

Perceptions of patients, nurses, other healthcare workers, and general hospital managers about the content and challenges of transforming the clinical pathway into an integrated clinical pathway: a qualitative pilot study

Postrzeżenie przez pacjentów, pielęgniarki, innych pracowników służby zdrowia i menedżerów szpitali ogólnych treści i wyzwań związanych z przekształceniem ścieżki klinicznej w zintegrowaną ścieżkę kliniczną: Jakościowe badanie pilotażowe

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STRESZCZENIE

POSTRZEŻANIE PRZEZ PACJENTÓW, PIELĘGNIARKI, INNYCH PRACOWNIKÓW SŁUŻBY ZDROWIA I MENEDŻERÓW SZPITALI OGÓLNYCH TREŚCI I WYZWAŃ ZWIĄZANYCH Z PRZEKSZTAŁCENIEM ŚCIEŻKI KLINICZNEJ W ZINTEGROWANĄ ŚCIEŻKĘ KLINICZNĄ: JAKOŚCIOWE BADANIE PILOTAŻOWE

Cel pracy. Szpitalna opieka zdrowotna nad pacjentem stanowi część "podróży" pacjenta przez system opieki zdrowotnej i jako taka nie jest świadczona niezależnie, ale w spersonalizowany, zintegrowany sposób. Aby osiągnąć lepsze wyniki spersonalizowanej opieki medycznej nad pacjentami przebywającymi w szpitalu, konieczne jest systematyczne przekształcanie istniejących ścieżek klinicznych (ang. clinical pathways – Cps) w zintegrowane ścieżki kliniczne (ang. integrated clinical pathways – ICps). Celem pracy było zbadanie postrzeżenia przez interesariuszy treści i barier w przekształcaniu Cps w ICps na przykładzie szpitala ogólnego w Słowenii. W ten sposób uzyskano mikrodane dotyczące rozwiązań systemowych na poziomie szpitali ogólnych w Słowenii.

Materiał i metody. W badaniu przekrojowym wykorzystano metodę jakościową obejmującą wywiady i badania fokusowe z pacjentami, pielęgniarkami, innymi pracownikami służby zdrowia oraz menedżerami pracującymi w ICps, którzy zajmują się leczeniem przewlekłej choroby nerek i wymianą stawu biodrowego w standardowym słoweńskim szpitalu.

Wyniki. Wyniki pokazały, że ICps można podzielić na pięć podstawowych faz. Na wszystkich etapach konieczne było rozbudowanie istniejących Cps w celu przekształcenia ich w ICps, co stanowiło dodatkowe obciążenie, zwłaszcza dla pielęgniarek.

Wnioski. Spersonalizowana opieka zdrowotna realizowana poprzez ICp jest skoncentrowana na pacjencie, krótsza, holistyczna, skoordynowana, ciągła, zapewnia wyższą jakość dla pacjentów i większą wydajność dla świadczeniodawców.

Słowa kluczowe:

jakość opieki, zintegrowana opieka, szpital ogólny, zintegrowane ścieżki kliniczne, koncentracja na pacjencie

ABSTRACT

PERCEPTIONS OF PATIENTS, NURSES, OTHER HEALTHCARE WORKERS, AND GENERAL HOSPITAL MANAGERS ABOUT THE CONTENT AND CHALLENGES OF TRANSFORMING THE CLINICAL PATHWAY INTO AN INTEGRATED CLINICAL PATHWAY: A QUALITATIVE PILOT STUDY

Aim. Hospital health care of a patient represents a part of the patient's "journey" through the healthcare system and as such is not delivered independently, but in a personalized integrated manner. To achieve a better outcome of personalized medical health care of patients in hospital, it is necessary to systematically transform the existing clinical pathways (CPs) into integrated clinical pathways (ICPs). The aim of the study was to investigate stakeholder's perceptions of the content and barriers to transforming CPs into ICPs on the example of a general hospital in Slovenia. That is how we obtained microdata for systemic measures at the level of general hospitals in Slovenia.

Material and methods. The cross-sectional study used a qualitative method with interviews and focus groups with patients, nurses, other healthcare workers and managers working in ICPs for chronic kidney disease and hip replacement in a typical Slovenian hospital. **Results.** The results showed that ICPs could be divided into five basic phases. In all phases, additions to the existing CPs in order to turn them into ICPs were necessary, which was an additional burden, especially for the nurses. **Conclusions.** Personalized health care through ICPs is patient-centered, shorter, holistic, coordinated, continuous, of higher quality for patients and sustainably more efficient for providers.

Key words: quality of care, integrated care, general hospital, integrated clinical pathways, patient-centeredness

INTRODUCTION

The health care of a patient in hospital is part of the „patient's journey” through the healthcare system and, as such, should not be carried out independently, but in an integrated manner and in conjunction with other healthcare providers and beyond. The integrated approach represents a paradigm shift for the healthcare system toward comprehensive, continuous, and coordinated patient-centered care. Some authors use the term „integrated” to emphasize the work of multidisciplinary teams that reach across the boundaries of individual healthcare facilities to include all key health professionals and other care settings [1, 2].

To make a step forward in the effort to improve quality by introducing personalized integrated health care in hospitals, we focused on the existing clinical pathways (CPs) and identified possible necessary changes to turn these into the so-called integrated clinical pathways (ICPs). CPs are a structured multidisciplinary care plans used to translate guidelines or evidence to the level of basic clinical processes at the local level, a healthcare algorithm, and a service specification for a specific patient group [3]. Given the prevalence of CPs worldwide, this area of research is expected to peak in the next 5–10 years [4]. CPs mainly consist of four main components: schedule, processing activities or a record of all activities, criteria for intermediate and long-term outcomes (quality indicators with criteria), and a record of deviations from CPs [5]. Although adaptation, flexibility, and revision are prerequisites for a so-called personalizing clinical pathway, implementation of the various features depends on uneven developments and interactions between care, research, and data management [6, 7]. By upgrading to ICPs, CPs become more personalized and significantly more direct interprofessional and especially interorganizational collaborations to ensure comprehensive, coordinated, and continuous health care of patients.

There is ample evidence of the positive impact of CPs on the unified work process [8-10], on medical outcomes, especially in terms of reducing the number of complications and adverse events [11,12], reducing the length of hospital stay [11,13] and improving the clinical outcomes of the patient's health care, not to mention a reduction in costs [11,14-15]. There is some scientific evidence on the content and process of upgrading existing CPs to ICPs and the impact of ICPs on medical outcomes for hospitalized patients [6,16-17], but there is a research gap in terms of recognizing the views of various stakeholders, particularly nurses, on the process and outcomes of implementing ICPs for individual vulnerable patient populations.

Due to an aging population and high life expectancy, patients are increasingly faced with multimorbidity and associated social problems [8]. In the field of internal medicine, one such example is chronic kidney disease. It affects approximately 10% of the adult population. It is associated with increased morbidity, mortality, and significant healthcare costs. Timely detection of chronic kidney disease is important because lifestyle and pharmacological interventions can prevent or slow the progression of chronic kidney disease to renal failure. Patients usually have concurrent diabetes, hypertension, and cardiovascular disease. The new guidelines shift the focus of treatment from the hospital to primary care [9,18]. In terms of surgical activity, the fact is that hip implant use in OECD countries continues to grow at an average annual growth rate of 1.2%, increasing from 1.8 million per year in 2015 to an average of 2.8 (2.6-2.9) in 2050 [19]. Because arthroplasty is generally indicated for degenerative joint disease, risk factors for osteoarthritis – such as older age, female gender, and high body mass index – could influence surgery rates [20].

AIM

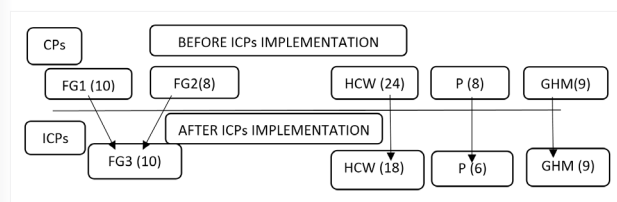
The purpose of this study was to examine the perceptions of patients, nurses, other healthcare workers and general hospital managers about the process of transforming existing CPs and the outcomes of the pilot implementation of ICPs for chronic kidney disease (internal medicine) and total hip arthroplasty (surgical medicine). In this way, we obtained important data for systemic actions to implement a personalized integrated approach at the level of general hospitals in Slovenia.

MATERIALS AND METHODS

The study was part of the project „Impact of integrated clinical pathways on patient outcomes, communication and cost-effectiveness” funded by the Slovenian Research Agency (No. L7-2631-3824-2020). The research was approved by the Commission for Medical Ethics of the RS (No. 0120-189/2021/3). The research was conducted at the Nephrology and Orthopedics Department of the Novo mesto General Hospital (SBNM). This hospital was chosen because it is our regional hospital and is a typical general hospital in Slovenia, i.e. one of ten. In addition, the hospital achieves good business results and quality indicators.

We used a qualitative method with interviews and focus groups (FGs). The invited participants were patients (P), healthcare workers (HCW) and general hospital

managers (GHM), who participated in the process of CP and ICP transformation, or worked or were treated in clinical ways. A convenience sampling was used. To participate in the study, it was sufficient that the participants consented and worked or were treated according to the selected CPs or ICPs. The group studied was heterogeneous in terms of demographic characteristics (age, professional experience). The response rate was only half as high due to time constraints. The FGs and interviews were conducted in September and October 2021, before ICP implementation, and in March 2023 after the pilot ICP implementation, according to Fig. 1.



CPs- clinical pathways; ICPs- integrated clinical pathways; FG- focus group; HCW- healthcare workers; P- patients; GHM- general hospital managers.

■ Fig 1. Schematic presentation of interviews and focus groups before and after ICPs implementation

The FGs were conducted with 8-10 participants and lasted about 2 hours on average. The FGs were held live on the premises of the clinic. The participants in the first FG were registered nurses from the orthopedic department, the coordinator of the surgical program, a specialist in orthopedics. They were experienced healthcare professionals and the registered nurses included two with less than five and two with more than twenty years of service. The participants in the second FG were registered nurses and registered nurses with specialist knowledge of the nephrology department who had at least five years' experience in the nephrology department. The members of the third FG after the ICP pilot implementation were individual participants from both FGs, most of them from the orthopedic department, which was more involved in the implementation. Consolidated criteria for reporting qualitative research (COREQ) were used [21]. The FGs were led by a female moderator with a PhD (first author) who works in healthcare and is involved in decision-making at national level. For three participants, this was not their first contact with the moderator. FGs participants were thoroughly briefed beforehand about the reason, purpose and aims of the research and the questions they would be asked. They were not aware of the assumptions beforehand. Explanations of terms were also given for the individual questions to avoid misunderstandings. The questions were tested in advance in a cognitive interview with two healthcare employees, one from each department, who then did not take part in the FGs due to work commitments.

All members of the healthcare teams for patients with chronic kidney disease and total hip arthroplasty at SBNM were invited to participate in interviews before and after the ICP pilot implementation and 24 responded (physicians of different specialties, nurses, physical therapists, clinical psychologists, social workers, dietitians, healthcare

administrators). The administrative and professional director, head nurse, quality manager and middle management participated in the management interview, a total of 9. The interviews were usually conducted live at the interviewee's workplace, or online if the interviewee's time constraints did not permit a live presentation. Each interview lasted approximately 1 hour. The 8 treated patients who were older than 65 years, able to communicate and who had given consent to participate in the study were also interviewed. If necessary, relatives were also included in the interview. The role of the relatives was supportive. The relatives could complete the answer, which was only taken into account if the patient agreed. The interview with the patients lasted up to 40 minutes.

Six main thematic questions were addressed: (1) What is the health care of patients along the CPs?; (2) How often and what adjustments of CPs are necessary due to the individual needs of the patient or the situation in the hospital, and how were they introduced?; (3) What are the suggestions to improve the medical treatment of patients and what was necessary to update the CPs to ICPs?; (4) How do you evaluate the results of the medical health care of patients according to CPs and ICPs?; (5) What are the challenges in the implementation of ICPs, what about the occurrence of safety deviations in general, in the treatment of the patient, in the management, and how do you solve them?; (6) What do you think are the main barriers to a greater integration of key stakeholders and activities into the personalized implementation of ICPs to improve the treatment of patients and the working climate? The questions were formulated according to the purpose and objectives of the research based on the literature review and the quantitative data obtained previously. Data saturation was not discussed.

The FGs and interviews were recorded with the prior verbal and written consent of the participants. Short field notes were taken during and after the interview or focus group. The (anonymized) statements of the participants were transcribed. We did not seek permission for the transcripts of the focus group and interview recordings, but we gave all participants our contact information so that they could let us know if there was anything to add or change based on what was said.

An inductive method of analysis was used. The data was analyzed using thematic analysis by two independent researchers. Five main categories were identified. After familiarization, the thematic framework was established by forming descriptive statements and the data was analyzed according to the question route. The participants were informed of the results through on the basis of public announcements of results and direct communication with key experts in SBNM.

RESULTS

On the basis of the qualitatively collected data, it was established that the path of health care of patients according to ICPs can be divided into the following components: (1) primary level – initial phase (community-based care); (2) pre-hospital phase (examination by a specialist,

preparation for admission); (3) hospital phase; (4) active – post hospital phase (discharge, rehabilitation), and (5) primary level – end-stage/chronic phase.

Based on a qualitative analysis of various stakeholders' statements about the need to upgrade CPs to ICPs, representative codes are presented by stage of patient care. In some places, the entire statements of the interviewees are included. The need for upgrading CPs was shown at all stages (definition of indicators, criteria, signature of the responsible person). The additions in each phase are presented below:

A. Primary level – initial phase (community-based care)

Patients mainly pointed to „numerous health problems and years of effort to get a referral to a specialist“, „use of self-pay services to get medical treatment faster“, and restriction of social contacts – „I couldn't go anywhere anymore“ (P1). Healthcare workers warned that „waiting times are too long, which can cause various changes in the patient's path to medical treatment in the hospital“ (FG1), that „improvement in patients' health literacy“ is needed (FG1), and that „changes in guidelines and standards affect a change in CPs and promote the development of ICPs“ (HCW1). General hospital managers cite „numerous bureaucratic barriers“ (GHM1), „lack of ICT support“ (GHM1), and „lack of competency for inter-organizational collaboration between levels of health care“ (GHM3).

They see the following activities as necessary for ICP implementation: (1) liaison and exchange of experiences between primary and secondary level health workers – „at least one joint event per year, e-consultations“ (HCW2); (2) establishment of collaboration protocols (GHM3), (3) health education activities „to increase patients' health literacy and health ownership“ (FG2); (4) strengthening the role and competence of nurses „to increase patients' health literacy and identify risk factors“ (HCW2), and (5) that „government action is needed to reduce the waiting times to be seen by a specialist“ (GHM1).

They see the value of transitioning from CPs to ICPs „in engaging patients in care more quickly“, in „linking health promotion and prevention“, and in „providing support to patients when they need it“.

B. Pre-hospital phase

Patients pointed out that healthcare professionals focus on the healthcare process rather than on them; that the healthcare process needs to be presented in detail; that it is difficult to provide results in a timely manner; and that they need more information about obtaining the necessary equipment. Healthcare professionals cited the following additions to CPs for ICPs: prior contact with the primary care clinic – „calling the clinic regarding the appointment, the results, the preparation of the patient, the possibility of autotransfusion so that the operation does not fail“ (HCW1–HCW4); timely identification of problems related to nutrition – „it is necessary to involve a dietitian“; social problems – „that the problems are solved

in a timely manner, that there is no waiting, because that leads to problems“; identification of other individual risks – „cognitive condition, if the patient is a mental patient and has dementia“, „the patient is from somewhere else“; communication problems – „hardly hears, sees, cannot speak“; level of self-care – „in a wheelchair, is independent, or needs help with everything – care levels I, II, III, IV“ (FG1, FG2). However, general hospital managers believe „that the transition requires dedicated staff and maximum management support, and that good preparation means fewer costs later“.

They see the following as necessary activities for the implementation of ICPs in the pre-hospital phase: (1) the establishment of „a booking service that provides all the information; (2) the upgrading of the treatment preparation program in the hospital and the preoperative school; (3) additional phone calls, conversations, counseling and support activities at specific points in ICPs; (4) sufficiently motivated, additionally committed, competent healthcare staff; (5) informed cooperation of patients and their relatives; (6) „information technology support to facilitate implementation“.

They see the value of the transition from CPs to ICPs in fewer unforeseen cancellations of examinations/surgeries; early management of social issues reducing the risk of prolonging hospitalization; an additional burden on healthcare staff at the beginning (additional activities take time), which will later normalize; in the case of Jehovah's Witnesses everything is taken care of in a timely manner.

C. Hospital phase

Patients „feel that they will be treated quickly and hope that everything will be fine because the health personnel are trying“ (P2). The health staff appreciates that it is the central phase involving several reminders/controllers in the clinical course, „so that nothing is forgotten“ (examination by other professionals, collaboration with other professionals, „religious support“, „interpreters“, „cultural mediators“, volunteers, NGOs). The staff mentioned what is necessary to prepare the transfer/discharge well („checking how the patient will be going home“, „notification of relatives who can pick up the patient“, „the transportation order“, „a timely prepared discharge letter“, „notifying the nursing service“), and the inclusion of documentation from other healthcare professionals routinely or as needed in treatment („for a greater sense of belonging to a multidisciplinary healthcare team“, „collaboration“) (FG1, FG2). Management believes that upgrading is „extra work for nurses and others“, meaning extra assignments for the team. It is necessary to „fully digitize the clinical pathway; that is not just the indicators, risks and everything else; that it works like an e-timesheet, so the ability to attach other documents would be the biggest improvement here“ (GHM3).

As necessary activities for the implementation of ICPs in the hospital phase, they see: (1) the need to introduce case managers to monitor the course of treatment of individual patients according to the ICPs – „all these clinical pathways for inviting patients, for the school to have a person who is not the head nurse, but a coordinator of

admissions along the clinical pathway” (S2); (2) establishing checkpoints for better coordination of care, coordination of multidisciplinary teamwork with the patient „and monitoring of patient outcomes” (GHM1); (3) due to staff shortages, it is necessary to establish staffing standards and norms – in the case of ICPs, it is additional work for nurses (S3); (4) guaranteed possibility of transferring the patient to the nursing ward after the completion of acute treatment due to social circumstances (FG1).

They see the value of the transition from CPs to ICPs „in a more comprehensive and individualized treatment – more comfort for the patient and improved quality of treatment; improved, more fluid, collaborative work process; optimal work organization; improvement of treatment efficiency” (GHM3), „because, thus, we could do more and earn more in less time, with fewer complications and fewer manipulation costs” (GHM1). This also „leads to shorter downtime; it is about optimizing the process in every way” (GHM3).

D. Active post – hospital phase

Patients feel that „there was not enough help at discharge”; that there should be no waiting period for rehabilitation, which is why they self-pay (P1–5). Healthcare staff added a review of the rehabilitation program, answering calls from patients and family members regarding possible questions/limitations/risks; a reminder to order a follow-up visit, and a link to the primary care physician’s office and the visiting nurse; instructions for the patient; a link to the organization/facility where the patient will continue health care (FG1, FG2). The management points out that „it could be useful to create a group for the integration of the primary and secondary levels and then rehabilitation centers where patients are admitted after surgery.” They see the following activities as necessary for implementing ICPs in the post-hospital setting: (1) shortening the waiting time for rehabilitation; (2) allowing patients to consult a primary care physician; (3) monitoring patients after discharge. The value of transitioning from CPs to ICPs is to provide control and support to the patient. After discharge, patients are in safer hands, and family members are reassured. Further improvements are needed in conjunction with vocational rehabilitation programs.

E. Primary level – end-stage/chronic phase

Patients point out that they „need more licensed family medicine specialists and reimbursement for travel expenses for exams, so that exams are done regularly”. Healthcare workers point out that the checkup is an opportunity to review the results of medical treatment. According to the management, there is a lack of a national coordinator for the equal treatment of patients in Slovenia: „The Ministry of Health, which requires us to have organized clinical pathways for all activities, which are elaborated and constantly updated. And, above all, to control whether we adhere to them. This is about organization, about management, which is totally undervalued and undernourished in health care and actually does not exist in the way the profession recognizes and expects it to exist” (GHM1).

They see the following as necessary activities for implementing ICPs in the primary end-stage/chronic phase: (1) IT support in monitoring medical treatment outcomes; (2) linking health promotion and prevention. The value of the transition from CPs to ICPs lies in the progress made in implementing an integrated approach and the regular monitoring of patients.

DISCUSSION

The views of different stakeholders differ according to their role in the healthcare system. For patients, the quality of the services they receive is paramount. Health professionals and healthcare workers pay attention to the benefit to the patient and what he or she needs, or what prevents him or her from achieving that standard. Managers assess the situation from the perspective of what systemic interventions are needed and their impact. Busetto et al. [1], for example, found that staff changes, when implemented as part of integrated care interventions, are not a stand-alone intervention but only one aspect of a complex intervention. Van Hoeve et al. [13], based on a literature review, indicated that the involvement of a multidisciplinary team in the development has a positive impact on a cancer patient’s hospital stay.

The results show that ICPs, whether the patient is surgical or in-hospital, can be divided into five basic phases and that additions to existing CPs are needed in all phases. Supplements initially impose an additional burden on healthcare professionals, especially nurses. However, such personalized care is more comprehensive, coordinated, continuous and therefore safer, of higher quality for patients, and more sustainably effective for healthcare providers. The analysis by Viney et al. [6] has shown that one deferred outcome is the notion that a common pathway is known and predicted in advance, with all the difficulties and hopes that this time may hold for patients and staff. Patient journeys are increasingly extended with targeted interventions based on more frequent monitoring through a range of technologies, but predictable intervals that guided staff and patients along well-defined and broadly shared CPs also need to accommodate the uncertainties associated with learning health systems.

The primary level – initial phase (community-based care) is a significant step „from the beginning to the patient” and actually represents health promotion efforts, early detection of health risks, and early treatment of problems. For hospitalists to think about ICPs in this way is quite a leap forward. They consider the pre-hospital phase to be the most important phase in upgrading the clinical pathway of CPs to ICPs. Most see this phase as the practical beginning of the clinical journey. They consider the hospital phase as the key part where upgrading was needed to ensure more comprehensive treatment and good preparation for discharge. The active post hospital phase was only hinted at in the previous CPs; for most it represents the end of the CPs, but in the ICP it is much more detailed, so we can talk about continuity of care. The biggest problem is the time gap between discharge and rehabilitation. The primary end-stage/chronic phase is

somewhat abstract for health professionals, but it represents measures to maintain and improve the condition. According to Hussain et al. [5], item 3 (criteria for intermediate and long-term outcomes – quality indicators with criteria) needs to be added to the components of CP, and partially item 4 (recording deviations from CPs). Kolk et al. [10] point out that Variance report analysis and protocol adherence with a Prepare-Act-Reflect Cycle are essential in surveillance of outcome.

The data obtained are a good basis for a systemic action to enforce a personalized integrated approach to patient care by converting existing CPs into ICPs at the level of general hospitals in Slovenia, and continuous enforcement of staff standards and norms. Considering that the overall number of treatments for selected patients is increasing [18-20], it makes sense to continue the elaboration of ICPs.

The limitation of this case study is that only some results or findings are presented in this paper due to the complexity of the research. The results of the quantitative data previously collected as part of the project still need to be checked to see whether they are generalized or Slovenia-specific findings. However, the quantitative data collected formed the basis for the development of a proposal for questions for focus groups and interviews. The direct inclusion of interviewees' statements representing how stakeholders understand, think about, and experience their role and situation in relation to patient care provides a number of opportunities in this study. In the future, it would be useful to evaluate the changes introduced in terms of better integration and preparation of ICPs from the perspective of all stakeholders, and assess the value using structure, process, and outcome indicators.

CONCLUSIONS

The necessary additions for the development of ICP are of content and technical nature. The changes introduced concern structure, processes and results. Initially, the additions impose an additional burden on healthcare workers, especially nurses. However, such personalized care is more comprehensive, coordinated, continuous and therefore safer, of higher quality for patients, and more effective for healthcare providers in the long term. Promoting the development of ICPs is an appropriate systemic measure to improve the personalized integrated approach at the level of general hospitals in Slovenia. Nevertheless, it is necessary to take this into account when setting staffing standards and norms, developing IT support, and evaluating efficiency at different levels and from different perspectives.

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