

Proceeding Paper

Satisfaction with Physiotherapy Care for Individuals with Cystic Fibrosis Across Face-to-Face, Online, and Blended Rehabilitation Settings [†]

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Abstract

This study assessed satisfaction with physiotherapy care for individuals with cystic fibrosis across face-to-face, online, and blended formats at the National Association for Cystic Fibrosis. Forty participants, including patients and legal representatives, reported high satisfaction overall. Key strengths included respectful communication, involvement in decision-making, scheduling flexibility, and therapist support. Face-to-face care received the highest ratings, though privacy, understanding, and engagement were consistently strong across all modalities. The results highlight the importance of patient-centred approaches and suggest that high-quality care can be delivered effectively across different treatment formats, reinforcing satisfaction as a key indicator of healthcare quality and effectiveness.

Keywords: cystic fibrosis; physiotherapy; satisfaction; treatment modalities



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1. Introduction

Patient satisfaction is a key indicator of healthcare quality, influenced by emotional, psychological, and personal factors, and plays a crucial role in assessing the potential and effectiveness of treatment [1–3]. Cystic fibrosis (CF) is an autosomal rare recessive disorder caused by mutations in the CF transmembrane conductance regulator gene, conventionally classified into six classes (I–VI) based on the resulting defect in protein synthesis or function [4]. This chronic, life-limiting disease requires multidisciplinary care in which physiotherapy plays a crucial role in maintaining lung function and slowing disease progression [5,6]. Care must be adaptable to each patient’s evolving needs (i.e., health status and personal circumstances), especially for children and their families [7]. Traditionally,

face-to-face programmes have represented the standard approach to CF management [8]. This setting offers hands-on care, real-time adjustments, access to specialised equipment, multidisciplinary support between different health professionals, as well as immediate referral for hospital admission [7–9]. However, the COVID-19 pandemic prompted a rapid shift toward telemedicine, including online physiotherapy via video conferencing [8]. These online and hybrid modalities have improved accessibility—particularly for patients in rural and remote areas—by reducing travel time and associated costs [9]. In addition to this, remote exercise-based interventions offer flexibility, mitigate patient disinterest and lack of motivation [10,11], and minimise the risk of respiratory pathogen transmission, a critical concern for individuals with CF [8].

In Portugal, the National Association of Cystic Fibrosis (ANFQ) has supported individuals with CF since 1996 [12]. Since 2017, in collaboration with the Santa Maria Local Health Unit, ANFQ has offered free physiotherapy for children aged 6 months to 18 years in face-to-face, online, and blended formats. The selection of the most appropriate format depends on each child's individual needs, clinical condition, and geographical location. The objective of this study was to assess the perceived satisfaction of individuals with CF (aged 16 and older) and the legal representatives of younger patients (aged 15 and under) regarding the physiotherapy services at ANFQ across three treatment settings.

2. Materials and Methods

2.1. Study Design, Data Collection, and Participants

This cross-sectional observational study involved individuals with CF or their legal representatives regarding physiotherapy care from ANFQ. The total population of ANFQ was included in this study. All 41 eligible individuals were contacted by phone, with participation being voluntary, anonymous, and based on written informed consent. Inclusion required current use of ANFQ physiotherapy services; those without consent, with language barriers, or experiencing symptom exacerbation were excluded. Ethical approval was obtained from the Egas Moniz Ethics Committee. Data were collected online via Google Forms in May 2025 using the 43-item Patient Feedback Questionnaire (PFQ), previously validated for use in Portugal [13,14].

2.2. Statistical Analysis

Descriptive statistics (mean and standard deviation) were used to summarise satisfaction variables, while nominal and ordinal data were reported as percentages. To compare the data from the three rehabilitation settings, a Kruskal–Wallis test was conducted on Likert-scale items, as data did not follow a normal distribution. Statistical significance was set at $p < 0.05$. All tests were performed using Jamovi 2.6.44.

3. Results and Discussion

3.1. Participants Characterisation

The sample consisted of 40 participants, including 5 individuals with CF and 35 legal representatives. The mean age of individuals with CF was 19.2 years, while the legal representatives—responsible for children with CF—had a mean age of 41.91 years. Most respondents were female ($n = 34$). The sample was homogeneous in relation to the genotype, including class II and IV mutations, with the majority being class II, which is reflected in similar clinical manifestations. Treatment modalities included online ($n = 14$), face-to-face ($n = 13$), and blended ($n = 13$) rehabilitation. Each physical therapy session lasted 60 min. Participants in the blended and online modalities predominantly had treatment durations of over 4 years ($n = 8$ and $n = 6$, respectively), while the face-to-face group showed a more balanced distribution across all duration categories. Biweekly sessions were the most

frequent across all modalities (face-to-face ($n = 7$), online ($n = 9$), and blended ($n = 11$)), followed by weekly sessions. Monthly and occasional sessions were reported only in the face-to-face and online groups.

3.2. Factors: Access to Care; Interpersonal Relationships; Active Participation

Most participants ($n = 35$) began physiotherapy within a month of their medical consultation, and 90.0% reported being able to choose their physiotherapy session schedules at ANFQ. This flexibility is essential for aligning physiotherapy with daily family routines, especially in paediatric care, and reflects strong support from physiotherapists toward patient and family needs [6]. All ($n = 40$) reported highly positive interactions with their physiotherapists, noting respectful communication, empathy, and attentiveness. Respondents unanimously confirmed being addressed by their preferred name, having their concerns and opinions listened to, and being treated with courtesy and sensitivity. In total, 97.5% rejected any discomfort or roughness in their care and confirmed feeling encouraged to express their preferences regarding treatment. Additionally, 95.0% reported full privacy and a clear understanding of the language used. These findings align with the World Confederation for Physiotherapy guidelines promoting holistic patient well-being [15]. Participants reported a high level of involvement in their physiotherapy care, with ample opportunities to ask questions, share opinions, and engage in treatment decisions. In total, 97.5% were informed of treatment benefits and risks, while a majority received multiple treatment options (73.7%) and were made aware of their right to refuse treatment (71.8%). Communication remained effective throughout: all participants understood treatment goals, most received feedback on progress (85.0%) and assessment results (97.5%) and were given clear instructions for home exercises (92.5%) and equipment use (94.8%). Nearly all also confirmed they were not asked to perform any unauthorised activities (97.5%). These results underscore a strong patient-centred approach, with clear and detailed communication fostering greater satisfaction [5]—consistent with findings from Jahan et al. on the role of effective communication in enhancing patient experience [16].

3.3. Satisfaction Level

This study revealed consistently high satisfaction with ANFQ's physiotherapy services and similar levels among the three groups. Legal representatives reported slightly higher scores (4.94 ± 0.23) than individuals with CF (4.80 ± 0.40). Most participants felt their expectations were met (legal representatives: 4.71 ± 0.85 ; CF patients: 4.80 ± 0.40) and strongly disagreed with the idea that physiotherapy was a waste of time (legal representatives: 4.91 ± 0.50 ; CF patients: 4.40 ± 1.20). These findings suggest a proactive and motivated attitude, likely contributing to greater involvement in treatment plans and, consequently, greater satisfaction. Additionally, meeting patient expectations plays a crucial role in satisfaction, with user-reported satisfaction significantly increasing when expectations are fulfilled [17]. Among modalities, 3-4 years of face-to-face care weekly achieved the highest satisfaction level (5.00 ± 0.00), followed by blended (4.92 ± 0.27) and online formats (4.86 ± 0.35).

Kruskal–Wallis did not show significant differences ($p > 0.05$) while comparing all Likert-scale items from the three rehabilitation settings. Despite this, a descriptive analysis of the items revealed three key findings. Regarding privacy, satisfaction levels were consistently high across all settings, with participants in the online group reporting the highest average scores, indicating that remote participation did not compromise their sense of privacy. Concerning communication, participants who had direct contact with the physiotherapist—either in face-to-face or blended settings—reported slightly higher average scores, suggesting that physical presence may enhance the perception of communi-

cation quality. Lastly, when it came to involvement in decision-making and the ability to express opinions during physiotherapy sessions, as well as being treated with courtesy and respect, there were no notable differences between the settings, indicating that patients felt equally engaged and heard regardless of how the sessions were delivered and reinforcing the consistency of interpersonal interactions across modalities. These findings align with the principles outlined by the World Confederation for Physical Therapy [15], particularly regarding ethical principles, patient-centred care, communication, and respect.

4. Conclusions

High levels of satisfaction with physiotherapy services at ANFQ were found, both among individuals with CF and their legal representatives, particularly in face-to-face settings. Although important, these findings may not be generalisable to all individuals with CF in Portugal. Moreover, as with most satisfaction voluntary surveys, there is a possibility of response bias, where more satisfied users may have been more inclined to participate. The absence of qualitative data also limits a deeper understanding of the reasons behind the satisfaction ratings. Nonetheless, this study highlights the importance of systematically assessing satisfaction to better understand patient experiences across different treatment modalities, contributing to more responsive, equitable, and patient-centred physiotherapy care.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data will be made available by the corresponding author upon request.

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