike earlier studies, access to the Internet and accordingly Internet resources do not appear as a problem. As mentioned previously, the high adoption rate of mobile ICT diminishes this problem and makes intranet a valuable information source. Even so the rise of ICT does not lower the value of face-to-face communication.

Another critical issue pointed by participants is the importance of documentation. Keeping records is not only a legal obligation but also contributes to the accumulation of knowledge. Personal health records improve traceability of patients, ease availability of patient information, and form infrastructure for scientific research. Accordingly, patient information becomes available as needed without the restriction time and space. In necessary situations, these records are considered as evidence as well. Therefore, the hospital management should put more effort to improve written communication channels.

In the light of previous studies and findings of this study, authors conclude that the importance of face-to-face communication would not decrease in near future. In healthcare institutions, it is hard to compensate errors; proactiveness is more effective than reactive approaches. Nevertheless, healthcare services are distributed in healthcare facilities and the tasks of these units are interdependent. Effective communication can minimize the obstacles raising from interdependence, and face-to-face communication sets the target of effectiveness for all other mediums.

CONFLICT OF INTEREST

There is no conflict of interest.

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