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SOCIAL WELLBEING IN SERVICE DESIGN: HOW DOES CO-CREATION CONTRIBUTE TO THE SOCIAL WELLBEING BETWEEN PATIENTS AND PHYSIOTHERAPISTS IN ORDER TO FACILITATE RECOVERY PATHWAYS?

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Abstract

Rehabilitation services are changing towards a Person-Centred Care approach in which physical, psychological and social wellbeing are involved in the relationship between patients and physiotherapists. However, current research has predominantly focused on the provision of solutions for physical wellbeing. Research question: How does Co-creation contribute to the social wellbeing between patients and physiotherapists in order to facilitate recovery pathways? By using a service design methodology and co-creation approach, this research investigated the relationships between patients and physiotherapists with a focus on social wellbeing. Data was collected through developing a co-creative interview toolkit that combined semi-structured interviews and co-creative design tools. The relationship was investigated from a total of eight co-creative interviews: four patients with rehabilitation experience lasting more than a year and four physiotherapists. The researchers compared and synthesized the two perspectives.

Results: Concerning the relationship between physiotherapist and patient, we revealed four critical factors evidenced with the insight tree:

(1) Lack of communication between patient and physiotherapist when sharing information about the recovery process, (2) Building respect and honesty/meaningful relationship over time, (3) Sharing emotional wellbeing, (4) Setting and reaching goals, were the commonly shared categories in both groups of participants. The four factors allowed the researchers to design the recovery pathway. This was designed to guide the implementation of a new rehabilitation process, in which social wellbeing practices are integrated in new touchpoints interactions among the two actors.

Keywords: service design, healthcare system, design thinking, co-creation, social wellbeing, second line of care, physiotherapist

Introduction

The role of the patient in the healthcare system is changing. Increasingly the patient is seen as an active actor in the centre of the care network that takes part in shared decision-making (Ekman et al., 2011). Decisions that impact and concern a patients' quality of life, on which it is of vital importance to take into account the patient's personal views: his own health and wellbeing in the areas of physical, psychological and social functioning (Polonsky, 2000).

This research paper focuses on the social wellbeing dimension, defined as the individual's perceptions, influenced and supported by other social relationships. It showcases the relevance of Service Design and co-creation as a methodology to improve healthcare services by focusing on the patient experience and by including users as a resource and part of the design process. The objective of this research is to unravel the social wellbeing in the relationships between recovery patients and physiotherapists. Service design and design thinking tools can generate insights to develop future services that improve the social wellbeing between them. We aim to contribute to a better understanding of the social interaction and the emotional connection between patients and physiotherapists that might over time prove to be a success factor for overcoming diseases.

Theoretical Framing

Service Design and Co-Creation in Healthcare

Service design is considered as the activity of design thinking, planning and implementing change in order to improve a service's quality (Josefsson et al., 2017). Design thinking is a systematic innovation process that prioritizes deep empathy for end-users' desires, needs and challenges to understand a problem and develop

more comprehensive and effective solutions (Roberts et al., 2016) while introducing co-creative tools to facilitate analysis. By including interdisciplinary knowledge, service design could add value to the healthcare system, by recognizing stakeholders' needs, desires, different perspectives and voices from the various actors, while testing ideas and solutions to address real problems.

Social Wellbeing in the Second Line of Care

Healthcare has been defined as a complex service system that interacts with other service systems to co-create value (Spohrer et al., 2008). In the context of such a complex system where different stakeholders are interacting, this research is focused on the 'second line of care'. Caregivers, family, community, nutritionists, psychologists, physiotherapists, dieticians and social assistants are involved in the patient ecosystem and are influencing and extending the meaning of wellbeing. Overall, the healthcare system provides solutions strategically oriented around physical wellbeing, mostly considering physical condition and symptoms. Based on the definition of Quality of Life (Polonsky, 2000), we can extend the overview of the patient's perception introducing social wellbeing, where an individual's perception and support from others are considered.

Recovery process and Care Pathway Design

In this context, service design must work on the social perspective and social environment of the patient, developing a person-centred care pathway that provides a better understanding of the social and psychological problems that people with specific diseases may confront. Healthcare systems are changing towards a Person-Centred Care approach in order to explore new pathways and develop solutions for the actors in the complex healthcare network

(Geerse et al., 2019). The analysis of interactions between different stakeholders is the key to discover new opportunities (Seys et al., 2017).

Research question

Current research is showing a lack of depth in the study of the 'second line of care', as it is showing interest and the provision of solutions just for physical wellbeing in the 'first line of care'. By using a service design methodology and a co-creation approach, this research investigates the relationships between patients and physiotherapists by focusing on social wellbeing, guided by the research question: How does Co-creation contribute to the social wellbeing between patients and physiotherapists in order to facilitate recovery pathways?

Starting from the impact of the rehabilitation recovery process, to better understand that the emotional connection between patients and physiotherapists might over time prove to be a success factor for overcoming recovery processes.

Method

Study Design

Qualitative methods are considered appropriate to gain an in-depth understanding of the phenomenon of interest (Corbin et al., 2008) since they have the advantage of producing a wealth of detailed data on a small number of individuals (Patton, 1990), along with the capacity to analyse complex systems as healthcare services. This study employs qualitative research based on service design. For this research, we developed a social experience toolkit by a blending and co-production of methods including the TU Delft set of design thinking tools that can be used to analyse social dimensions by exploring emotions, feelings, relationships, interactions, and latent connections (Desmet, 2019). With the social experience toolkit, designers can explore the strength

and weaknesses of services through the patient's healthcare experience.

Observation

An observation template was designed in order to collect specific information about 'the who, where, when and what' factors, always focusing on the interactions between patients and physiotherapists inside the Basalt centre. The observations allowed the researchers to map the recovery process from an external point of view and structure the boundaries of the context where the participants were interacting with each other.

Sampling

This research was developed in collaboration with Basalt (Netherlands), a rehabilitation centre with a large network of professionals specialized in chronic diseases. To increase the validity of the research the topic was investigated from a total of eight co-creative interviews in which different participants were involved: four patients recovering from different situations with their rehabilitation experience lasting more than a year and four physiotherapists.

PARTICIPANTS	GENDER	AGE	NATIONALITY	YEARS OF DISEASE / EXPERIENCE
PATIENTS				
Patient 1	Male	25	Dutch	2
Patient 2	Female	38	Dutch	23
Patient 3	Female	35	Dutch	6
Patient 4	Male	65	Dutch	2
PHYSIOTHERAPISTS				
Physiotherapist 1	Female	29	Dutch	8
Physiotherapist 2	Male	44	Dutch	21
Physiotherapist 3	Male	39	Dutch	15
Physiotherapist 4	Female	35	Dutch	12

Figure 1. Sampling table

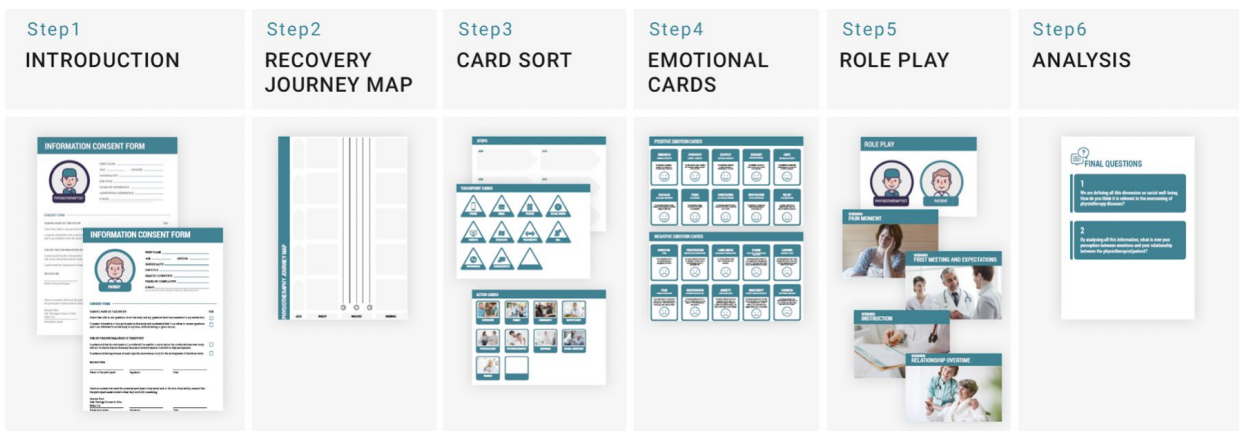


Figure 2. Co-creative interviews: social experience toolkit

Co-Creative Interview

Based on the research question, the interview guide was structured to explore the same topic with different participants in order to provide comparable data following six main steps while still maintaining the freedom to investigate specific directions (Patton, 2002). By matching co-design tools and a semi-structured interview, it became possible to define a research tool, such as the 'co-creative interview', that allows researchers to understand the emotional and psychological dimension of the participants and translate the insights perceived in visual mapping outcomes, contributing to the improvement of the level of reliability of the research. The structure of the session was divided into four sub-topics, in which the use of follow-ups/probes was implemented in addition to

the design thinking tools developed by the research team. By developing an interactive and dynamic discussion, the researchers explored in detail the social and emotional participants' situation with the following tools (Figure 2). Secondly, a specific guide for each category of participants, patients and physiotherapists was defined to provide relevant answers and references for each sub-topic. All the methods were designed to explore the topic with the participants and to co-create an overview of opportunities that the researchers can define to develop new services (Scan QRCode).



Ethics

This research is performed according to the guidelines provided by TU Delft (HREC) Human Research Ethics Committees based on the Helsinki Declaration and Nuremberg principles (Human Research Ethics TU Delft, 2018-2024).

Data Analysis

The data analysis followed an inductive approach where triangulation is used to increase the level of validity. First, the field observations inside the clinic were analysed to identify the connections between the actors. Secondly, the design of the tools allowed the researchers to analyse the social wellbeing issues and topics. By clustering insights from the one-to-one co-design session, a visual map was developed to clearly represent the latent expectations that influenced the social wellbeing experience in the physiotherapist-patient relationship. Insights for each step and tool were identified to facilitate the comparison between the participants' experience and to analyse differences and similarities. The induction process of making categories and building the insight tree outcomes allowed the researchers to design a new recovery pathway, where social wellbeing enhances the interaction between patients and physiotherapists.

Results

Experienced Recovery Journey: social interaction issues

The first result (see figure 5) is the co-designed journey map of the current recovery process from the perspective of the physiotherapist and the perspective of the patient. By co-designing both journeys it became possible to generate a two-sided journey map to identify the social interaction issues by comparing the different perceptions (physiotherapist vs. patient) in relation to the main steps, emotions, actors, touchpoints, positive and negative factors involved. The findings show that in the current situation, both physiotherapist and patient have positive and negative feelings during the recovery journey. There is a clear fluctuation in the emotions expressed by the patients. Physiotherapists' perceptions are less affected by the personal interaction and the touchpoints involved.

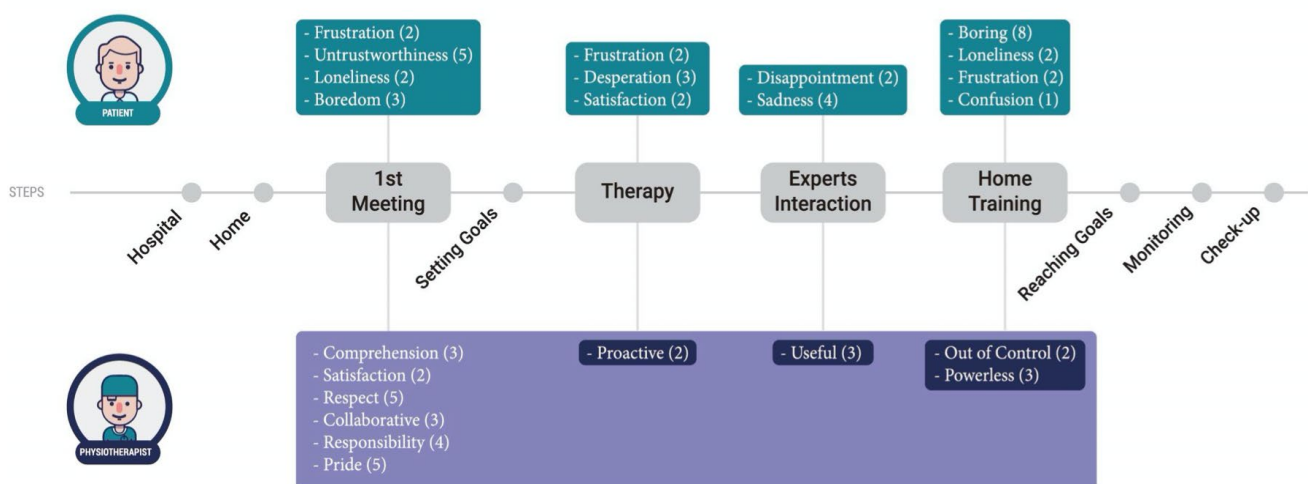


Figure 3. Social interaction between Patient and Physiotherapist Journey Map

For the main steps of the recovery journey patterns of differences and similarities were identified. Comparing the journeys, pain points from both the perspectives identified issues for new opportunities of service design.

The data analysis results identified four relevant issues during the recovery journey: (1) there is an evident lack of communication between the patient and the physiotherapist when sharing information about the recovery process;

(2) building trust over time is a difficult task because of individual interests and unexpected changes; (3) the sense of belonging from the patient's perspective is influenced by different touchpoints and actors; and (4) the establishment of the recovery goals should be clear for patient and physiotherapist, and take into consideration the different actors involved. All these insights illustrated in the map, were used to design the new recovery pathway.

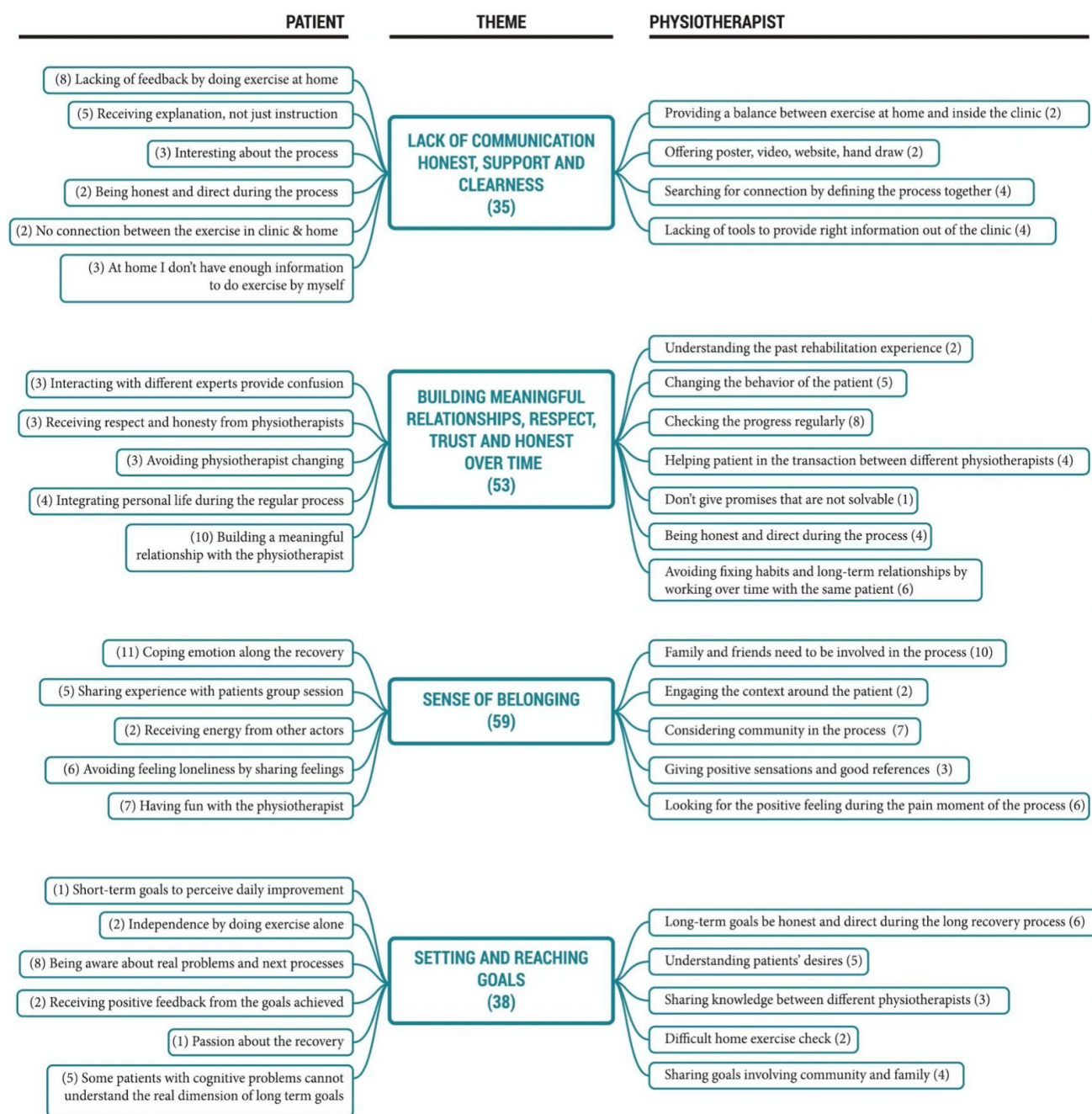


Figure 4. Insights tree

Care Pathway Design

Figure 5 presents the design of the new Care Pathway for patients and physiotherapists involved in a recovery process / service. In the new service situation, the hospital, families, and friends (actors from the second line of care) have a crucial role in supporting patients. Besides that, before starting the recovery process in the rehabilitation centre, the communication between doctors, physiotherapists and other experts should be done in order to understand the previous diagnosis and particular boundaries (data reporting).

When setting goals, families are also important actors that support decisions and give relevant feedback. The community ensures that patients are sharing experiences and feelings.

Communication with other experts (including the changing between physiotherapists) during the process also ensures that professionals and decisions are the most suitable to patients' situations.

Furthermore, to ensure that the patient is sufficiently supported at home by the experts, digital communication platforms are designed to keep patients and physiotherapists up to date.

When finishing the process, it's crucial for patients to keep in touch with physiotherapists by using social media and digital platforms. The new Care Pathway ensures that the social wellbeing of the patient is in the centre of every decision and step.

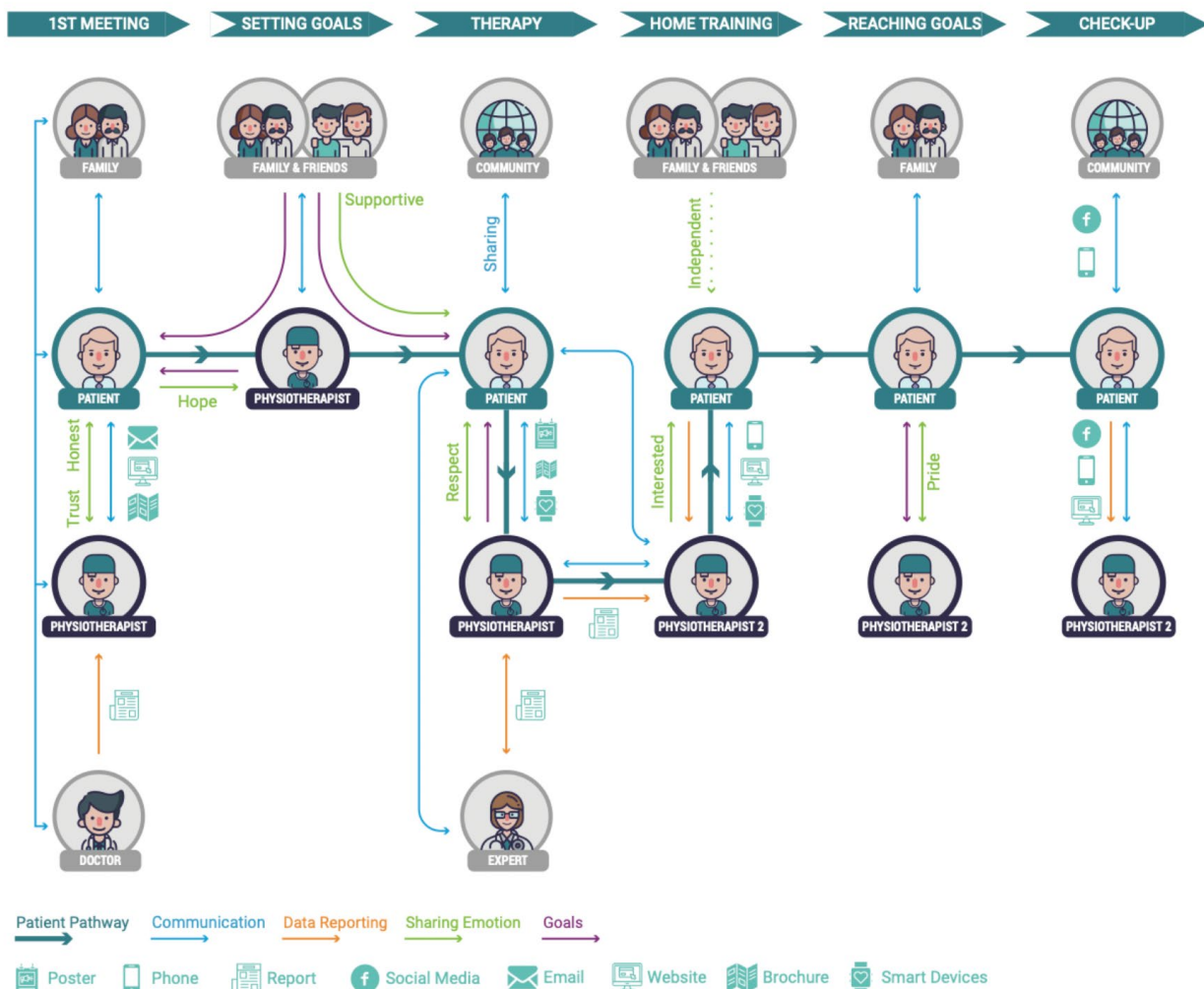


Figure 5. New care pathway design for the recovery service

Discussion

Principal Results

With this co-design study, it became possible to analyse and design the social experience and link the active roles of the patient and the physiotherapist on the different factors of the social wellbeing and ensuring the inclusion of the social dimension in the recovery process. By adopting co-creative methods, the patient recovery pathway unveiled two different aspects: (1) the emotional involvement and (2) the interactions between the actors. The research showed that in the current situation, the role of the physiotherapist in the rehabilitation process is crucial in the overcoming of diseases when the patient is fully involved in the relationship. The new care pathway design suggests improvements on the recovery journeys, in which new touchpoints are introduced and involvement of the various actors is considered. The data analysis allowed to compare the social feelings of the two groups of participants and define opportunities for re-design and implementation. Furthermore, the social experience toolkit allowed to co-create the pathway by crossing the information from both perspectives. First, building trust over time determines the starting point of the relationship in which the physiotherapist expresses his empathy in his effort to link patients' past experiences to the new recovery process. Second, the engagement of the 'second line of care' that should be practically integrated into the new recovery journey, considers the significant role of family, friends and community as external factors affecting the patients' progress and emotional stability. Third, the participants showed a lack of daily communication between them. The new care pathway implements the role of the physiotherapist outside of the physical meeting, considering as crucial the autonomous activity to be performed by the patient at home. Fourth, patients and physiotherapists are sharing experiences and activities and they must

also share goals and expectations to ensure short and long term progress. The new pathway design incorporates a new procedure that defines specific steps taking into consideration the social wellbeing dimension during the recovery process; this may ensure empathy creation and development of a better experience for all the actors involved. The new touchpoints can help to solve the lack of communication and build trust.

Limitations and Future Research

Several limitations relate to the chosen method of qualitative research. For the purpose of creating in-depth understanding the study is based on one case setting. To verify the consistency across other centres and countries, more studies are required in specific diseases by adding new variables. In the area of second line care, the present research could be further extended by analysing other actors, such as family and communities, who are also involved in the recovery process.

Comparison with Prior Work

Most of the existing body of knowledge on service design in health focuses on the 'first line of care' by considering the role of doctors, nurses and pharmacists during the recovery process in which the physical wellbeing is analysed as the main consideration. Reasons to consider the relationship with a physiotherapist as a crucial factor in the overcoming of the disease have been researched in other studies (Lundvik Gyllensten Gard et al., 1999). This research adds how the social involvement of the patient meets the commitment of the physiotherapist during the recovery process.

Conclusion

This is the first study that presents a care pathway for the recovery process in which co-creation methods are used to explore the social wellbeing dimension by comparing the different perspectives of patients and physiotherapists. This study showed that service design methodologies can add value to existing qualitative research methodologies, by investigating and exploring emotions, and providing different directions for new product/service developments. By creating the social experience toolkit, this research paper encourages future patient-centric studies to use this design toolkit for the development of new services. The care pathway displays new touchpoints to successfully implement the recovery process of the patient in the rehabilitation centre and at home.

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