The Peculiarities of the Organizational Learning of Clinicians and their Causes

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Abstract: The perception of knowledge management has evolved over the last several decades from managing the information to the involvement of employees in knowledge work – in particular, in the OL processes. However, research literature describes various obstacles for organizational learning in hospitals, related to both, the context of the organization's activities, as well as the clash between the professional autonomy of the clinicians and the bureaucratic requirements regulating the work done by the clinicians. This paper looks into the peculiarities of the OL of clinicians occurring on both individual and collective levels and examines the causes that condition these peculiarities. The paper opens with an introduction, wherein the research problem is substantiated, the aim of the research and the conceptual positions are provided, the logical structure of the research is outlined. The literature review conducted in the second chapter reveals the essence of organizational learning, explains the significance of individual and collective learning for OL. Next, the researchers delve into the work done by clinicians as professionals in the context of OL. The steps taken allow substantiating the three levels of clinicians' involvement in the OL processes – individual, group/department and organization-as-a-whole. A thorough review of the theoretical background created the conditions for the empirical investigation into the organizational learning of clinicians. The research has been conducted in a small hospital in Lithuania. Highly selective sampling suggests that the data on the OL of the clinicians acquired during the research, and a detailed description of its relation to the context provides reliable insights into various aspects of the organizational learning of clinicians. The conclusions also raise questions that require further investigation, suggest health care administrators and clinicians consider collective efforts to create better quality organizational knowledge that would enable healthcare institutions to cope with continuously emerging ill-structured problems.

1. Introduction

Contemporary healthcare organizations face many challenges due to unpredictability and complexity of human lives, as well as rapidly changing technologies. For organizations, some challenges ultimately result in new possibilities, whereas for others they create new problems. How effectively an organization responds to these challenges has a great deal to do with the extent to which they can muster a whole-of-organization response, which relies on knowledge, strategic insights and readiness to accept the changes. The present COVID-19 pandemic clearly indicates that healthcare institutions, particularly hospitals, need to be knowledge-based if they are to develop innovative solutions to emerging complex problems. Of prime importance to the organization is a smart knowledge management system that does not impose an additional bureaucratic burden but enables organizational learning (OL) processes. OL empowers members of an organization to individually and collectively create knowledge necessary for the organization's activities.

Organizational learning in healthcare institutions continues to attract the attention of researchers; generally speaking greater attention is paid to aspects of creating and introducing innovations for enhancing the performance of such institutions (Hilton, Flanzer, Cartwright, and Fletcher, 2002; Reay and Germann, 2008; Çınar and Eren, 2015). However, OL has potential when it comes to patient safety (Edwards, 2017), as well as crisis management (Smith and Elliott, 2007). Some of the most recent contributions (e.g. Hartmann and Hartmann, 2020) are directly related to organizational learning in light of the COVID-19 crisis.

Beyond doubt is the role of OL in empowering healthcare institutions, particularly hospitals, to solve complex problems, however, some international studies in this field indicate problems related to the contexts of OL. Some of these problems may discourage clinicians from becoming involved in the process of organizational learning (Doolin, 2004). For instance, this kind of 'kickback' from the clinicians could be induced by the use of OL for the introduction of bureaucratic requirements, which clinicians perceive as restricting their professional autonomy (Waring and Currie, 2009). On the other hand, the bottom-up, non-formal organizational learning approach that stresses the employees' initiative, has been increasingly investigated by researchers (Wei and Yuan, 2011; Brandi and Iannone, 2015; Chou and Ramser, 2019). In light of the controversies mentioned above,

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there is a need to closely examine the organizational learning of clinicians, which should be considered as an inseparable part of their professional work, as well as an activity necessary for the successful functioning of a hospital as such.

This paper investigates the peculiarities of individual and collective organizational learning of clinicians, as well as the causes that condition these peculiarities.

The conceptual framework of the research comprised the following: 1) Organizational learning creates the conditions for developing the knowledge necessary for organizations to overcome the emerging challenges (Nonaka, 1994), however, it is not the organization as such that learns, but rather the people in the organization (Cannon and Edmondson, 2005). 2) Organizational learning occurs at the individual and collective levels (Chiva, Ghauri, and Alegre, 2014).

The research comprised the following: a) *analysis of scholarly literature* has been employed to theoretically investigate the organizational learning of the clinicians and the possible peculiarities of OL in hospitals, considering the professional aspects of clinicians' work, b) *semi-structured interviews* were used to investigate the manifestation of the organizational learning of clinicians in a particular hospital, whereas c) *document analysis* has been conducted to investigate the hospital as an organization and the aspects of its work that are relevant to establish a relationship between organizational learning and the work of clinicians as professionals.

The article consists of an introduction and two main parts, the first of which is related to the theoretical investigation of the essence of OL in research literature, whereas the second is the empirical investigation of the peculiarities of clinicians' OL in the selected hospital. Conclusions and recommendations are presented as a result of the analysis and discussion of the findings from the investigation.

2. The organizational learning of clinicians

The chapter opens with an introduction of the essence of organizational learning, which is vital for delving into the problem addressed in this article. Next, the place of OL in the knowledge management system is highlighted, revealing the OL not only as a knowledge management process but also as a social process. The latter becomes especially significant when it comes to professional's work in an organization. Therefore, the work of clinicians as professionals in the context of organizational learning is explored further. This will reveal the structure of clinicians' organizational learning in the hospital at the end of the chapter.

2.1 The essence of organizational learning

Organizations learn to promote the continuous development of innovations. The only question, according to Basten and Haamann (2018) is whether learning is conducted systematically. Chiva, Ghauri, and Alegre (2014) suggest the following definition for such organizational learning: "*it (OL) is the process through which organizations change or modify their mental models, rules, processes or knowledge, maintaining or improving their performance*" (Chiva, Ghauri, and Alegre, 2014, p. 689). While the fact that organizations develop knowledge necessary for their activities seems to be generally accepted (Argote and Miron-Spektor, 2011; Senge, 2014; Wu and Chen, 2014; etc.), the levels on which such learning occurs seems to still be a matter of some debate (Schultz, 2017; di Stefano et al., 2017; Örtenblad, 2018; Pedler and Burgoyne, 2017). And yet, as a rule, research literature on OL distinguishes between collective and individual learning that occurs in organizations. In this paper, the authors agree with such structure of learning, and assume the perspective suggested by, among others Sessa and London (2015) and Namada (2018), whereby collective learning is further broken down into group learning and learning on the level of the organization-as-a-whole (Sessa & London, 2015), or what Namada (2018) refers to as institutional learning.

Several models that allow deeper understanding of OL can be found in literature (e.g. Argote and Miron-Spektor, 2011; Basten and Haamann, 2018**).** However**,** one of the best-known models for development of organizational knowledge has been created by Nonaka (1994). The model (known as SECI) explains creation of organizational knowledge through conversion of tacit and explicit knowledge of the members within an organization.

Nonaka (1994) has proposed that such knowledge conversion within an organization takes place through four stages: socialization, externalization, combination and internalization. In the *Socialization* stage tacit knowledge is created through the interaction (verbal or non-verbal) of individuals within a small group (by 'being together').

Individuals create what Nonaka (ibid) referred to as shared experience, which is characterised by particular contexts and emotions related to these experiences. Nonaka (ibid) refers to the next stage as *Externalization*. During this stage, explicit group knowledge is constructed from tacit knowledge through discussions among individuals. However, an organization usually consists of several or more groups (divisions). Therefore, the next stage, known as *Combination*, sees the collective explicit knowledge (usually - the goals of the organization, rules, other standards) at the level of the organization (as a whole) constructed through agreements among the groups that use this knowledge in their activities. Combination refers to the process of combining bodies of explicit knowledge through social processes (e.g. meetings). In the next stage, which Nonaka (ibid) calls *Internalization*, this generated knowledge at the organizational level is disseminated among the employees of the organization and their groups: various communication channels, as well as training, are used. In this stage, the explicit knowledge is exercised and embedded into the routines of the individuals within the organization, and over time it becomes tacit knowledge of the individuals. Thus, organizational learning takes place by creating the organizational knowledge that an organization needs to implement change, create and implement innovations, or otherwise cope with challenges. For this purpose, the organization continually sets new goals and objectives. Especially important in this respect is for employees involved in such a process of organizational knowledge creation to understand what the organization is striving for and be determined to participate in achieving these goals/objectives. Naturally, OL occupies an essential place among knowledge management processes, and organizational leaders seek to enable this organizational knowledge creation by directing it in the direction needed by the organization. However, at the same time, OL is a social process. So, what is the relationship of this process to knowledge management?

2.2 Organizational learning in the knowledge management system

Knowledge management can be viewed from several perspectives. The technological approach emphasizes the technical and technological aspects of knowledge management (Grant and Shahsavarani, 2006). The social approach, on the other hand, emphasizes human, cultural, organizational aspects (Hlupic, Pouloudi, and Rzevski, 2002). The socio-technical approach combines the social and technical aspects of knowledge management (Coakes, 2002). If in its inception, knowledge management was based only on the technical approach, then later a consensus was reached that people and their knowledge are central for knowledge management, because various value creation processes in an organization largely depend on them. After evaluating the work of researchers based on various perspectives, Šajeva contributed by substantiating the Conceptual model of the socio-technical knowledge management system (Šajeva, 2010). At the heart of this system, is the integral process of knowledge management, which "includes a set of practices or activities that are initializing in an organization in order to identify, acquire, create, store, disseminate, and apply knowledge" (Šajeva, 2010, p. 771). However, these processes are not self-serving; they work in conjunction with other organizational processes, thus creating organization's value. Šajeva (ibid) identifies five main components of a knowledge management system: strategic leadership, organizational infrastructure, knowledge culture, organizational learning and technological infrastructure. The first four, according to Šajeva (ibid, p. 771), interact with each other, forming the "social context" of the system, which in turn is related to the technological infrastructure that also serves all knowledge management processes.

Based on this conceptual model, it is not difficult to notice the particular place of organizational learning in the knowledge management system. Organizational knowledge creation is directly related to organizational learning (Nonaka, 1994) because OL results in the creation of organizational knowledge. Thus, OL has a dual role in the knowledge management system: organizational learning is an integral part of the knowledge management process, and at the same time, OL is placed within the social context of the system.

Šajeva (ibid) interprets organizational learning in terms of individual and collective learning processes. The researcher recognizes that these processes can take place in formal and non-formal structures. However, Šajeva does not delve into the various aspects of such formal and non-formal organizational learning that takes place at the individual and collective levels, and its relationship to strategic leadership, organizational infrastructure, and knowledge culture. Investigation of these aspects may raise many questions, especially taking into account the profile of the organization, which is directly linked to the nature of the professional's work.

When it comes to hospitals as organizations and the nature of the work of its main staff - clinicians as professionals - many questions arise: what is more important in terms of building organizational knowledge - the organizational learning of clinicians at the individual or collective level? Which processes of clinicians' collective learning are emphasized - in a group, e.g. a department, or the whole organization, i.e. in the hospital?

When does formal organizational learning (within formal structures) take place? How does leadership influence it? Finally, when does non-formal organizational learning tend to take place? How and why does it occur?

2.3 Work done by clinicians as professionals in the context of organizational learning

Hospitals are classified as professional work organizations, because the medical profession requires a high level of special education usually linked with solving complex problems necessitating a great deal of responsibility. Typically, professional work is highly autonomous. However, work done by a clinician is related to the safety of the patient, which imposes strict bureaucratic requirements for the competence of the clinician. The combination of the autonomy and bureaucratization of professional work through procedural guidelines 'can be seen as blurring, or hybridizing, bureaucratic and professional ways of organizing work' (Waring and Currie, 2009, p.756). Easterby-Smith and Lyles (2005) pointed out that knowledge management was employed to increase organizational safety. Such management of knowledge is centralized, and organizational learning is managed to mitigate clinical risk. As reported by Waring and Currie (2009), clinicians either try to get away with or oppose the discussed type of management. Thus, a phenomenon of alternative organizational learning emerges to avoid limitations imposed by a similar policy. For example, Doolin (2004) examined the instance of how clinicians sought to avoid implementing an information management system in a hospital in New Zealand. The chances of coping with emerging challenges and problems at different levels were assessed even more pessimistically by other researchers. Some stated that the members of healthcare organizations 'did not even think organizationally' (Ramanujam and Rousseau, 2006, p. 822). Mylopoulos and Scardamalia (2008) explored the possibility of licensed clinicians for innovating their practices and sharing the created innovations with their colleagues (the situation directly points to the practice of organizational learning) in a hospital in Toronto. Unfortunately, the authors (ibid) found that clinicians did not think about innovation because they had too many responsibilities in the first place.

However, some researchers are optimistic about the organizational learning of clinicians. Based on a large-scale survey and empirical research conducted by other authors (Canada and USA), Ratnapalan and Ulerik (2014) discovered that organizational learning was essential for patient safety for the quality of work done by clinicians. Although OL is crucial to hospitals, albeit more often, leaders play a pivotal role in enabling OL in small professional groups. Noteworthy in this respect is the role of non-formal leaders. Alas and Vadi (2003) studied the staff of six Estonian hospitals and established that organizational culture had an impact on their organizational learning in a rather particular way. The OL of those having less than five years of professional experience was influenced by task orientation, whereas the focus on relationships influenced the OL of the staff counting more than five years of work experience in the hospital. Babaeinesami and Ghasemi (2020) disclosed that improved communication between hospital staff had a positive impact on organizational learning.

Hence, it is vital to determine for what purposes organizational learning is practised and what factors determine it. One aspect is clear – the organizational learning of clinicians has to occur in harmony with safety requirements and work done by professionals thus respecting their autonomy-based responsible decisions. OL enables innovation in and the development of hospital as a whole, including departments, clinician groups and every professional individually.

2.4 The structure of clinicians' organizational learning

In terms of organizational learning, three dimensions of performance should be distinguished when it comes to clinicians as hospital employees: a) clinician as an individual professional; b) clinician as a member of his/her department or group; c) clinician as a member at the organization as a whole. The current chapter delves into this structure

2.4.1 Learning at the individual level

Clinician learning that meets the goals and objectives of the hospital as an organization focused on a specific professional is considered organizational learning that takes place at the individual level. In order to successfully cope with all the roles assigned by the organization, a clinician is expected to continually develop competence in response to ever-changing work conditions and emerging challenges. A considerable amount of the knowledge gained by clinicians is enshrined in specific regulations as necessary to have, it is evident that their work done is case-specific, because each situation may require a different approach. Therefore, learning is obligatory and mandatory for clinicians. As for the individual level, clinicians ensure the quality of their performance through reading professional literature, attending seminars/conferences, internships, generating

new ideas from personal experience or discussions with colleagues, learning new clinical procedures, recent rules, the standards of specific training or documents, i.e. through formal and non-formal learning methods.

However, it is essential to highlight the role of the patient in the learning process. Kurtz (2002) provided that clinicians actively learned about interactions with patients in the workplace by asking, discussing and reflecting together with patients. Communication with a patient plays a particularly important role in making a diagnosis. Boelen (1997) stated that every clinician had to be able to convey relevant knowledge to the patient to make him/her actively involved in the continuation of clinical treatment (clinicians can hardly devote a large portion of time to a single patient). Therefore, on-the-job learning is a particularly important form of constructing clinician's knowledge to ensure continuous professional development.

Hence, clinicians consistently maintain their knowledge at the level commensurate with the development of scientific knowledge in medicine and requirements set by the hospital and enable them to cope with patient treatment challenges through formal and non-formal learning that is in line with the goals and objectives of the hospital as an organization focused on the specific clinician.

2.4.2 Learning at the group level

Every clinician belongs to a specific group, team or department (e.g. department of cardiology, internal medicine, neurology, etc.) and applies personal knowledge in order to demonstrate collective knowledge within an appropriate team etc. The shared information is frequently important for both a certain unit / team and the entire organization.

Many authors (Carroll and Edmondson, 2002; Brigley, Johnson, Bird, and Young, 2006; Lonka, 2009; Littlejoh, Malligan, and Margaryan, 2011; Mann, 2011; Večkienė, Brunevičiūtė, Saulelienė, and Ražanauskaitė, 2011, etc.) investigated teamwork and collective knowledge in the healthcare sector and argued that teamwork was essential. Lonka (2009) suggested that medicine was an area of the highly structured ways of communication and embraced roles, norms, rules and tools. Clinicians are accustomed to the specific ways of thinking and acting. However, the clinicians belonging to a particular department need to focus on their professional activities, need to adapt and understand how to transform their activities through collaborating, creating artefacts and tools with the other members of the unit (colleagues) and how to make the shared experience effective in achieving better results. Thus, a group of clinicians is a kind of a community of practice the primary purpose of which is to implement treatment in relevant areas. Eidintaitė (2012), noticed that to achieve a common goal, the members of the community of practice had to be linked to common information share flows overlapping the sense of identity, values and behaviour in the department.

The clinicians working in a unit and having the same or very similar treatment orientation need to work as a team the members of which permanently learn from each other and share knowledge of the treatment process and communication instances with patients. This type of learning forms group knowledge generally referred to as collective and can either be tacit or explicit. Tacit knowledge is formed within the process of socialization (Nonaka, 1994) when the clinicians of a small group (often in pairs) communicate by being engaged in activities together ('being together'). The knowledge acquired by the explicit group is constructed through externalization (Nonaka, 1994). The latter stage often occurs when clinicians address a specific problem as a group such as selecting treatment tactics to address a disease complication in a particular patient. The solution to this problem is expressed in a verbal form and is the result of the externalization process. Organizational learning at the group level is usually conditioned by interpersonal communication. If the creation of collective knowledge always remains non-formal in the socialization process, then, at the externalization stage, group knowledge can be created in two ways: for example, formal organizational learning may take place during a meeting in the department.

Meanwhile, a joint decision (collective organizational knowledge) made by the clinicians who rushed to the ER to administer emergency care for a person with severe atypical trauma shall emerge from non-formal organizational learning. Although aimed at the task of the organization (e.g. to provide efficient help to a patient with an atypical complex trauma), such organizational learning is accepted non-formal and takes place spontaneously without any particular management action (e.g. head of the department does not convene a clinicians meeting and they meet on individual initiative).

Bandura (1977) noticed the human knowledge acquired individually was always subjective, and therefore learning at the collective level made the gained knowledge more objective. Johnson (2007) argued that at each stage of organizational knowledge development (and thus at the stage of externalization), the individual learning of each member of the organization could take place as a side effect. However, collective learning plays a particularly important role in medical work that is practically implemented by clinicians several times a day.

2.4.3 Learning at the level of the organization (as-a-whole)

Carroll and Edmondson (2002) investigated clinician learning at the level of the organization and suggested that achieving systematic organizational learning required a comprehensive combination of values, skills and structures in a healthcare organization. The organizations that value long-term rather than short-term performance and care about other aspects (performance, safety, quality, environment) and stakeholders (employees, customers, suppliers, community, society) recognize the need for learning and reserve time for it.

First of all, it is related to the clinician understanding his/her personal place, role and relationship with the organization. Therefore, the clinician belonging to a particular department or organization should first understand the mission and goals of that organization. Managers should also be concerned with the following questions: Are the mission and goals of the organization understood by all employees of the organization? Are purposeful efforts made aimed at ensuring the implementation of the mission, goals and values? What is the relationship of the mission of the hospital to treatment and research activities?

The vision of the organization also depends on knowledge about aspirations the organization will envision in the future. The mission and vision are linked to the philosophy of the organization and are accepted as the core values of the organization. These values dictate the ethics of work done by clinicians and are the basis of treatment and relationships with patients and colleagues. Thus, it is imperative for the organization to seek collaboration among clinicians on organizational issues (e.g. can be addressed in meetings) or to make sure that every clinician knows the procedures and rules at the organizational level. Meanwhile, clinicians can contribute meaningfully to the overall knowledge of the organization, its well-being and the development of core values by expanding or acquiring new knowledge (reading documents, attending general meetings, participating in training).

Thus, the organizational learning of clinicians at the level of the organization-as-a-whole takes place: a) by discussing various treatment, organizational issues together with other hospital staff during formal meetings (combination stage, developing explicit organizational knowledge, see Nonaka's (1994) SECI model); b) by adopting new organizational procedures, rules and standards during training or reading documents (internalization stage, as stated in Nonaka (1994) for converting explicit into tacit knowledge in-use).

However, the questions if organizational learning as discussed in this chapter is possible in light of lack of the organizational thinking of clinicians in general (Ramanujam, Rousseau, 2006) and whether the pressure to adopt organizational learning reduces their operational autonomy (Waring, Currie, 2009) require empirical investigation.

3. Empirical research in the organizational learning of Clinicians

The current chapter is aimed at investigating the peculiarities of the OL of clinicians. The chapter starts with an outline of research methodology. The results of empirical investigation into the OL of the clinicians working in one of the hospitals in Lithuania are provided next.

3.1 Empirical research methodology

The aim of empirical research is to reveal the peculiarities of the organizational learning of clinicians working in the hospital through the process of proving or disproving the following ***propositions***:

1. The organizational learning of clinicians occurs at three levels: individual, group and organization-as-a-whole. However, OL at the level of the organization-as-a-whole is the least pronounced.
2. The organizational learning of clinicians is available in formal and non-formal contexts: at the individual level, OL is rather non-formal, at the group level, OL is both formal and non-formal and at the organizational level, OL is formal.

3. Clinicians tend to mostly focus on their work as professionals, and therefore use organizational learning to ensure the quality of their work done rather than being actively involved in the hospital as the members of the organization.

Methodological approach: a) the process of organizational learning and its peculiarities are revealed and can be studied by interviewing clinicians, the direct participants of this process; b) organizational learning can be reliably explored in the same organizational context, i.e. one hospital; c) it is appropriate to study the OL of the clinicians working at different departments, as more reliable evidence can be expected if similar trends emerge when comparing the findings; d) qualitative descriptive study has been selected to explore organizational learning, which is suitable for conducting investigations into sensitive phenomena (Vaismoradi, Turunen, and Bondas, 2013) represented by OL.

Methods: a) OL is a process that encounters difficulties in identification, and therefore researchers have opted for a semi-structured interview method; the questions were asked following the logic of OL parameters highlighted in the first chapter of the article; b) the method of document analysis was selected for exploring the hospital as the context for OL; c) the acquired data have been processed applying descriptive content analysis.

Sampling. An empirical study of the organizational learning of clinicians was conducted in one of regional state hospitals located in a small town counting less than 10 thousand inhabitants in Lithuania, an EU Member State. A medical institution with a solid history was selected for investigation. The preferred institution has been known for the exceptional performance of clinicians and contributed to improvements in the quality of medical services nation-wide. A regional hospital has been chosen deliberately. The contention was that greater coherence between bureaucratic demands made by managers to ensure safety and the interest of clinicians as professionals and their autonomy could be expected in a small rather than in a sizeable enterprise-type hospital. At the time of the study, the hospital employed around 300 staff members. The investigated hospital has ten departments, a modern clinical laboratory and an operating theatre. Over a thousand surgeries are performed here annually. The hospital uses modern minimally invasive surgical techniques. Pursuant to the documents of the hospital, all staff are directed to improving their skills, implementing new, modern treatment methods, ensuring high-quality medical care and nursing for both the residents of the region and Lithuania. The strategic plan of the organization expresses the position of the hospital as an organization, which facilitates staff learning/development. The hospital has an information management system (created from technical but not social point of view) which is connected the national health care information system.

The organizational learning of clinicians required selecting at least two departments for investigating and cross-examining the data obtained from different departments. The clinicians of four departments, including a) Department of Internal Medicine (hereinafter referred to as Department A) - 3 informants, all exceeding 25 years of work experience; b) Department of Surgical Traumatology (B) - 5 informants (three surgeons and two traumatologists), one having 20 years, the rest – exceeding 25 years of work experience; c) Department of Paediatrics (C) - 2 informants, both exceeding 30 years of work experience; d) Department of Neurological Diseases (D) - 2 informants, both exceeding 30 years of work experience, agreed to participate in the research.

Research ethics. For selecting the hospital and interviewees, the principles such as voluntary participation and information about the aim, methods and benefits of the conducted research were followed and gave them a sense of involvement (Cohen et al., 2002). The following aspects were considered during the interview and presentation of data on the interviews and details of the hospital: a) protection from harm (physical or psychological); b) respect for individual dignity; c) right to self-determination; right to privacy; d) protection of confidentiality (Sullivan and Forrester et al. 2018).

Research design did not employ any potentially harmful approaches, and therefore neither physical nor mental well-being of the informants was threatened. Each informant was treated with dignity. Participation in the interviews was absolutely voluntary, and the questions were designed in a way not to impose the answers on the informants. Hence, the self-determination principle was satisfied. The fact that the title of the hospital and the names of the informants were not disclosed in either stages of the research ensured their privacy and confidentiality.

3.2 Organizational learning of clinicians in the investigated departments: similarities and differences

The section presents and analyses the data on clinicians' formal and non-formal OL at the individual, group, and organization-as-a-whole levels. The stages of organizational learning (socialization, externalization, combination, and internalization) as recognized by physicians are explored by analysing the interview data.

3.2.1 Formal and non-formal organizational learning recognized by clinicians at the individual, group and organization's levels

Before delving into the organizational learning of clinicians at different levels of the organization, it should be noted that they tend to equate the mission of the hospital with the purpose of the organization, and view it as a constant assurance of high-quality healthcare services. Hence, the investigated clinicians identify the activities of the organization with professional activities, but are indifferent to their participation in the organizational activities of the hospital, attributing it to the work of managers.

Therefore, the observations of all informants about OL concern only the aspects of clinicians' work.

3.3 Organizational learning at the individual level

A typical expression: "... in fact, we don't have time to go to seminars often because then there's no one to work with. There are only three of us, there is a lot of work, we would really like to go somewhere more often to expand our knowledge, but there is no one to work for. ... The seminars are mainly to be attended for the revalidation of the license - 144 hours in 5 years ..." (Department A Clinician A). Feedback from patients is essential for the accumulation of physicians' experience: "... I gain a lot of knowledge from working with patients, receiving some inpatient treatment or outpatient feedback, so it is possible to assess the suitability of my treatment tactics, thus gaining more experience." (Department B Clinician B). Clinicians noted that individual reflection is characteristic of them. It has been observed that people who work longer reflect less: "I think about my activities often, but not as often as I did 20 years ago ..." (Department B Clinician D), "I used to reflect a lot, now not so often, maybe because I am confident in my work, perhaps because the experience is already extensive" (Department B, Clinician E). Clinicians from departments C and D pay special attention to reflection: "I analyze my actions all the time, this is how much knowledge is developed, sometimes I even notice that I have more knowledge than I think" (Department C clinician A). However, most often in their answers, clinicians emphasized the integral benefits of both professional literature and learning from experience: "... if I learned only from practice, there would be many mistakes. Literature is the basic knowledge on which to accumulate that experience" (Department D Clinician B). This clinician also distinguished the benefits of such integrated experience: "I learn from my work and personal life experience."

It has been observed that it is often difficult to distinguish between individual and group learning in physicians' OL activities: "...we communicate among ourselves all the time, I tell my colleagues about the interesting cases I have, we analyse these cases, even surf the Internet for information together... the patients themselves contribute somewhat to creating new knowledge, but I rather learn more from colleagues than from patients ..." (Department A Clinician B).

Table 1: Formal and non-formal organizational learning of clinicians in particular departments at individual, group and organization's levels (bolded – indicated as significant by informants, underlined – indicated as the most significant by informants)

Organizational learning		**Departments**			
		A	**B**	**C**	**D**
Individual level	Formal	Seminars and other training	Seminars and other training	Seminars and other training	Seminars and other training
	non-formal	**From colleagues' experience, <u>studying literature</u>**	**From colleagues' experience, <u>studying</u> <u>literature</u>**	**<u>Through reflection on own experience</u> and from colleagues' experience, studying literature**	**<u>Through reflection on own experience</u> and from colleagues' experience, studying literature**
Group level	Formal	Department meetings	Department meetings	Department meetings	Department meetings; **councils with colleagues**

Organizational learning		Departments			
		A	B	C	D
					from the department, ward rounds
	non-formal	**Sharing experience with the colleagues from the department while being in the same room; collaborating with them while solving treatment problems;**	**Sharing experience with the colleagues from the department while being in the same room; collaborating with them while solving treatment problems;**	**Sharing experience with the colleagues from the department while being in the same room; collaborating with them while solving treatment problems;**	**Sharing experience with the colleagues from the department while being in the same room; collaborating with them as well as clinicians from other departments while solving treatment problems**
Organization's level	Formal	Inter-departmental meetings for treatment questions; Meetings of hospital employees, during which managers present new standards.	Meetings of hospital employees, during which managers present new standards.	Meetings of hospital employees, during which managers present new standards.	Councils with clinicians from other departments; Meetings of hospital employees, during which managers present new standards.
	non-formal	Joint decision-making through non-formal consultations between several departments	Joint decision-making through non-formal consultations between several departments	Joint decision-making through non-formal consultations between several departments	Joint decision-making through non-formal consultations between several departments

3.4 Organizational Learning of Clinicians at the Group Level

Interview data suggest (see Table 1) that the clinicians of all four departments practice non-formal learning at the group level, which usually takes place while solving treatment problems encountered by the department. Similar situations involve all clinicians of the department into discussions: they share knowledge obtained from professional literature and gain valuable experience, which reflects common activity of the group, energizes into a common solution to the problem thus resulting in a collective knowledge of the group, helps with making further decisions and assists in creating rules for joint work. It should be noted that the faced situation takes place at the non-formal level typical of a small hospital department counting only a few clinicians: *"We don't need any meetings, we discuss things "on the run", and when it is only the two of us, it's easy"* (Department C, Clinician A).

3.5 Organizational Learning of Clinicians at the Organization Level

Examining the organizational learning of clinicians at the level of the organization-as-a-whole (see Table 1) demonstrates that clinicians are not engaged in the organizational activities of the hospital. Although some informants state that, for instance, *"... as a doctor, I understand the aim of our institution, the purpose of our hospital, during meetings the administration stresses the basic regulations of our hospital"* (Department A, Clinician C), however, upon closer inspection, it becomes clear that this approach is more superficial rather than a deeper understanding of the management and organizational activities of the hospital. This does not mean that informants neglect a close relationship between the employee and work organization. Instead, they realize it considering professional responsibilities: *"Maybe these issues need to be understood from a clinician's perspective and then applied to the entire organization. The organization wants to survive, so we have to try our best to do our job"* (Department C, Clinician B). Clinician D from department B: *"... what other mission might it be if not to provide the best quality treatment? And that means the same goals."* Nevertheless, the capability of

the respondents to pinpoint the vision and goals of the institution they work for remains unclear. In consequence, it appears very much questionable if they were familiar with the documents regulating activities within the organization, but no doubt they were well aware of the requirements set for their jobs they had learned individually and further discussed with colleagues at the group level. It has been observed that clinicians do not feel generating any managerial knowledge at the organization level. Nonetheless, they are actively involved in developing the knowledge vital for treating specific patients during short briefings (including physicians from the entire hospital). A few informants mentioned councils where more complex treatment cases were discussed with the physicians from several departments. They attributed organizational learning to the level of the organization-as-a-whole. However, this study faces difficulty in clearly distinguishing between the boundaries of formal and non-formal functioning, which is apparently due to the atmosphere of non-formal communication prevalent in the investigated organization. The respondents agree that democracy prevails in their organization, employees are free to express their views to the administration, no internal communication problems are detected, it is easy to agree with colleagues and the work environment is tolerant enough. Department A, Clinician B: *"It is not ideally tolerant, but when I know how it is in other organizations, I can say that our organization is tolerant. People sympathize with you, people respect you, and people help you here*."

Thus, it can be observed that the OL of clinicians at the level of the organization-as-a-whole is limited to the point where such joint efforts are related to the direct responsibilities of clinicians rather than to the activities of the entire organization (e.g. communicating with the external environment, participating in national and international projects, etc.).

The peculiarities of the OL of clinicians working at the investigated hospital are discussed in this chapter and will hopefully be revealed by delving into OL stages. The next chapter looks for consistency in OL activities done by clinicians.

3.5.1 Stages of Organizational Learning as revealed by Clinicians

The analysis of the organizational learning of clinicians in light of the SECI model (Nonaka, 1994) shows that the peculiarities of developing organizational knowledge in each of the stages described by this model in the investigated hospital are relatively distinct. The emergence of collective tacit knowledge characterizes the socialization stage that occurs as a result of employees sharing the same space and working together for a prolonged time (from tacit to tacit knowledge). In this case, favourable relations between employees, the conditions of 'being together' created by the organization and the history of joint work have a significant influence. Thus, this is typical of the investigated departments: the clinicians of each unit stated there was a friendly atmosphere, constant communication and collaboration between colleagues. The created conditions included a well-equipped common room for clinicians with a furnished zone for non-formal communication. For example, Department B has as many as three offices, including a surgeon's office, a traumatologist office and a shared rest area. The reflections of clinicians only confirm the effectiveness of the socialization stage: *"we understand each other without words"* (Department A, Clinician C).

The externalization stage describes group learning activities where organizational knowledge is created at the department level (from tacit to explicit knowledge). The success of the socialization stage also influences the success of the externalization stage that is also affected by other factors. It has been observed that OL at the group level occurs similarly in all four investigated departments. The peculiarities of the researched departments in this stage are well described by the summary of the answers provided by the clinicians from Department A: the meetings of the clinicians of this department are not formal, and therefore it is not necessary to create additional conditions for gatherings. As for work in a shared office, clinicians make decisions important for the department in a non-formal manner. In the cases the general meetings of the department are organized (including all staff of Department A, special facilities are provided (conference room is allocated), but clinicians do not single out meetings as essential for organizational learning at the group level.

This enables a discussion of the non-formally occurring externalization stage. Department A, Clinician C: *"We have an unwritten rule: when we meet in the morning, we have coffee together and discuss all the issues that concern us, and at the same time reflect on what is well, what is wrong, what needs changing <...> We have been working together for many years, and somehow we have never had problems related to collective problem-solving ... Some documents define the responsibilities of each doctor, we know it ourselves, and we manage to make those decisions constructively, without any conflicts*." Thus, non-formal conversations replace formal departmental meetings, except for the cases when clinicians attend meetings with other ward staff (chief nurse

and nurses). Discussions with colleagues within the department are identified as one of the most critical elements of work and the learning process. In light of discussions, the most important decisions for the department are made, and clinicians improve their performance. It should also be mentioned that physicians recognize the benefits of patient feedback for collective learning processes; the obtained information is identified as one of the main factors in accumulating group experience.

The combination stage relies on collective learning that takes place at the level of the organization-as-a-whole. The solutions that require joint effort to develop new norms, rules, conventional ways of work and similar knowledge are created during this stage. As for the hospital, general knowledge applies to:

1. the development of the hospital as an organization (managers do not make managerial decisions without consultation with departments);
2. collective decision-making involving all (or several) departments in the case they have relevant competence (hospital management may be absent), e.g. for hospital admission in the case of poly (multiple) diagnoses;
3. treatment purposes of the necessity for making decisions on specific patients by consultation with the clinicians of different areas. While the organizational learning of types (a) and (b) is of formal nature, type (c) may be formal and non-formal, subject to the situation.

The responses of the clinicians working in the studied departments revealed that a collective knowledge of type (a) was not constructed. The investigated hospital has been managed more in a public administration approach, and therefore is considered more 'by the book' than a modern type of management.

The problems of developing a collective knowledge of type (b) lie in joint decisions that have to be made involving all (or several) departments. The clinicians of Unit A noted it was difficult to agree with other departments of the organization. Negotiations sometimes lead to conflicts, which is due to the fact that the administration does not clearly define the authority of each unit in the cases when inpatients have several diseases treated by different departments. No procedure describes in what case the patient is admitted to which department and how other departments interact with that department. On the other hand, it paves the way for creative collective solutions proposed by professionals.

Clinicians also mentioned the daily briefings (c) of all departments discussing treatment problems. The importance of the briefings was emphasized by the clinicians from Department A as a significant aspect of learning. This is highly important for this particular department, as work done by internal medicine physicians covers an unusually broad diagnostic profile. The learning environment of the briefings is interdisciplinary, because it involves the clinicians of different areas, which is an essential feature of this environment. The democratic environment of the organization was found to be an important aspect of interdepartmental meetings. The organizational learning of type (c) can also be non-formal: "*We work closely with the Department of Internal Medicine, we consult each other, as we predominantly treat elderly patients, who have more than one disease, and sometimes several dozen diseases. In the admissions department, we also consult patients together with other specialists*." (Department D, clinician B).

The interviewees also mentioned formal general meetings of the members of the entire organization (held every Tuesday, bringing together all clinicians, chief nurses, chief nurse practitioners and the administration). The joint meetings of all departments usually take place because the administration of the organization has to report specific updates to clinicians. During formal meetings, information is channelled and should be absorbed rather than created. The opinions of clinicians are not always deemed necessary. The meetings resemble the initial processes of information provision and assimilation that take place in the internalization stage.

The internalization stage covers the newly created or otherwise acquired formal knowledge disseminated to other employees. As discussed in the previous chapters, the results of the conducted research show that the administration usually disseminates information in general meetings, and in exceptional cases (for instance, information is especially important) – utilizes telecommunications. However, the presented information is not created jointly by the members of the organization and often embraces laws, regulations and rules governing work done by the hospital and its employees. As noted from the interviews, physicians absorb and act on the information governing their work. However, within this framework, they are also able to express themselves as professionals who need to make non-standard decisions.

3.6 Discussion of findings

The results of the empirical research allow to prove or to correct the previously formulated propositions:

- The organizational learning of clinicians occurs at three levels: individual, group and organization-as-a-whole. However, OL at the level of the organization-as-a-whole is the least pronounced (proved);
- Organizational learning of clinicians occurs mostly non-formally, the formal OL (directly influenced by the management) is random. The acquired data does not support the proposition. The organizational learning of clinicians occurs in formal and non-formal contexts: at the individual level, OL is rather non-formal, at the group level, OL is both formal and non-formal and at the organizational level, OL is formal;
- Clinicians tend to mostly focus on their work as professionals, and therefore use organizational learning to ensure the quality of their work rather than being actively involved in the hospital as the members of the organization (proved).

However, some aspects of the obtained results require more in-depth insight, and therefore a more comprehensive discussion. First, it is necessary to recall some circumstances of the study conducted in a small hospital. As reported by Malhotra (2009), arbitrarily the hospital having less than 200 beds may be classified to be small. The respondents unanimously claimed that the climate of their organization was 'warm', which assisted in maintaining good relations among each other as well as with the management. It should also be noted that all studied clinicians exceeded 20 years of experience (some as long as 40 years) and were, therefore, older people. Alas and Vadi (2003) found, the organizational learning of older employees is driven by relationships rather than by goal orientation. Thus, the size of the hospital, the prevailing atmosphere and, most importantly, the self-identification of clinicians as professionals working in their small departments allow considering an organizational culture of a communal type (high sociability and high solidarity) (Rashid, Sambasivan, and Rahman, 2004), most evident in the activities of departments.

Departments are the place where clinicians do their main work. In this way, it is quite understandable why clinicians stress organizational learning at the individual and group/unit level. The individual level of learning is especially important for an employee who perceives him/herself as a professional. Learning at the group level is essential for a professional frequently facing extraordinary situations that require non-structured solutions and a high level of responsibility for them. This determines the need to develop organizational knowledge in a group of professionals that usually works in a department of the hospital. The focus is shifted on relationships rather than is goal-oriented. At the same time, the perception of oneself as a professional encourage non-formal organizational learning at the above introduced levels.

It is also necessary to delve into the following findings:

1. For comparing the significance of two OL levels, clinicians consider OL to be more significant at the group rather than at the individual level. This may be linked to the need for particularly complex decisions at the unit/group level. The quality of these decisions and a reduction in risk levels are achieved through the knowledge generated by the collective mind (Brown and Harris, 2015);
2. clinicians indicated that individual OL facilitated organizational learning at the group level. However, researchers also notice the opposite effect: collective OL is seen as the primary product, and OL at the individual level is accepted as the by-product of the former (Nonaka, 1994; Lee and Roth, 2007). The peculiarity about OL practised by clinicians in the investigated hospital may be explained by the fact that, first of all, the clinician, as a professional, seeks to make his/her own decision even in the most complex cases. Therefore, clinicians address personal experience, knowledge and seek additional information and synergy to develop a new solution leading to recent knowledge. This is individual work directed by the sense of responsibility for making a decision and frequently remains at the level of 'individual contemplation' if a group is asked for help. Hence, it is thought that collective knowledge is created by a group, and generated solutions are usually more objective compared to those produced at the individual level (Bandura, 1977). However, a group does not create knowledge on a "tabula rasa" (blank board) basis; each member of the group offers personal experience and gained knowledge. As a result, OL at the individual level influences OL at the group level.

Nonetheless, it should be considered that the surveyed clinicians stressed the necessity for involving different departments to make the most complicated decision. Thus, in such cases, interdisciplinary and intergroup learning takes place at the organization-as-a-whole level. This type of OL also tends to be predominantly non-formal but is less frequent than OL at the group level.

In light of socialisation, externalisation, combination and internalisation processes, the organisational learning of clinicians has revealed several findings reinforcing the previously discussed aspects. First, the processes of socialisation and externalisation were manifested in all investigated departments. The process of socialisation is influenced by an extensive history of working together, favourable relations and physical conditions created for communication. The presence of all necessary conditions, particularly the ones enumerated above, was emphasised by all physicians. If socialisation is essentially a non-formal OL process, externalisation is usually described as formal OL taking place in group meetings.

Meanwhile, in the case of the studied departments, externalisation was mostly manifested through the creation of group knowledge in non-formal gatherings. Even when formal department meetings were to take place, they involuntarily turned into a non-formal conversation about solving problems. Such propensity for non-formal organisational learning while being together seems to be conditioned by situational circumstances and the psychological safety of clinicians acquired while being together. It is the influence of psychological safety perceived by employees on organisational learning disclosed by Lyman, Ethington, King, Jacobs, and Lundeen, (2017) in the study of nursing work. The combination stage is also characterised by peculiarities distinct from those discussed by Nonaka (1994). At this level, OL was hardly found to enhance knowledge necessary for the development of the organisation, but rather interdisciplinary knowledge acquired by different departments of the hospital in the process of solving complex treatment problems. Noteworthy is the fact that OL is successful at this stage of non-formal problem-solving. However, when formalised complex decisions need to be made, conflicts sometimes arise due to the absence or lack of deeper knowledge of work regulations. Meanwhile, the internalisation stage of OL has been found to be limited to the dissemination of information by hospital management to the staff. The gained information is usually related to governing work done by clinicians and other hospital staff with the hope it will be absorbed and followed. In other words, this stage is not linked to disseminating the knowledge generated by the members of the organisation at the combination stage within the organisation.

In light of the SECI model, the peculiarities of OL stages of clinicians at the investigated hospital revealed some aspects of knowledge management. The fact that non-formal OL was found to be predominant meant that the social context of the system was mostly pronounced in the investigated hospital in terms of the knowledge management system (Šajeva, 2010). This context is characterized by a resilient relationship based on OL and knowledge culture conditioned by the personal relationships between the members of the organization as well as the identity of clinicians as professionals and the values of work done by a medical professional. Strategic leadership is aimed at enabling and maintaining such type of relationships (developing democratic relations within the organization, creating excellent jobs in departments, ensuring group activities, etc.) as well as ensuring the quality of medical work. However, there are no indications that the knowledge management system takes place within this organization (the information management system is a technical one but is not based on the social perspective). Indeed, it was not the aim of elucidating the introduced situation, but investigation into OL would have made it possible in part to detect some of the features of that system if they existed.

The absence of the knowledge management system in the investigated hospital does not mean that clinicians, as some authors argue, 'do not even think organizationally' (Ramanujam and Rousseau, 2006, p. 822). However, the fact that non-formal OL prevails over formal OL demonstrates that physicians successfully think organizationally when creating individual and collective knowledge required for ensuring professional work done by physicians at the hospital. However, above all, clinicians lack organizational thinking when it comes to undertaking OL processes to achieve organizational development goals. Thus, clinicians emphasize their work as professionals and accept bureaucratic requirements for work done as a natural necessity defining limits on the clinicians' activities. This provides security for all three entities – the patient, the clinician and the hospital. As the obtained data suggest, the hospital has a successful hybrid approach to the professional and bureaucratic ways of organizing work (Waring and Currie, 2009). It is crucial that hospital management uses the hybrid approach to implementing the standards and rules developed by senior officials (ministries, etc.) and help professionals working for this organization, especially clinicians, to stay involved in their professional work and in developing their organization. After all, as Galleli, Fischer, Ferreira Marques, Melo, and Pilli, 2018) proposed it is not the organization that learns, but its people.

4. Conclusions

Theoretical analysis of the scholarly literature on knowledge management, organizational learning in healthcare institutions and clinicians as professionals has revealed the following:

- Firstly, the clinician's organizational learning would seem to occur with the creation of organizational knowledge at individual, group/department, or at whole-of-organization level. OL is considered formal if initiated and/or influenced by management. Non-formal OL is at the initiative of the clinicians themselves, specifically in course of their professional duties;
- Formal and non-formal OL may be manifested differently, and at different stages of its development. Non-formal OL takes place at the socialization stage, which is characterized by the creation of tacit knowledge, i.e. "being" and/or "acting" together. Both formal and non-formal OL can also occur at the stages of externalization, combination and internalization, depending on the circumstances, i.e. the context;
- A number of factors determine the nature and peculiarities of OL that takes place in a hospital such as organizational culture, managerial leadership, workplace relationships, and staff competence, etc. Specific factors are also at work, including: a functioning knowledge management system; the autonomy of the clinician as someone responsible for human health and life; administrative/bureaucratic requirements for the clinician's work; the confluence/conflict/coherence between the autonomy of the clinician; and the administrative/bureaucratic requirements for ensuring patient safety and minimising risk, etc.

With regard to the experience of clinicians in the small hospital chosen for this study, the research also found that:

- OL takes place even if the hospital does not have a knowledge management system. The OL experience of the physician occurs through a non-formal bottom-up approach at the three levels –individual, group (department) and the organization-as-a-whole. Here, the main factors influencing OL is a sound working relationship with colleagues, as well as a sense of professionalism when treating patients, especially those with complex medical problems. Moreover, although OL occurs predominantly at the group level, OL at the individual level is also meaningful, because not only does it have a direct impact on the enhancement of clinical competence, but it also positively impacts OL at the group level. OL is manifested least at the level of the organization-as-a-whole;
- Although organizational learning occurs predominantly at the group level, organizational learning at the individual level is also meaningful: not only does it have a direct impact on the enhancement of clinicians' competence, but it also has a positive effect on organizational learning at the group level. OL is manifested the least at the level of organization-as-a-whole.
- The identity of the clinician as a professional determines non-formal organizational learning on a bottom-up basis. Clinicians associate their activities with a great deal of responsibility for the work they perform. However, they also value their professional autonomy and this determines that they conduct their OL (at all three levels) in order to ensure high-quality treatment. Hence, rather than expend time and effort on developing the hospital as an organization per se, clinicians assign this function to management;
- Physicians take a hybrid approach, making professional decisions within the limits set by administrative requirements. Thus, to reduce risk while solving complex treatment problems, physicians are highly likely to experience non-formal OL at the group (department) level; such OL prevails in the investigated organization;
- Non-formal OL also prevails at the level of the organization-as-a-whole, especially when complex treatment problems are being resolved, since various departments (and clinicians representing these departments) are involved in the development of organizational knowledge. For the same reason, formal OL sometimes takes place, which can often result in managerial solutions applied to complex problems affecting the work of several departments. Indeed, the existence of administrative rules detailing the principles for the interoperability of the hospital's departments is one factor that ensures a smooth, formal OL at the level of the whole organization. Clinicians view such regulations positively, and do not regard them as limiting their professional autonomy; on the contrary, they feel somewhat constrained in their absence.

The research results condition some practical suggestions for hospital managers, as well as clinicians. First, it is essential for hospitals to create conditions that foster the collaboration culture among clinicians, especially when it comes to inter-departmental consultations for solving complex treatment issues. It is equally important to strike a perfect balance between the administrative requirements for clinicians' work and the opportunities for them to make non-standard creative decisions. Organizational knowledge is always created by people; hence, it is particularly important for clinicians to not only be immersed in their professional activities, but also get involved in the activities of the hospital as an organization.

The study of one hospital explores the peculiarities of the organizational learning of clinicians, and while this may be a limited context, the aforementioned hospital is typical of its kind. Repeating such a study in similar hospitals, as well as investigating the peculiarities of clinicians' OL in large hospitals, would be useful. This research raised the following questions which deserve further consideration: what factors might clinicians find useful to better focus on their work as professionals, and also participate in the development of their organization? What should be the role of the hospital management in encouraging clinicians' OL and other forms of organizational involvement, such as the development and implementation of a knowledge management system, the development of knowledge, and treatment culture, etc? To answer these questions, collaboration between researchers and practitioners, which typically include hospital administrators and clinicians, is required.

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