

LOGISTICAL SERVICE FOR PATIENTS IN A DAY REHABILITATION CENTRE – CASE STUDY

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Purpose: The aim of the study was to determine the level of satisfaction of parents of children attending a day rehabilitation centre by assessing the quality of logistical services, communication with staff, and the organisation of the therapeutic process.

Design/methodology/approach: The present study was conducted using a quantitative and qualitative survey among parents of children attending a day-time rehabilitation centre. The research tool employed was a structured questionnaire comprising both closed questions based on the Likert scale and open questions that permitted free expression.

Findings: The study demonstrated that parents of children undergoing rehabilitation at the day-time centre expressed high levels of satisfaction with the services provided. The most significant factors contributing to the favourable evaluation of the facility were the provision of appointment times, the effective organisation of admissions, and the professional demeanour of the staff. The majority of respondents highlighted the importance of punctual appointments, effective communication, and the precision of diagnoses.

Research limitations/implications: The study was conducted in a single rehabilitation centre, which limits the possibility of generalising the results to other facilities of this type. The respondents were parents of children who were users of the services of a specific centre, which may naturally introduce subjectivity into the assessments. The findings are derived from the participants' self-reported statements rather than from objective indicators of rehabilitation effectiveness. Moreover, a comparison of satisfaction levels between different types of facilities (for example, public and private) was not conducted.

Originality/value: The results of the study make a significant contribution to the development of management and quality sciences, particularly in the area of medical service logistics and quality management in healthcare. The study confirms that patient service logistics constitutes an integral part of the rehabilitation service quality system, and that customer satisfaction should be regarded as one of the key indicators of an institution's organisational effectiveness. The study emphasises the importance of customer relationship management (CRM) in the context of medical services, where patients and their families become active participants in the therapeutic process.

Keywords: customer satisfaction, medical service logistics, day-time rehabilitation, patient service quality.

Category of the paper: Research paper.

1. Introduction

The rehabilitation of patients necessitates an interdisciplinary approach, in which not only the therapeutic process itself plays an important role, but also its logistical organisation. The efficient management of patient services, incorporating transport planning, appointment registration, access to specialist equipment, and the coordinated management of medical documentation, exerts a substantial influence on the efficacy of treatment and the satisfaction of patients and their families. The measurement of healthcare quality and patient satisfaction is a key component of effective resource management, enabling consideration of user preferences and the creation of personalized medical services that are better tailored to their needs and expectations (Elixhauser et al., 2003).

The rehabilitation of infants, particularly those under one year of age, represents a highly challenging domain within the field of medicine. During this period, the child's psychomotor development is characterised by extreme dynamism, and any abnormalities require immediate therapeutic intervention. Nevertheless, the efficacy of rehabilitation measures is contingent not solely on the expertise of healthcare professionals and the therapeutic methodologies employed, but also on the overall quality of the patient care process. This encompasses the initial contact with the facility to regular therapeutic sessions and ongoing communication between parents and the therapeutic team.

The extant literature on the subject increasingly emphasises that the patient's experience in contact with a rehabilitation facility is one of the fundamental determinants of the quality of medical services. The latter encompasses both technical aspects, such as punctuality, accessibility, and organisational efficiency, and intangible factors – empathy, understanding, and the manner in which staff communicate with parents. The measurement of customer satisfaction enables the assessment of service quality and the identification of areas for improvement.

The objective of this study is to assess the level of customer satisfaction in a day-time rehabilitation centre, with a particular focus on the quality of logistics and communication services. The study analyses the opinions of parents of children under one year of age who use day-time rehabilitation services at a selected centre. The research aims to gain insight into the experiences, expectations, and satisfaction levels of parents regarding the organisation and progression of the rehabilitation process. In view of the aforementioned points, the following research questions were formulated:

- What is the overall level of satisfaction of parents using the services of the day-time rehabilitation centre?
- Which elements of patient care (organisational, communicative, emotional) have the greatest impact on the level of satisfaction of the centre's clients?

Based on the review of literature and preliminary assumptions, the following research hypothesis was proposed: A high quality of logistical organisation and effective communication between staff and parents significantly increases the level of customer satisfaction in a day-time rehabilitation centre. This hypothesis reflects the assumption that both tangible and intangible aspects of patient service – including punctuality, accessibility, and empathy – are key determinants of the perceived quality of rehabilitation services.

The research was conducted using a quantitative and qualitative survey method. The study employed a structured questionnaire distributed electronically among parents of children attending a day rehabilitation centre. The questionnaire included both closed questions based on a five-point Likert scale and open-ended questions allowing for descriptive responses. A total of 72 respondents participated in the study out of 75 invited, yielding a response rate of 96%, which ensures the reliability of the obtained data. The questionnaire consisted of three main sections: evaluation of the first visit, assessment of regular rehabilitation sessions, and demographic and diagnostic information about the child. Data were analysed using descriptive statistics, weighted averages, and qualitative analysis of open-ended responses, allowing for an integrated assessment of both quantitative and experiential aspects of customer satisfaction.

The scientific originality of the conducted research lies in the application of the concept of medical service logistics to the analysis of customer satisfaction in the context of pediatric rehabilitation, which represents an approach rarely found in existing studies. In the literature, issues of patient satisfaction have so far been analyzed mainly in relation to hospital care, outpatient services, or the general quality of healthcare. This study transfers that perspective to the area of infant day rehabilitation, demonstrating that logistical and organizational elements (such as timeliness, accessibility, and coordination of therapy) are equally important for customer satisfaction as medical competence and staff empathy. The study is not only of diagnostic importance, but also of practical significance. The results will facilitate the identification of the areas of the centre's activity with the greatest impact on the patient experience, thus providing a foundation for the enhancement of the quality and efficiency of rehabilitation services. Moreover, the findings contribute to the broader discourse on quality management and logistics in healthcare, highlighting the necessity of integrating patient satisfaction metrics into organisational improvement strategies.

2. Literature review

2.1. Rehabilitation of children up to 15 months of age in a day-time rehabilitation centre – general characteristics

The rehabilitation of children diagnosed with developmental disorders constitutes a pivotal component of a comprehensive healthcare system. The overarching objective of such a system is to provide support for the harmonious psychomotor and social development of the youngest patients. In accordance with the prevailing regulations, rehabilitation services provided at a centre or day ward encompass a maximum of 120 treatment days per calendar year for each beneficiary. The programme has been meticulously designed to cater to two distinct age groups of children, with the therapeutic interventions tailored to address their unique developmental needs (Nanda, Sharma, 2021).

Children up to the age of seven with developmental disorders are covered by a rehabilitation process that includes physiotherapy and support from a psychologist or speech therapist/audiologist. As stipulated in the Regulation of the Minister of Health of 26 March 2021, children aged between 8 and 18 who have been certified as requiring special education are obligated to participate in classes that incorporate physiotherapy, psychological therapy, speech therapy/surdologopedic therapy, and occupational therapy.

Children who require specialised, integrated medical and therapeutic care are typically referred to paediatric day-time rehabilitation wards. The primary criteria for eligibility for such rehabilitation are outlined in (Regulation of the Minister of Health of 26 March 2021):

- belonging to a high-risk pregnancy and childbirth group (children born after the 25th week of pregnancy),
- congenital malformations of the nervous system (e.g. meningomyelocele, microcephaly, congenital hydrocephalus),
- metabolic diseases of the nervous system,
- central motor coordination disorders,
- chromosomal aberration syndromes (e.g. Down syndrome),
- permanent dysfunctions of the musculoskeletal system (e.g. cerebral palsy, myopathies, neuromuscular atrophy, consequences of traumatic and inflammatory diseases of the central nervous system),
- sensory integration disorders,
- hearing, speech and vision disorders.

The utilisation of a day-time centre in the context of rehabilitation facilitates the implementation of an intensive, multi-specialist therapeutic programme. This approach is predicated on the maintenance of the child's contact with their family and home environment, a factor that is deemed to be crucial for the effectiveness of the therapeutic and educational process. Referrals to the day-time rehabilitation ward are issued by a specialist doctor employed

in hospital wards or specialist clinics, such as neonatology, rehabilitation, orthopaedics and traumatology of the musculoskeletal system, neurology, rheumatology, paediatric surgery, or a primary care doctor. This enables the child to be appropriately qualified for an intensive therapeutic programme.

The staffing requirements for the day-time care unit include a specialist in the field of musculoskeletal rehabilitation or paediatric neurology, a master's degree in physiotherapy with experience in neurodevelopmental therapy for children, a clinical psychologist, a speech therapist specialising in neuro-speech therapy, and a special education specialist or occupational therapist. The composition of an interdisciplinary team ensures a multifaceted therapeutic approach, integrating physiotherapy, psychology, speech therapy and occupational therapy. This contributes to the comprehensive functional development of children with developmental disorders. The physiotherapist is required to classify the patient according to the International Classification of Functioning, Disability and Health (ICF) classification system, which was developed by the World Health Organisation (WHO) and adopted at the World Health Assembly on 22 May 2001. The assessment is based on the observation and scoring of four developmental areas during spontaneous activity of children aged 0-15 months:

- postural control,
- motor control,
- fine motor skills,
- level of mental function development (Guidelines of the National Council of Physiotherapists).

The methods employed in the day-time care unit for children with developmental disorders are founded on the most recent advancements in multidisciplinary therapy and are customised to meet the distinct developmental requirements of each patient. The therapeutic programme utilises a combination of conventional rehabilitation techniques and contemporary methods, with the objective of promoting the psychomotor, communicative and social development of children. The integration of various therapeutic approaches has been demonstrated to exert a comprehensive impact on the motor, cognitive, emotional and social spheres, thereby ensuring optimal conditions for progress in the child's functioning. The rehabilitation methods employed in the day-time care unit include (Śliwiński, 2022):

NDT Bobath - a concept that was developed by the physiotherapist Berta Bobath and the neurologist Karel Bobath. This approach is holistic in nature, addressing disorders that arise from damage to the immature central nervous system (CNS). The text encompasses developmental and sensorimotor problems in children, in addition to cognitive, emotional and social disorders that arise in everyday life. The following elements are encompassed therein:

- early recognition of cerebral palsy (CP) symptoms,
- assessment of the child's functional status as a basis for programming rehabilitation,

- assessment of the child's functional status as a basis for selecting forms and means of therapy,
- monitoring of results (assessment of the effectiveness of therapy).

The NDT method does not include ready-made sets of exercises; its aim is to build the child's correct sensorimotor potential, which includes:

- inhibiting abnormal reflex activity,
- eliminating functional blocks,
- paving the way for correct adjustment and balancing reactions,
- normalising muscle tone,
- stimulation of the correct body schema,
- triggering correct movement patterns,
- care – correct lifting and carrying, feeding, dressing and securing the correct position during play and learning.

The SI method – sensorimotor integration – is a method of correct processing of sensory impressions that occur in the central nervous system. Factors that influence SI disorders include:

- Hereditary, congenital factors.
- Prenatal and perinatal factors.
- Premature birth.
- Environmental factors.

The therapeutic intervention utilises a range of mobile equipment designed to stimulate the balance and deep sensation systems. The objective of these activities is to furnish the child with exhaustive sensory information from multiple sensory systems in a manner that facilitates its appropriate processing by the central nervous system. The therapeutic approach is predominantly implemented through play, which facilitates the child's intrinsic activity. However, the therapeutic process is meticulously overseen and regulated by a credentialed therapist, thereby ensuring that the stimuli are meticulously adapted to the patient's individual requirements.

A significant element of physiotherapy administered within the context of the day-time care unit involves collaboration with the children's parents (Jean Ayres, 2020). The efficacy of rehabilitation is contingent upon the systematic continuation of therapeutic recommendations and exercises in the domestic environment. The involvement of parents in the therapeutic process has been shown to facilitate a more profound comprehension of the challenges confronted by their child, thereby enhancing their capacity to respond effectively to challenging situations in everyday life. Regular meetings between parents and therapists provide an opportunity for the exchange of feedback on the child's progress and behaviour. This process enables continuous adjustment and individualisation of the rehabilitation programme.

2.2. The importance of logistics in the rehabilitation process

Logistics is of fundamental importance in the rehabilitation process, as it ensures the smooth running and availability of medical services, which in turn has a direct effect on the effectiveness of therapy. The organisation of patient transport, especially for those with limited mobility, determines their ability to participate regularly in rehabilitation sessions. Inefficiencies in logistics can result in delays, irregular attendance and, consequently, reduced treatment effectiveness. Furthermore, the meticulous organisation of a visit schedule facilitates the efficient allocation of medical resources and minimises waiting times for therapy. One of the pivotal elements of logistics in rehabilitation pertains to the meticulous planning and seamless coordination of all activities pertaining to patient treatment. This encompasses the scheduling of treatments, the allocation of specialists, the management of time and space resources (e.g. the availability of rehabilitation rooms and physiotherapy equipment), and the adaptation of therapy to the individual needs of the patient (Twaróg, 2014). Effective logistics has been demonstrated to help avoid delays, staff overload and waste of resources, which in turn has a direct impact on the comfort and effectiveness of treatment (Jarzynkowski et al., 2016). For patients with limited mobility, logistics provides appropriate means of transport – both within the facility (e.g. transport by wheelchair between treatment rooms) and outside it (e.g. transport to rehabilitation centres, transport home or to follow-up appointments). It is imperative that such transport is not only efficient, but also safe and adapted to the patient's state of health. The utilisation of contemporary information technologies in the domain of medical logistics is becoming increasingly prevalent. Patient management systems (e.g. HIS, ERP) facilitate the monitoring of treatment progress, rehabilitation planning, the collection of medical records and communication between members of the therapeutic team. This facilitates expeditious decision-making and optimises the adaptation of therapeutic interventions to the individual patient's requirements. The areas of the rehabilitation process in which logistics plays an important role are shown in Fig. 1.

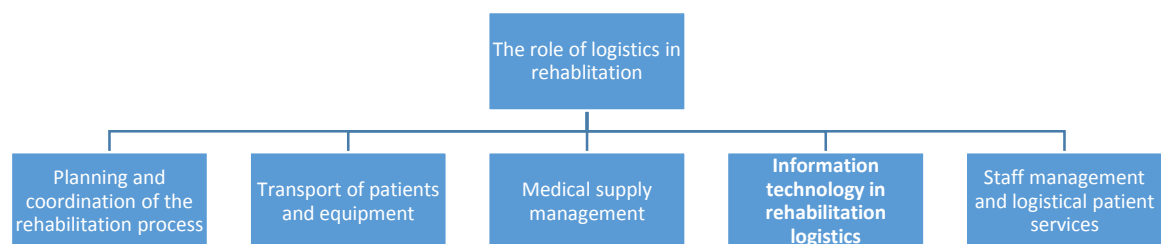


Figure 1. The role of logistics in rehabilitation.

Source: Own work based on: Marzantowicz, 2015, pp. 249-252.

Furthermore, an increasing number of patients are opting for home rehabilitation, a development that introduces novel challenges to the logistics sector. This necessitates not only the delivery of equipment and materials to the patient's residence, but also the coordination of home visits by specialists. The coordination of such a process necessitates meticulous planning

and adaptable management, thereby ensuring the continuity of therapy and patient comfort. The remainder of this paper will focus on customer service logistics. The implementation of efficient logistics has been demonstrated to have a positive impact on the reduction of stress and administrative burdens for both patients and medical staff. It has been demonstrated that patients experience an increased sense of safety when their treatment is well coordinated. This, in turn, enables members of the medical staff to focus on the quality of the service rather than on the resolution of organisational issues.

2.3. Logistics customer service

Customer service is defined as all operations aimed at designing service standards, order processing and after-sales service (Kramarz, 2012; Spyra, 2009; Kempny, 2001). Customer service is a broad concept that is difficult to define unambiguously. The term encompasses all dimensions of customer contact, both tangible and intangible. A fundamental aspect of establishing an effective customer relationship management system and attaining customer satisfaction is the customisation of the service strategy to align with the identified needs of the customer (Kramarz, 2017). K. Rutkowski asserts that the capacity of a company's logistics system to cater to customers' requirements in terms of temporal factors, reliability, communication and convenience constitutes the essence of customer service. The quality of the logistics system is reflected in the logistical customer service provided. (Jedynak, p. 6). It establishes potential limitations in terms of customer service, thereby subordinating the marketing or financial concept (Dwiliński, p. 217). Logistical customer service can be defined as a system of solutions that guarantee customer satisfaction. The capacity to respond in a dynamic manner to the expectations and requirements of customers is of paramount importance. In the extant literature on the subject, the concept of customer service is most often presented in three dimensions: as a specific activity; as a measurement of activities performed; as a philosophy, i.e. a way (ability) of thinking (Coyle, p. 155). Consequently, the notion of logistical customer service encompasses a process dedicated to ensuring the efficient and effective satisfaction of customer expectations and requirements, primarily in terms of the time and place of product availability, utilising available logistical activities and considering the capabilities of the company and the conditions of the environment (Jedynak, p. 80). According to Kisperska Moroń, customer service elements are the features to which customers pay the most attention during the process of evaluating and selecting a given product (Kisperska-Moroń, p. 77). The following areas are covered: time, reliability, communication and convenience (Coyle, p. 156). The identification of these elements necessitates the establishment of quantifiable parameters. These parameters must be characterised by, among other things, adequacy, timeliness, usefulness and comprehensibility (Jedynak, 2019).

2.4. Logistical support for patients during rehabilitation

In the contemporary healthcare system, logistics assumes an increasingly pivotal role (Klein, Thielen, 2024), a fact that is especially evident in the domain of patient rehabilitation. Rehabilitation can be defined as a complex and multi-stage process aimed at restoring the patient's physical, mental and social functioning. Logistical customer (patient) service is an extremely important aspect of rehabilitation, which affects not only the effectiveness of treatment, but also the patient's overall experience in contact with the medical facility. In this context, the patient is not merely a recipient of health services, but also a customer whose needs, comfort and satisfaction are as important as purely medical aspects. The efficiency of a patient logistics service is contingent on the efficacy of its initial point of contact, whether in a stationary facility or within online systems. Patients should be granted straightforward access to information regarding available rehabilitation dates, specialist appointment times, requisite documentation, and reimbursement options. The advent of modern registration systems (telephone, online, mobile applications) and the provision of rapid feedback (e.g. SMS reminders about appointments) have been shown to have a significant impact on the quality of service. The effective management of logistics facilitates the customisation of therapy to the individual patient's requirements, encompassing both the modality and the scheduling of treatment. The patient's preferences, daily routine and time constraints have been shown to affect their commitment to the treatment process and overall satisfaction with the service. For patients with long-term conditions, it is imperative to ensure the continuity of their therapeutic care. This continuity may be facilitated by allocating the same therapist to the patient or by scheduling sessions at regular intervals.

In the case of infants, rehabilitation is very often based on close cooperation with parents. A plethora of methodologies – including the Vojta method and NDT Bobath – presuppose the active involvement of caregivers in exercises that are to be conducted in the caregiver's home environment. It is therefore essential to establish a collaborative relationship between the therapist and the child's family. It is well-documented that parents of infants, particularly those whose offspring exhibit developmental deficits, experience elevated levels of stress, emotional tension, uncertainty and anxiety. When individuals seek treatment at a rehabilitation facility, they are seeking more than mere assistance; they are also seeking an environment characterised by understanding, empathy and professional support. The quality of customer service – from the initial contact with the registration desk, through interactions with staff, to communication with the physiotherapist – exerts a significant influence on patients' decisions, trust, and commitment. In the context of infant rehabilitation, effective communication represents a pivotal component of customer service. The provision of high-quality information to parents, the delivery of clear instructions, the demonstration of patience in explaining procedures, and the establishment of an atmosphere of openness to questions have been identified as key factors in the development of a relationship based on trust. Parents who

feel informed and involved become active participants in therapy, rather than passive observers. Adverse experiences associated with a paucity of information, uncooperative staff, or difficulties in contacting the facility may result in the discontinuation of therapy or its incorrect continuation at home. Consequently, it is imperative to implement training programmes that emphasise interpersonal communication skills, particularly in high-pressure scenarios that demand a substantial degree of empathy. Parents who feel listened to and cared for are more likely to participate regularly in therapy and follow recommendations. It is incumbent upon facilities to ensure that those responsible for customer contact receive adequate training and are familiar with the specifics of child rehabilitation. It is evident that a friendly, non-judgemental attitude, coupled with organisational flexibility – for example, in terms of scheduling appointments – has a positive impact on the entire treatment process. Staff members who demonstrate commitment, empathy, and an individualised approach to the patient not only enhance the child's well-being, but also fortify the parents' motivation. In this context, customer service is not merely a technical issue, but also a psychological one. It is essential to demonstrate to parents that their child is important, and that they are treated with care and respect. In the long term, this also contributes to the establishment of a positive image of the facility and an increase in its therapeutic effectiveness. Parents of children undergoing rehabilitation frequently experience feelings of disorientation and uncertainty, particularly during the initial stages of therapy. Customer service should also comprise educational activities. These should include the explanation of the goals of therapy, the demonstration of exercises to be performed independently, the provision of information materials, and the organisation of support group meetings. This type of support has been shown to engender feelings of competence and agency in parents (Smith, 2023). They are aware of how to behave, what they can do for their child, and they feel that they are part of the therapeutic team. This, in turn, has a direct impact on the effectiveness of rehabilitation, as a significant proportion of the treatment process takes place in the home environment, rather than in a therapist's office. The factors influencing customer service in the rehabilitation process of infants are presented in Figure 2.

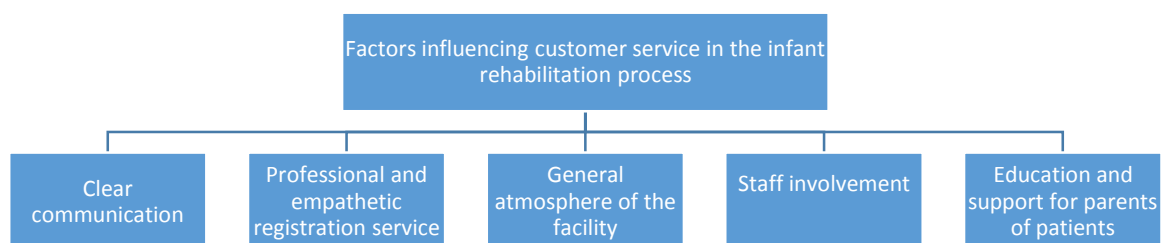


Figure 2. Factors influencing customer service in the rehabilitation process of infants.

Source: Own work based on: Marzantowicz, 2015, pp. 249-252.

3. Methods

The research was conducted at a selected rehabilitation centre with a day-time rehabilitation ward. The researchers employed a structured questionnaire as the research tool. Due to the age of the patients, the survey was conducted among the carers of patients at the day-time rehabilitation ward in order to examine the impact of logistics on the effectiveness of rehabilitation. The questionnaire comprised a variety of questions, including open-ended, closed-ended questions with single and multiple choice options, nominal intervals, and a Likert scale. The distribution of the questionnaire was conducted electronically, with a sample of 75 carers of patients under 15 months of age in the designated ward being the target demographic. A total of 72 responses were received, resulting in a response rate of 96%. The survey is divided into three sections: the initial visit is assessed, regular appointments are evaluated, and patient characteristics are analysed. The initial section pertains to the initial visit, encompassing the rationale behind the selection of the facility, the duration of the wait for the visit, the issue of punctuality, and the quality of the interview and diagnosis. The level of satisfaction with the provided answers and the organisation of subsequent treatment was also taken into account. The second part of the survey focuses on regular rehabilitation classes. The assessment encompasses a range of domains, including the observations made by the physiotherapist, the technical capabilities of the centre, its accessibility for individuals with disabilities, the staff's empathy and commitment, and the impact on the individual. The final section of the questionnaire is of a demographic and diagnostic nature. It contains questions regarding the duration of rehabilitation, the frequency of visits, the reasons for rehabilitation, and the patient's age. The variables used in the study were selected based on a review of previous research on patient satisfaction and healthcare logistics, as well as theoretical models linking service quality, communication, and organizational efficiency with perceived satisfaction. Particular emphasis was placed on variables reflecting logistical and interpersonal aspects of healthcare delivery—such as timeliness, accessibility, coordination, and empathy—identified as key determinants in existing studies.

3.1. Research results

The primary enquiry addressed the rationale behind the selection of the specific centre. The question posed was of the multiple-choice variety. An analysis of the respondents' answers indicates that the primary factors determining the selection of a day-time rehabilitation centre were the availability of appointments (61.1%) and distance from the place of residence (55.6%). This finding underscores the prevailing influence of pragmatic considerations pertaining to the structuring and operationalisation of rehabilitation services. The influence of personal contacts, such as friends (38.9%) and acquaintances of centre employees (22.2%), as well as recommendations from healthcare professionals such as midwives or doctors (19.4%),

was found to be of lesser social importance. The findings indicate that when selecting a rehabilitation facility, patients primarily consider the availability of services and the convenience of location, with personal and medical recommendations playing a less significant role. The detailed results are presented in Figure 3.

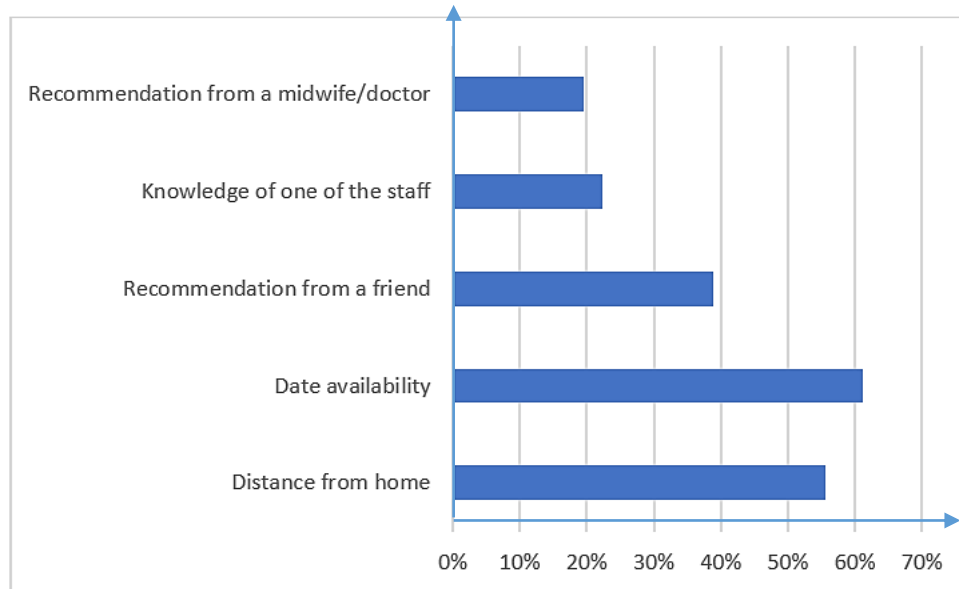


Figure 3. Reasons for choosing the surveyed centre by customers.

Source: Own work based on conducted research.

The most frequently indicated waiting period for the initial visit was between two weeks and one month (44.4%), which indicates relatively expeditious service availability. Shorter waiting periods (up to two weeks) accounted for 27.8%, and longer ones (from one month to two months) for 25%. The results of the survey suggest that the services at the centre in question are generally available. The vast majority of respondents (91.7%) indicated that their visit to the rehabilitation centre commenced at the scheduled time, indicating a high degree of adherence to the established appointment schedule. A mere 8.3% of respondents reported experiencing a delay in the commencement of their visit. It was confirmed by respondents that a medical interview was conducted with them during their initial visit. The most frequently mentioned element of the interview was the question regarding the rationale for referral to the day-time care unit. This response was selected by 86.1% of respondents (62 people). The significant proportion of responses in this category indicates that this component of the diagnostic process is both standardised and consistent.

The remaining frequently asked questions pertained to the course of labour (63.9%) and prematurity (63.9%), both of which are pivotal aspects of a child's perinatal history. Questions regarding previous diagnoses, for instance those made during a hospitalisation following birth (61.1%), were marginally less prevalent but nevertheless exhibited a high degree of consistency in the aggregation of medical data. A thorough analysis of the results indicates that the interview conducted at the rehabilitation centre was comprehensive in nature, with the objective of ascertaining a comprehensive overview of the patient's health status. The primary emphasis is

placed on ascertaining the rationale behind referral, a crucial aspect in ensuring the appropriate selection of therapy. Frequent references to the history of birth, prematurity and previous diagnoses indicate a holistic approach to the patient, taking into account their development from birth.

In the subsequent phase of the study, respondents were invited to rate the accuracy of the patient's diagnosis on a scale ranging from 1 to 5, with 5 denoting a diagnosis of exceptional accuracy and 1 representing a diagnosis of suboptimal accuracy. The majority of respondents, 66.7% (48 people), assigned a rating of 5, indicating a very high level of satisfaction with the assessed element. Furthermore, 30.6% (22 respondents) allocated a rating of 4, while a mere 2.8% (2 respondents) assigned a rating of 3. It is noteworthy that no respondent assigned a rating of 1 or 2, suggesting that the respondents' assessments were predominantly positive.

The results of the study indicate that the initial visit to a rehabilitation centre typically lasts between 30 and 45 minutes, during which the physiotherapist provides patients with comprehensive answers to all their questions and concerns. The respondents' evaluation of the information provided was overwhelmingly positive, with 66.67% rating it as very satisfactory and 33.33% as satisfactory. This outcome signifies a commendable level of communication and professionalism exhibited by the medical staff during the initial therapeutic interaction.

The next question concerned scheduling the next appointment. The survey results indicate that for the largest group of respondents (38.9%), the next appointment was scheduled within a week of the first visit, which demonstrates the high flexibility and efficient organisation of the facility. The second most frequent response was "up to two weeks" (30.6%), while 16.7% of respondents indicated a date of up to three weeks. It was much less common to schedule sessions up to a month (approx. 8%) or more than a month (the remaining few percent). Figure 4 shows the distribution of responses to the question concerning the time of scheduling subsequent sessions from the date of the first visit to the day-time rehabilitation centre.

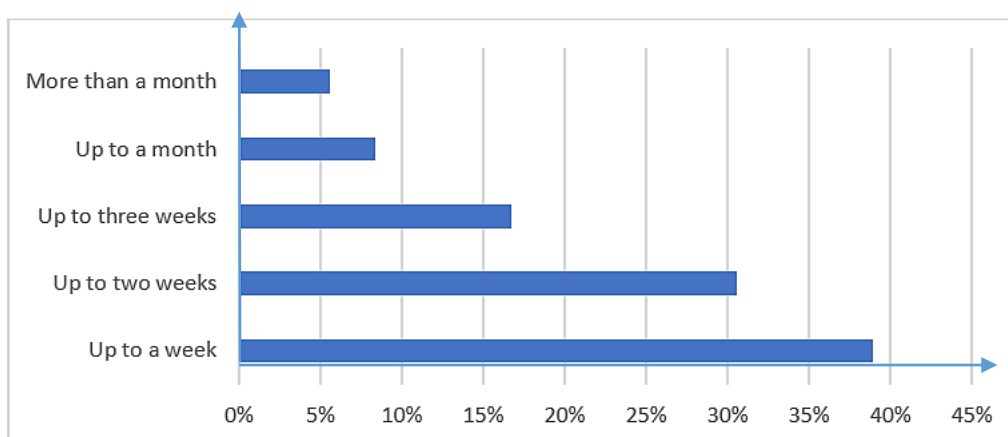


Figure 4. Time of scheduling subsequent visits.

Source: Own work based on conducted research.

The distribution of responses displayed in Chart 2 demonstrates that the centre facilitates expeditious access to subsequent phases of therapy, thereby ensuring the efficient operation of the rehabilitation process. The preponderance of brief waiting times (extending to a maximum of one or two weeks) serves as a testament to the efficacy of the system, which is characterised by its meticulous organisation and well-coordinated logistics. This observation is indicative of a favourable evaluation of the quality of patient care at the facility.

The respondents were subsequently invited to indicate the aspects of the visits to which they allocate the most attention. The results are set out in Table 1.

Table 1.

The most important aspects of customer logistics in the rehabilitation process

	Very small	Small	Medium	Large	Very large
Social		3	22	31	44
Motor coordination		0	8	33	58
Progress from previous sessions		0	3	39	58
Person's mood		0	14	33	53
Exercise variety		0	14	39	47
Caregiver involvement	6	3	3	33	56

Source: Own work based on conducted research.

In order to facilitate a more detailed analysis, a rating scale was utilised, with each rating assigned a specific numerical value. In the context of the study, the following scale was utilised to assign weights to the various sizes: very small = -2, small = -1, medium = 0, large = 1, very large = 2. Subsequently, a weighted average was calculated for each aspect. The mean results are presented in Figure 5.

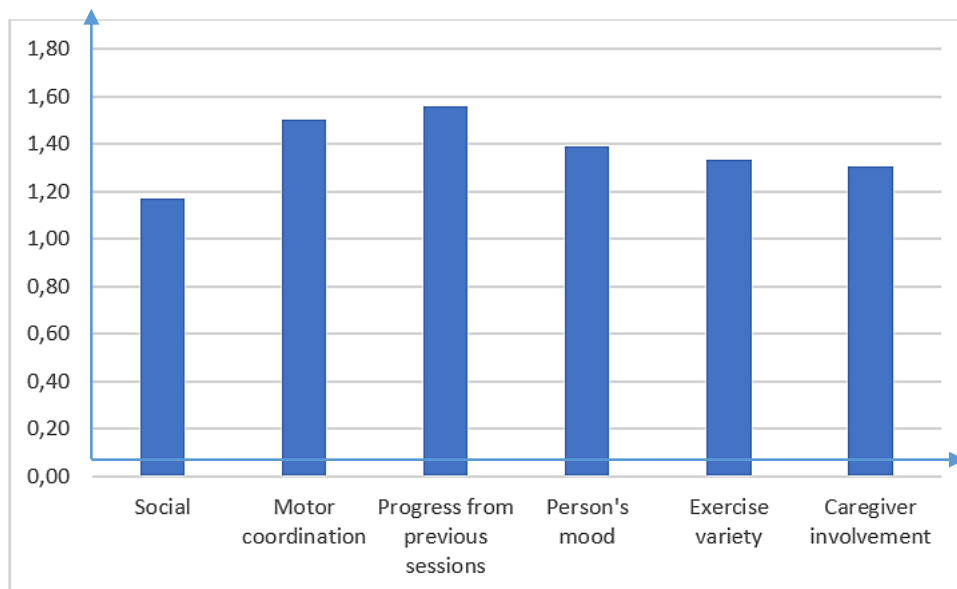


Figure 5. The most important aspects of customer logistics service in the rehabilitation process based on weighted average.

Source: Own work based on conducted research.

When interpreting the data obtained, it should be noted that, in the opinion of the respondents, both the competence and commitment of the therapeutic team and the support and activity of carers play a leading role in the success of the rehabilitation process. The preponderance of favourable ratings in pivotal categories substantiates the efficacy of the facility's patient-centred rehabilitation model, wherein environmental and emotional factors synergise with professional medical interventions. These results are consistent with the most recent recommendations for a holistic approach to paediatric physiotherapy. These recommendations advocate that therapy should take into account both motor functions and social and emotional aspects, as well as parental support throughout the entire rehabilitation process. It is also noteworthy that at the centre under scrutiny, parents are permitted to remain with their children during educational activities. Furthermore, all of the children's physiological needs (the desire to eat, drink, and cuddle) are met, as confirmed by 100% of respondents.

In the subsequent phase of the survey, respondents were presented with a series of statements pertaining to the organisational quality of the rehabilitation centre and the work of the therapeutic team, and were invited to indicate their level of agreement with each statement. The Likert scale employed in this study allowed respondents to select responses ranging from "strongly agree" to "strongly disagree", a method frequently utilised for the quantitative and qualitative assessment of experiences and levels of satisfaction with healthcare. This facilitated the acquisition of comprehensive data, encompassing not only the overall level of satisfaction, but also the identification of strengths and areas for potential enhancement in the facility's activities. The assessment covered, among other things: staff competence, quality of communication, individualisation of the therapeutic process, punctuality of service provision, appearance and accessibility of infrastructure, and the organisational culture of the team.

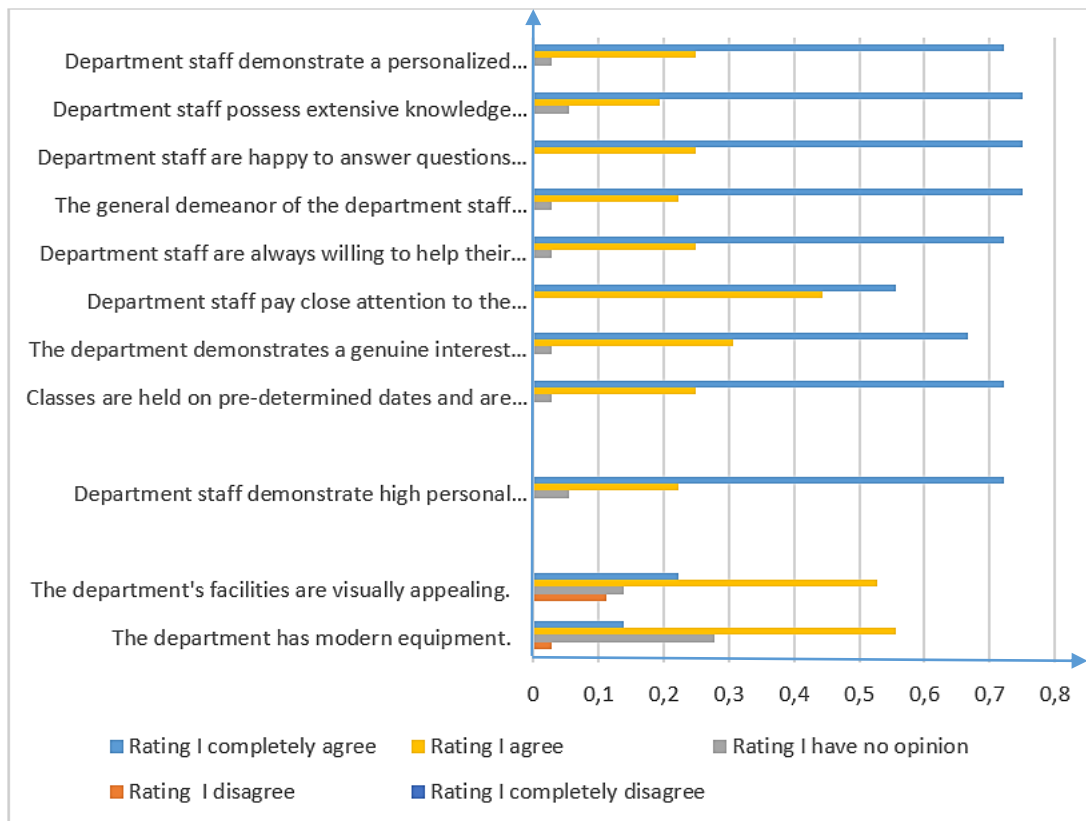


Figure 6. Assessment of logistical customer service.

Source: Own work based on conducted research.

The results presented in Figure 6 indicate that the vast majority of respondents expressed full agreement with the statements concerning the competence, empathy, punctuality and personal culture of the staff, thereby confirming the very high quality of service in the rehabilitation facility. The individualised approach of the staff, their knowledge and commitment to communication and solving patients' problems were rated particularly positively, with "strongly agree" ratings exceeding 70% in most categories. Conversely, it is noteworthy that neutral or negative responses are infrequent, suggesting that the survey participants as a whole are generally satisfied. The infrastructure features – the appearance of the equipment, the attractiveness of the facilities and their accessibility – were also assessed and received lower but still positive ratings, indicating areas for further development and investment. It is particularly noteworthy that there is virtually no disagreement with the values set by the staff, and the organisation of classes meets the expectations of families in terms of timeliness and flexibility. To summarise, the results of the chart demonstrate that the centre's team and facilities engender an environment conducive to development and effective therapy, in accordance with the principles of modern paediatric rehabilitation.

Next, respondents were asked to evaluate the physiotherapist's behaviour during the visits. The results are presented in Fig. 7.

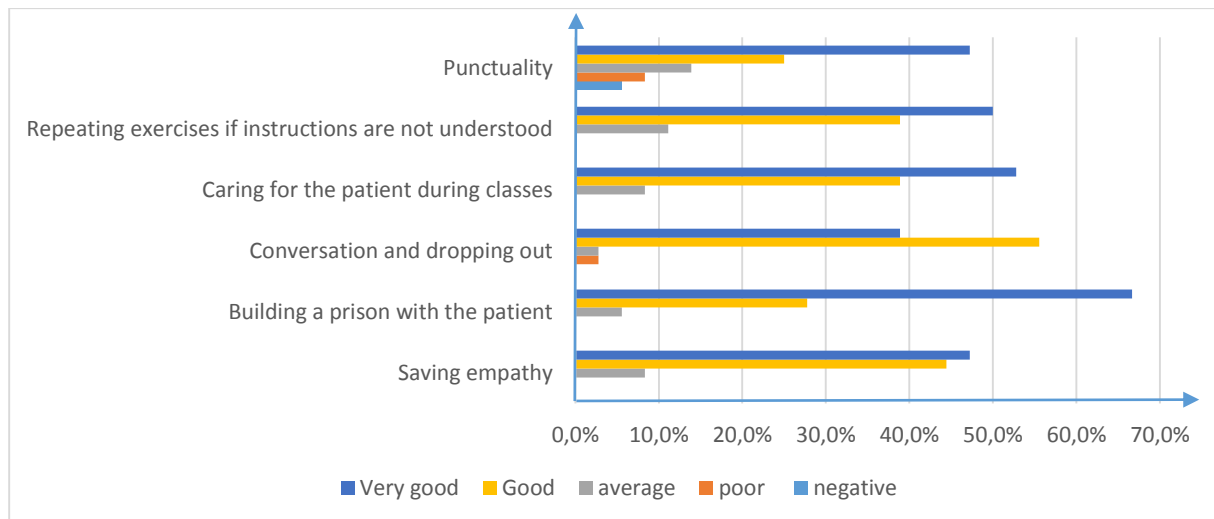


Figure 7. Assessment of the physiotherapist's behaviour during classes.

Source: Own work based on the conducted research.

It is evident from the data obtained that patients provide a high level of satisfaction with regard to the attitude and work of physiotherapists. The aspect that received the highest ratings was the establishment of a relationship with the patient, with 66.7% of respondents rating this behaviour as very good, and a further 27.8% as good. The ability to show empathy was also highly regarded, with 47.2% of respondents rating it as very good and 44.4% rating it as good. Collectively, these ratings accounted for over 90% of positive ratings. The patient received a favourable rating for conversation and interest (55.6% good, 38.9% very good) and care during classes (38.9% good, 52.8% very good). Furthermore, the repetition of exercises in the event of an erroneous interpretation of the instructions was evaluated as 'very good' by 50.0% of the respondents and as 'good' by 38.9%. This finding serves to substantiate the commendable levels of patience and communication skills exhibited by physiotherapists. Punctuality received slightly lower ratings, yet these were still positive, with 47.2% of respondents rating it as very good, 25% as good, and 13.9% as average. A small percentage of respondents expressed a poor (8.3%) or negative (5.6%) opinion of this aspect, suggesting that punctuality remains an area for improvement. In consideration of the data obtained, it can be concluded that the vast majority of respondents (88.9%) confirm the existence of designated parking spaces for disabled individuals. This finding indicates that the facility's infrastructure is adequately adapted to meet the needs of people with reduced mobility. Consequently, 77.8% of respondents expressed satisfaction with the building's adaptation to patients' needs, citing the presence of amenities such as a baby changing table. Conversely, 22.2% of respondents identified deficiencies in this regard. These results suggest that, despite the facility's overall high accessibility, there is still scope for enhancement of amenities for patients with special needs.

The final element of the study was a brief description of the respondents, including information on the duration and frequency of rehabilitation, its causes and the age of the patients. The results of the study indicate that the majority of respondents (41.7%) have been

attending rehabilitation for a period of one to three years, suggesting a long-term commitment to the therapeutic process. The most prevalent number of rehabilitation sessions per individual is twice weekly (33.3%), which suggests a methodical approach to the rehabilitation process. The predominant reasons for rehabilitation are perinatal disorders (44.4%) and prematurity (27.8%), indicating that the study primarily focuses on children necessitating early intervention. This assertion is corroborated by the age structure of the patients, with a significant proportion, amounting to 72.2%, comprising children within the age range of 6 to 12 months.

4. Discussion

As Sricharoenpramong (2018) asserts, the hallmarks of an effective employee are reliability, punctuality and caution in the execution of duties. Furthermore, the possession of effective communication skills, a courteous disposition, and a readiness to assist are of paramount importance. Clegg, Kersten, Koch (2010) posit that employees should prioritise customer satisfaction, possess advanced professional competencies, and maintain effective accessibility. As Sarwar et al. (2012) have observed, customer loyalty and trust are pivotal factors in determining the quality of services provided. Trust, as a foundational element of any relationship, exerts a substantial influence on behaviour and interactions. Consequently, the establishment of customer trust is imperative to ensure the delivery of satisfactory service across diverse operational domains. The provision of logistical customer service in the field of rehabilitation is not solely concerned with the efficient management of patient flow and resources; of paramount importance is the creation of an environment in which patients feel cared for, understood and respected. The provision of high-quality service, predicated upon the principles of logistics, has been demonstrated to engender an enhancement in the effectiveness of therapy, an improvement in relations between the patient and staff, and the establishment of a positive image of the medical facility. In the context of evaluating patient service, Waśniewski (2020) emphasises the significance of analysing factors such as waiting time for appointments, the quality of transportation provided, and patient satisfaction with logistics services. The authors of this paper emphasise that relations with patients are equally important, as they greatly influence the progress of treatment. The measurement of the quality of logistics services must be operationalised using measurable indicators. Consequently, it is regarded as the foundation for the development of the structure (Clegg et al., 2010).

It is recommended to optimise logistics processes by implementing IT systems that support appointment scheduling, digitisation of medical records and improvement of medical transport. Cooperation between rehabilitation facilities and institutions responsible for organising medical transport is also a key element.

5. Summary

Based on the results of the conducted surveys, it was confirmed that high-quality logistical organization and effective communication between the staff and parents significantly contribute to increased satisfaction among clients of the day rehabilitation center. The findings of this study indicate that the professional competence and knowledge of the therapeutic team, as well as their empathy, openness and willingness to cooperate with parents, are all significant factors in the shaping of positive customer experiences.

The results of the analysis provided answers to all the research questions. Firstly, it was established that the overall level of satisfaction among clients of the day-time rehabilitation centre is very high, which confirms the effectiveness of the organisational and quality model adopted by the facility. Secondly, the elements of patient care that have the greatest impact on parental satisfaction were identified. These elements are as follows: the timeliness of visits, the availability of services, the quality of communication and the attitude of the therapeutic staff. Thirdly, the study demonstrated that logistical aspects, such as appointment scheduling and coordination of therapeutic activities, are perceived by parents as a significant factor in the effectiveness of rehabilitation. It was confirmed that the empathy and commitment demonstrated by staff members significantly strengthens the trust that parents place in the facility, thereby encouraging their active participation in the therapeutic process. The responses to the research questions indicate that customer satisfaction in paediatric rehabilitation is a multidimensional category, contingent on the interplay of logistical, communication and emotional factors.

The results of the conducted study confirm that the organization of logistics and communication processes in the day rehabilitation centre significantly influence the level of customer satisfaction. Respondents particularly valued the professionalism, empathy, and commitment of the therapeutic team, as well as the timeliness and coordination of services. The findings indicate that effective scheduling, short waiting times, and individualized therapeutic approaches enhance the perceived quality of rehabilitation services. Moreover, the holistic model adopted by the facility — integrating medical, organizational, and emotional aspects of care — supports patient engagement and parental satisfaction. Overall, the study demonstrates that efficient logistics and human-centered management constitute key determinants of the success and quality of pediatric rehabilitation.

The present study contributes to the development of knowledge in the field of quality management in healthcare and medical service logistics. The study confirms the importance of integrating a logistical approach with the concept of customer relationship management (CRM) in rehabilitation facilities.

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