



Review article

Leadership and physiotherapy: A scoping review

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ABSTRACT

Question(s): The challenges faced by healthcare organizations require effective leaders. Leadership has been extensively studied in medicine and nursing, but it is limited in physiotherapy. The objective of this study is to know and analyze the published research on the characteristics of leadership in physiotherapy.

Design: A scoping review was conducted following the PRISMA extension guidelines. MEDLINE, The Cochrane Library, PEDro, Embase, CINAHL, Web Of Science and Scopus databases were reviewed between 01/01/2000 and 30/06/2022.

All quantitative studies addressing the characteristics of leadership in physiotherapy were selected. Data extraction was performed using a table including author, year of publication, country of origin, title, objective, measurement instrument, sample and main findings.

Data synthesis: The results obtained were framed within the framework for the study of leadership designed by Bolman and Deal.

Results: Eight studies were selected. The characteristics most valued or used by physiotherapists are communication, desire for continuous learning and improvement, credibility and professionalism.

Conclusion: Leadership is very important for physiotherapists, and for physiotherapy, as profession they consider it very important to have vision and to lead change. Communication skills are the most highly regarded characteristic.

1. Introduction

The concept of leadership has evolved enormously throughout history, and each author, depending on his historical context, has generated his own definition, which makes it difficult to achieve homogeneity in its conceptualization. Despite this, some fundamental components common to most authors can be identified: leadership is a process that takes place in group contexts and involves influence for the pursuit of shared goals [1]. Leaders drive change, the development of individuals and institutions, enabling them to adapt and evolve [2].

One of the most cited definitions comes from J.P. Kotter [3], who interprets leadership as being responsible for bringing about change, where it is necessary to establish direction, align people, communicate so that they understand the vision, and motivate and

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inspire by valuing human needs, values and emotions. This requires leaders to possess a mix of analytical and personal skills to establish a clear vision of the future and define a strategy to get there. It also involves managing and balancing conflicts of interest that arise, both within and outside the organization [4].

To organise the existing body of research knowledge and facilitate understanding of the complex phenomenon of leadership, Bolman and Deal [5] designed a model of four frameworks that leaders should always keep in mind: the structural framework focuses on the architecture of the organisation, the human resources framework on understanding people, the political framework on power struggles over scarce resources, and the symbolic framework on the culture of the organisation. Each of these is powerful and coherent, together they allow us to look from different points of view to find options that make a difference [6]. This model, used in both health [7,8] and non-health research [9–11] has been selected to organise the findings of this review.

Healthcare systems are currently affected by the increased demand for care generated by the aging of the population and the increase in chronic diseases, together with increasingly limited resources. These challenges for healthcare organizations require major changes in order to survive and compete effectively and demand more leadership skills [3]. Likewise, these leaders must be able to develop and implement efficient healthcare programs, based on scientific evidence and technological innovation [12]. They must be able to successfully overcome obstacles [13], thus providing an optimistic future for professionals, patients and healthcare systems. Therefore, healthcare organizations, having a specific structure and purpose, need high-quality leadership at all levels [14] to ensure the highest possible level of patient care [4,15].

Rehabilitation, in which the physiotherapist is a relevant figure, has been approached by the WHO [16] as a fundamental part of healthcare that benefits both patients and society. In its document Rehabilitation 2030 A call for action [16], the WHO indicates that strong leadership is needed to build rehabilitation service delivery models that achieve equitable access to quality services for the entire population.

The relationship between leadership and the good results that brings to healthcare organizations has been studied mainly in medicine [17] and nursing [18,19] but not in physiotherapy [20]. Research in physiotherapy has been primarily concerned with the clinical practice aspects of the profession, without consideration of the potential that leadership [20] has to improve both the processes of patient care and the profile and status of the profession in the changing healthcare landscape [21]. Physiotherapy leaders [22] recognize the need to participate in healthcare boards where decision-making takes place in the workplace, positions that, while requiring cross-cutting competencies, are currently filled by medical and nursing professionals, due to the profiles traditionally stipulated when these positions are offered [23].

Taking into account the need for leadership in physiotherapy at all levels [24,25] to successfully manage the necessary changes and provide efficient responses to the increasing demands of care [21] and the lack of studies on this role of physiotherapists, and knowing the efforts dedicated to identify the characteristics of effective leaders [5] in other professions, it is necessary to recover, analyze and synthesize the available knowledge on the characteristics of leaders in physiotherapy in order to establish relationships or differences with other professions and to identify possible areas of development in this area.

For this reason, the purpose of this scoping review is to learn about the profile of physiotherapist professionals as a leader worldwide, exploring their characteristics in all the frameworks that a physiotherapist in a leadership role must consider.

2. Method

2.1. Design

A Scoping Review was carried out following the guidelines recommended by the EQUATOR network [26] in the PRISMA Extension for Scoping Reviews (PRISMA-SCR) [27]. The review protocol was registered in PROSPERO (CRD42021231533).

2.2. Data sources and search strategy

The search strategy was conducted between January and June 2022. All articles published between 01/01/2000 and 30/06/2022 were included. The databases consulted were MEDLINE, The Cochrane Library, PEDro, Embase, CINAHL, Web Of Science and Scopus.

Table 1
Search strategy for each database.

Data base	Search strategy
Embase	('physical therapy'/exp OR 'physical therapy' OR 'physiotherapy'/exp OR physiotherapy) AND ('leadership'/exp OR leadership OR 'leader'/exp OR leader) AND [01-01-2000]/sd NOT [01-07-2022]/sd
Pubmed	Search: ("physical therapy" OR physiotherapy) AND (leadership OR leader) Filters: from 2000/1/1–2022/6/30
Cochrane library	(physical therapy OR physiotherapy) AND (leadership OR leader) en Titulo Abstract Keyword – with publication date in the Cochrane Library Between Jan 2000 and Jul 2022
PEDro	Abstract & Title: leader leadership
Cinahl	Boolean/Phrase: (physical therapy OR physiotherapy) AND (leadership OR leader) Limiters Date of publication: 2020/01/01–2022/06/31
Web of Science	((("physical therapy" OR physiotherapy) AND (leadership OR leader)) (All Fields) Timespan: 2020-01-01 to 2022-06-30 (Index Date)
Scopus	TITLE-ABS-KEY (("physicaltherapy" OR physiotherapy) AND (leadership OR leader))) AND PUBYEAR >1999 AND PUBYEAR <2022

The following terms from the Medical Subject Headings (MeSH) were used: "physiotherapy", "physical therapy", "leadership" and "leader" and the Boolean operators "AND" and "OR", the search strategy for each database being shown in [Table 1](#).

2.3. Study selection

The study eligibility criteria for this review are shown in [Table 2](#).

All phases of study selection were carried out using the Rayyan program as a tool for the organization and management of the studies obtained. Once duplicates had been eliminated, two independent investigators reviewed the titles and abstracts of all the articles, applying the inclusion and exclusion criteria. The resulting articles were then read to determine their eligibility. The results of the selection were contrasted and discrepancies were discussed until agreement was reached to proceed with the selection of the articles that were finally included in this review.

Following the indications of the PRISMA extension for scoping reviews, no formal evaluation of the quality of the studies was performed.

2.4. Data synthesis

To facilitate data extraction and homogenize the organization of the information extracted from the analysis of the selected studies, a table was designed in a spreadsheet that included title, author, year of publication, country of origin, objective, sample, measurement instruments and main findings.

The information is first presented in a table that offers descriptive general characteristics of the studies included in the review, including aspects such as: year of publication, sample included, countries in which this role has been investigated and the main objectives.

Secondly, the measurement tools used by each of the different authors to analyze the characteristics of leaders in physiotherapy are presented in a table and described.

Thirdly, the results regarding the characteristics of physiotherapists in the leadership role are presented. To organise these results, another table was designed to show a summary of the most relevant findings framed in the four frameworks described in the theoretical model for the study of leadership designed by Bolman and Deal [5]. This model was selected because it contemplates the different frameworks of leadership that allow an approximation to Kotter's [3] definition of leadership selected for this review.

3. Results

3.1. Selected studies

As a result of the database search strategy, 3068 studies were identified. In the PeDro database and the Cochrane Library, no articles on leadership in physiotherapy were found.

After reviewing the title and abstract, those that did not meet the eligibility criteria were excluded, resulting in 37 articles. After complete reading by the two independent investigators and after resolving disagreements regarding the objective of this study, 8 articles were included in this review. The results are shown in the flow diagram [28] ([Fig. 1](#)).

3.2. General characteristics of the selected studies

These characteristics are collected in [Table 3](#), which shows, in relation to the years of publication, the evolution over time of research in leadership in physiotherapy, finding that 75 % of the articles are published from 2015 onwards. Regarding the origin of the research, all of them have been carried out in three countries, USA [29,30], Canada [14,31,32] and Ireland [7–33] ([Table 2](#)).

In terms of the methodology used by all the selected studies, they fall within a cross-sectional descriptive design within quantitative research ([Table 3](#)).

This review includes a total of 3302 physiotherapist participants, distributed among: 1565 leaders of national and international organizations and leaders who perform management tasks in public and private healthcare, 185 physiotherapy academics and 1552 clinical physiotherapists, both in the public and private environment ([Table 4](#)).

Table 2
Eligibility criteria.

Inclusion criteria	Quantitative research studies whose focus is on leadership in physiotherapy Studies analyzing the leadership role of physiotherapists Studies analyzing the characteristics of physiotherapy leaders
Exclusion criteria	Studies focused on clinical practice in physiotherapy Studies whose structure did not correspond to a scientific article such as letters to the editor, editorials, congress abstracts, obituaries, interviews or opinion reports

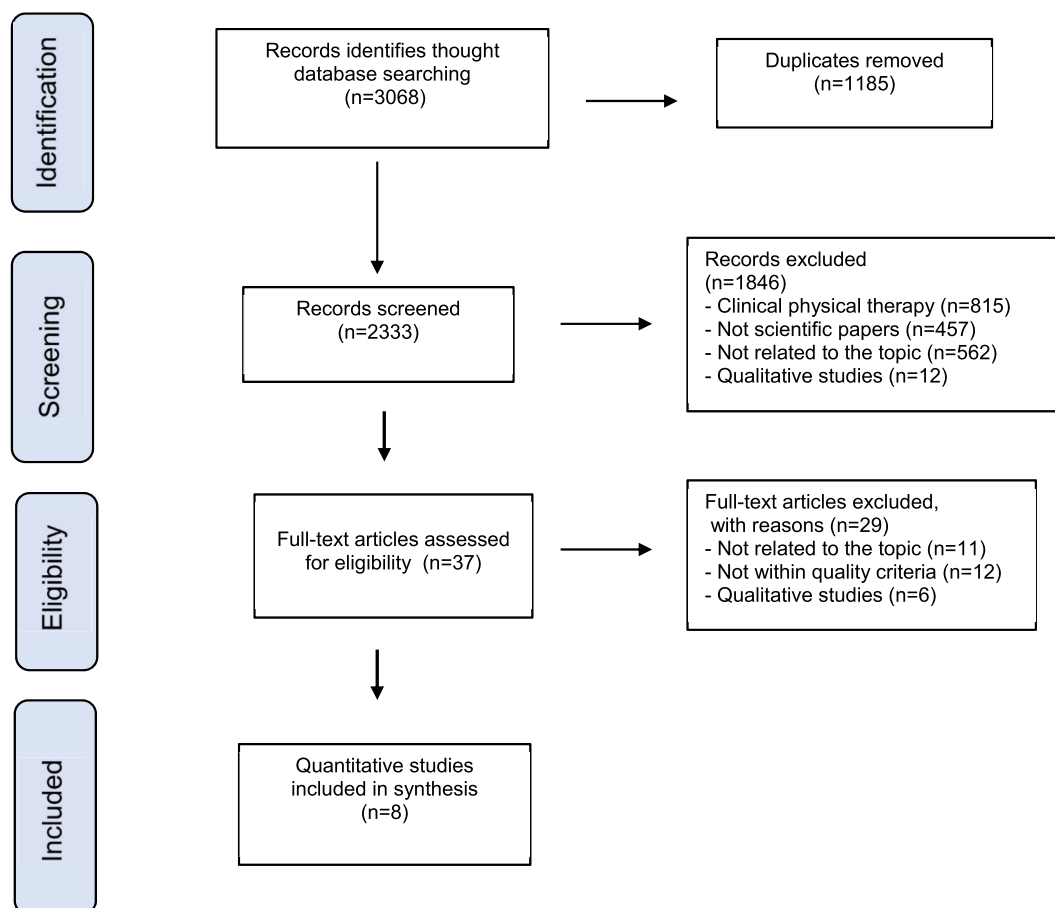


Fig. 1. Flow chart of the review.

Table 3
Methodology of selected articles.

Author-Year-Country	Objetives	Measuring instruments
Green-Wilson et al. [30], 2022, USA	To explore the perceptions of physical therapists on the importance of leadership characteristics across three contexts: workplace, health care system, and society in the United States	Questionnaire based on that by Desveaux et al. (2012).
McGowan et al. [8], 2017, Ireland	To investigate physiotherapists' perceptions of the leadership capabilities of physiotherapy management in their workplace.	Own questionnaire, 24 leadership capabilities
McGowan et al. [7], 2017, Ireland	To investigate the leadership frames of physiotherapy managers in Ireland.	Leadership Orientation Survey (LOI)
Desveaux et al. [31], 2016, Canada	To explore the characteristics of physical therapy leaders in academic and managerial roles.	Clifton StrengthsFinder (CSF)
McGowan et al. [33], 2016, Ireland	To investigate the perceptions of physiotherapists in Ireland of leadership and leadership characteristics.	Questionnaire based on that by Desveaux et al. (2012).
Chan et al. [32], 2015, Canada	To identify the personal strengths of Canadian physical therapists who hold leadership positions and compare them with those who do not occupy positions of leadership	Clifton StrengthsFinder (CSF)
Desveaux et al. [14], 2012, Canada	To describe the leadership characteristics that physical therapists in Canada perceive as extremely important in the workplace, in the health care system, and in society.	Own questionnaire, 15 leadership personality characteristics.
Schafer et al. [29], 2002, USA	To study managerial role and skill categories to better understand the work priorities of physical therapist managers.	Questionnaire used by Roemer: 16 work categories (11 roles and 5 skills).

3.3. Description of measurement instruments

In the eight studies included in this review, five different measurement instruments have been used. These instruments collect the skills, roles, capacities and frameworks of each tool, all of them considered in this study as characteristics of the leaders, and they are shown in more detail in Table 5.

Table 4
Relevant findings of the selected studies.

AUTHOR	Sample			Structural Dimensions		Human Resource Dimensions		Political Dimensions		Symbolic Dimensions	
	Clinicians	Managers	Academics	Analytic	Organized	Supportive	Participative	Powerful	Adroit	Inspirational	Charismatic
Green-Wilson (30)	229		49			Motivating (76,1 %,50,5 %, 34,8 %) ^a	Communication (89,8 %,75,9 %,62,9 %) ^a		Professionalism (84,8 %,83,3 %,65,9 %) ^a ; Adaptability (77,3 %, 70,9 %, 49,6 %) ^a	Credibility (71,9 %, 59,7 %, 38,8 %) ^a	
McGowan (8)	303			Adherence to policy and clinical guidelines (36,2 %) ^c	Coordinate-organise the work (72,8 %) ^b , Coordinate-organise the work (35,1 %) ^c		Listen to the team (74,8 %) ^b , Listen to the team (33,1 %) ^c .	Drive change (74,4 %) ^b	Look for opportunities (35,3) ^c , Ensure visibility of profession (33,3 %) ^c	Foster a positive culture (83.3 %) ^b , Awareness of the atmosphere (74.7 %) ^b	
McGowan (7)		45		59 %		51 %		38,50 %		39 %	
Desveaux (31)		52	36	Learner (52 %) Learner(56 %), Input(33 %)	Achiever(48 %) Achiever(44 %)		Relator(29 %) Relator(31 %)		Strategic (29 %) Strategic (36 %)		Responsibility (42 %)
McGowan (33)	275	247	39			Motivating 66,7 %, 53,2 %, 39,2 %) ^a	Communication 79 %, 71 %, 58,1 %) ^a		Professionalism 67,4 %, 66,2 %, 49,2 %) ^a	Credibility 64,5 %, 52,1 %, 34,2 %) ^a	
Chan (32)	65			Input(32 %); Learner(45 %)	Achiever(32 %)		Harmony(32 %) Relator(39 %)				
		108		Input(30 %); Learner(57 %)	Achiever(49 %)				Strategic (28 %)		Responsibility (36 %)
Desveaux (14)	680	831					Communication. (75 %, 68,1 %,50,9 %) ^a		Professionalism (64,0 % 60,7 %,40,6 %) ^a	Credibility (58,9 %, 54,2 %, 37,2 %) ^a	
Schafer (29)		282	61	Financial control (4,32), Resource allocator(4,15)			Communication (4,40)		Entrepreneur (4,27)	Leader (4,13)	

^a (% workplace, % health care system, % society).

^b Important capabilities.

^c Capabilities in which leaders have demonstrated their effectiveness.

Ad hoc questionnaires were developed for two of the studies, one of which was designed by Desveaux et al. [14] that analyzes 15 key characteristics of the personality of leaders, which were extracted from the literature consulted; this same questionnaire was subsequently used in two other studies [30,33] included in this review. McGowan [8] designed the second ad hoc questionnaire, which in this case analyzes 24 leadership characteristics, which were extracted after conducting semistructured interviews with physical therapy leaders and organized according to Bolman and Deal's Four Frame model.

The remaining authors make use of questionnaires developed by others. One [29] uses Roemer's selection, which describes 11 leadership roles and 5 leadership skills [34] based on the studies of Mintzberg and Pavet and Lau. Two other studies [31,32] use the

Table 5
Measurement instruments.

ROEMER	DESVEAUX	CSF	LOI	McGowan
5 Work skills, 11 Work roles	15 key Leadership Personality Characteristics	34 Person's most prominent Characteristics	4 Frames, 8 Dimensions	24 Leadership capabilities
Work skills Communication	Communication Professionalism	Strategix Thinking Analytical	Structural frame Analytic	Structural frame—coordination of operations Coordinate service; organise the work of the team and themselves
Financial Control Interpersonal relations	Credibility Vision	Context Futuristic	Organized	Appropriately delegate tasks to team members Monitor the work and results of team members
Operations Strategic Assessment	Active management Contingent reward	Ideation Input	Human frame Supportive	Structural frame—strategic planning and alignment Develop and implement appropriate strategic plans for the team
Work roles Disseminator	Business acumen Self-regulation Ability to motivate	Intellection Learner Strategic	Participative Political frame	Set appropriate goals for individual team members and the team Ensure adherence to policy and procedure and clinical guidelines
Disturbance handler Entrepreneur Figurehead	Ability o delegate Social skills Empathy	Relationship Building Adaptability	Powerful Adroit	Human resource frame—professional development Assist individuals to identify and address gaps in their knowledge
Leader	Social dominance	Connectedness	Symbolic frame	Provide opportunities for the improvement of knowledge and skills
Liaison	Self-awareness	Developer	Inspirational	Provide emotional or practical support for team members
Monitor Negotiator Resource Allocator	Extroversion	Empathy Harmony Includer	Charismatic	Human resource frame—communication Effectively exchange information and ideas Listen to ideas, suggestions and opinions of team members
Spokesperson Techinal Expert		Individualization Positivity Relator		Provide feedback on the work of the team and welcome feedback on their own performance
		Influencing		Political frame—organisational interpersonal dynamics Influence development, process or behaviour in their organisation
		Activator Command		Implement and drive change to improve practice Demonstrate effective strategies for managing conflict
		Communication Competition Maximizer Self-Assurance		Political frame—collaboration Work with individuals outside of the physiotherapy team to develop links and look for opportunities Network effectively with medical consultants or other managers
		Significance		Ensure visibility and status of profession within the workplace/society
		Woo		Symbolic frame—ethos Foster a positive workplace culture
		Executing Achiever		Demonstrate awareness of the atmosphere of the work environment
		Arranger Belief Consistency Deliberative		Initiate activities to encourage team bonding Symbolic frame—symbolic Communicate their vision for the future of their team Provide mentorship/encourage team members to get a mentor
		Discipline Focus Responsibility Restorative		Act as a role model for the team and lead by example

one designed by the Gallup Organization called the "Clifton StrengthsFinder" (CSF: Gallup Organization; Princeton, NJ) [35], which, through 177 items, identifies from among 34 options the 5 main characteristics that constitute the personal strengths of an individual (Table 6 includes the textual definitions of the CSF [35] for the characteristics presented by physiotherapists). Another study [7] uses the Leadership Orientation Index (LOI) questionnaire designed by Lee Bolman and Terrence Deal [5] to evaluate the use that leaders make of each of the 4 frameworks presented in their model, designed to understand organizations and leadership, in which they propose that a good leader must know how to use four frameworks equally, each framework presenting two dimensions (Table 7 shows the characteristics of leaders according to Bolman and Deal's model).

3.4. Characteristics of leading physiotherapists

The results obtained by Schafer et al. [29] determined that academic physiotherapists, leaders in public hospitals, and leaders in private practice rated communication and financial control skills and the roles of entrepreneur, resource allocator, and leader as important with a score greater than 4 out of 5.

In their corresponding studies, Desveaux et al. [14], McGowan et al. [33] and Green-Wilson et al. [30] found that communication, professionalism and credibility were the characteristics considered extremely important in achieving successful leadership, primarily in the workplace, importantly in the healthcare system and to a lesser extent in society. In the Green-Wilson study [30], 94.2 % of participants, 79.6 % in the Desveaux study [14] and 74.0 % in the McGowan study [33] considered themselves to be leaders. The latter also showed that 53.0 % considered it a very or extremely important achievement to attain a leadership position; this consideration reached 56.1 % in the Green-Wilson's study.

The result of the CSF, used both by Chan et al. [32] to describe the profile of a sample of leading versus non-leading physiotherapists, and by Desveaux et al. [31] to compare academic leaders with managerial leaders, was in both studies where the most common characteristics were: a strong desire to learn and continuously improve (learner) and possessing great stamina to work hard and be productive (achiever), presenting higher percentages in the leader groups, which also presented the strategist characteristic.

McGowan et al. [7] using the Leadership Orientation Index (LOI) [5] scale, found that 51 % of the leaders in Ireland used the human resources framework, 49 % the structural, 39 % the symbolic and 38.5 % the political. It also found that only 5 % of them used all four frameworks, 7 % used three, 23 % used two, 49 % used only one and 16 % used none.

To contrast the self-perception of leaders obtained in McGowan's studies [22,36], this author investigated the perception of the physiotherapists who worked with them [8] on the importance of 24 leadership characteristics in their workplace and the effectiveness that their leaders had demonstrated in managing these characteristics. As a result of this research, McGowan et al. came up with the following characteristics considered to be very important in a leader.

- fostering a positive workplace culture (83.3 %),
- listening to the ideas, suggestions and opinions of team members (74.8 %),
- demonstrating awareness of the atmosphere of the work environment (74.7 %),
- implementing and driving change to improve practice (74.4 %),
- coordinating the service, organizing the work of the team and themselves (72.8 %).

In addition, it also found that the following characteristics [8] were best considered in terms of the effectiveness demonstrated by their leaders.

- ensuring adherence to policy and procedure and clinical guidelines (36.2 %),
- working with individuals outside the physiotherapy team to develop links and seek opportunities (35.3 %),
- coordinating the service; organizing the work of the team and themselves (35.1 %), - ensuring the visibility and status of the profession in the workplace/society (33.3 %)
- listening to the ideas, suggestions and opinions of team members (33.1 %).

Taking into account the analytical tools used and with the aim of facilitating the interpretation of the results obtained by the authors, the four-frame model of Bolman and Deal [5] has been selected to frame the findings of the selected studies (Table 4).

Table 6
Definitions of Clifton Strengthsfinder characteristics for Physiotherapist.

Characteristic	Definition
Input	People strong in the input theme have a craving to know more. Often they like to collect and archive all kinds of information.
Learner	People strong in the learner theme have a great desire to learn and want to improve continuously.
Achiever	People strong in the achiever theme have a great deal of stamina and work hard. They take great satisfaction from being busy and productive.
Harmony	People strong in the harmony theme look for consensus. They do not enjoy conflict; rather, they seek areas of agreement.
Relator	People strong in the relator theme enjoy close relationships with others. They find deep satisfaction in working hard with friends to achieve a goal.
Strategic	People strong in the strategic theme create alternative ways to proceed. Faced with any given scenario, they can quickly spot the relevant patterns and issues.
Responsibility	People strong in the responsibility theme take psychological ownership of what they say they will do. They are committed to stable values such as honesty and loyalty.

Table 7

Framework defined by Lee Bolman and Terrence Deal.

FRAME	ORGANIZATIONS	LEADERS	DIMENSIONS
STRUCTURAL	Emphasizes goals and efficiency. It posits that effective organizations define clear goals, differentiate people into specific roles, and coordinate diverse activities through policies, rules, and chain of command.	Value analysis and data, keep their eye on the bottom line, set clear directions, hold people accountable for results, and try to solve organizational problems with new policies and rules or through restructuring	ANALYTICAL: Analytical and logical thinking in problem solving. Extraordinary attention to detail. ORGANISED: Careful planning and effective time management. Development and implementation of clear and logical policies and procedures. Setting specific and measurable objectives, holding the team accountable for results. Strong belief in a well-defined structure and chain of command.
HUMAN RESOURCES	Focuses attention on human needs and assumes that organizations that meet basic human needs will work better than those that do not.	Value relationships and feelings; they seek to lead through facilitation and empowerment. They tend to define problems in individual or interpersonal terms and look for ways to adjust the organization to fit people, or to adjust the people to fit the organization.	SUPPORTIVE: Interest and concern for the needs and feelings of others. Is receptive and sympathetic to others. Shows personal support and appreciation for a job well done. PARTICIPATIVE: Builds trust through open and collaborative relationships. Encourages high levels of participation and involvement in decision making. Listens attentively and is extraordinarily receptive to the ideas and contributions of others, very participative leadership.
POLITICAL	Views organizations as arenas of continuing conflict and competition among different interests for scarce resources.	Advocates and negotiators who value realism and pragmatism. They spend much of their time networking, creating coalitions, building a power base, and negotiation compromises.	POWER: Possesses exceptional skills in mobilising the team and providing the necessary resources to achieve objectives. Extraordinarily persuasive and influential. Highly effective in enlisting the support of influential and powerful people, developing alliances to build a solid base of support. SKILLFUL: Skilful negotiator, anticipates and successfully manages conflict and opposition skilfully.
SYMBOLIC	Sees a chaotic world in which meaning and predictability are social creations, and facts are interpretative rather than objective. Organizations develop cultural symbols that shape human behavior unobtrusively and provide a shared sense of mission and identity.	Instill a sense of enthusiasm and commitment through charisma and drama. They pay diligent attention to myth, ritual, ceremony, stories, and other symbolic forms	INSPIRATIONAL: Ability to inspire others to do their best by communicating clearly and strongly the mission and vision of the organisation. Generates loyalty and enthusiasm by becoming an inspiration to others. CHARISMATIC: Highly charismatic, imaginative and creative. Ability to see beyond current realities and generate new and exciting opportunities. Serves as an influential role model for the organisation's aspirations and values.

4. Discussion

This scoping review shows the studies published from 2000 up to June 2022 related to the characteristics of leadership in physiotherapy, allowing us to observe the evolution of the profession in this role. A review of the literature shows that the number of published studies on leadership in physiotherapy is limited, compared to the volume of studies on leadership in other health disciplines such as medicine and nursing [13,17,37,38]. This difference is also observed in the number of published studies of physiotherapy focused on direct patient care, which reflects the reality regarding the low volume and low participation of physiotherapists in leadership positions [23]. Nevertheless, this is an emerging topic in research, given the importance of this role in healthcare organizations [4], its impact on the satisfaction of professionals [39] and patients, as well as on the development of physiotherapy as a profession [21,22].

According to the conceptual framework used in this review, the results of the selected studies indicate that physiotherapist leaders most frequently use the structural and human resources frameworks and that the characteristics identified as most important are communication, continuous learning and teamwork. Effective communication allows for clear and concise communication and active listening to establish constructive interaction [30,33]. The learner characteristic indicates a strong desire to learn and continuously improve [31,32]. Teamwork refers to the satisfaction of working with the team to achieve objectives and providing feedback and appreciation for the team's performance [8,31]. The third most frequently used framework is the political framework and the most valued characteristics are professionalism and strategy. These data reflect that physiotherapists are accustomed to deploying the skills necessary for their daily performance but need to develop those related to the symbolic frame, such as the vision of where physiotherapy should be directed within healthcare systems.

The results found in this review are in agreement with the Health Leadership Alliance (HLA) [40] and with Lega et al. [13], focused generally on healthcare organizations. The (HLA) [40] lists the competencies that leaders need to address their roles in healthcare organizations, framing them into five domains: communication and relationship management, leadership, professionalism, knowledge of the healthcare environment, business knowledge and skills. Lega et al. [13] determined that the areas of leadership that most influence healthcare are, knowledge of personality characteristics, the ability to manage conflict, feedback and building relationships with others. These data are in line with the results of this review, where the most important characteristic for leading physiotherapists is communication [8,14,29,30,41]. These results are also consistent with those obtained by Lopopolo et al. [42] in their analysis of the LAMP components by physiotherapy managers, with the leadership competency framework for physiotherapists designed by Tschoepe et al. [21] and with those of McGowan et al.^{22-36,43} in their research on the capabilities of physiotherapy leaders in Ireland. Good communication favors another of the most valued characteristics which is teamwork [8,32], aiming to foster motivation [33], development opportunities [14] and autonomy in the team [14,29].

If we focus on the leadership domain described by the HLA [40], the results of this review show that physiotherapists consider the following very important: to have a vision for the future [14,33], to have the ability to lead and manage change [8,29] and the creation of a positive culture in the workplace [8]. These results are consistent with those of Alkassabi et al. [43] on the existence of a positive correlation between job satisfaction and team success and with those from Lopez Ibort et al. [39] which relate job satisfaction to the quality of the relationship with the leader. In relation to the leadership values, the most frequently cited in this review were honesty [14,31,32] and integrity and credibility [14,33] which allow them to be role models and inspire others [44]; these results are consistent with those obtained by Giordano-Mulligan [45].

Regarding professionalism, advocacy for the profession is considered extremely important both in the healthcare system and in the work environment [14,33], in our review we found as important: the ability to network between organizations and professionals, maintaining relationships with people outside the profession to develop links and seek opportunities [8], in agreement with the results of McGowan et al. [22-36,46] and Walton et al. [23].

In regard to the domain of knowledge of the healthcare environment and business skills described by the HLA [40], the results of this review point out that physiotherapists also consider as a necessary characteristic the ability to learn and manage information [31,32], important in the development and supervision of adherence to guide-lines, protocols, procedures and clinical practice guidelines [8].

Leadership is key in the future development of physiotherapy as a profession, in its positioning within the healthcare field and in society [46,47]. The scarcity of leaders causes physiotherapists to lack influence in the development of policies and in the forums where decisions affecting the profession are made [22,23]. The need to change the perceptions that other groups have about the role of physiotherapy is identified [36], resulting in the need to unify criteria on the role that physiotherapists have or should assume in health care in order to be successful in professional advocacy directed at external stakeholders [23].

The lack of leadership opportunities in healthcare organizations for physiotherapists [46] limits their professional expectations and is a barrier to their development [47], with little representation of physiotherapists in the forums in which political decisions are made on the development of the profession in the health systems [48]. This is necessary for the unity of physiotherapists to achieve success for the profession in these forums.

The limitations of this review include the variability of the data collection tools, of the variables recorded or the absence of some of them, as well as the disparity of the samples recruited, which has posed a challenge in the synthesis and presentation of the results. The influence of the different work environments, the organizational structure of each health system that may affect the level of responsibility and complexity faced by leading physiotherapists has also been considered as a limitation, so that the characteristics they express or consider necessary may vary.

5. Conclusions

In conclusion, research on leadership in physiotherapy has increased in recent years but remains limited, despite the fact that physiotherapists recognize the importance of leadership in leading teams of physiotherapists and in advocating for the profession.

The skill recognized as most important is communication, framed with leadership styles focused on care and development of the human resources framework that is frequently used by physiotherapists.

The symbolic framework is the least used by physiotherapists, although they consider it very important to be forward-looking and to lead change. A very important characteristic for physiotherapists is also credibility, which is essential for effective leadership.

Data availability statement

No. No data was used for the research described in the article. This study is a synthesis of the data from the studies included in the review.

CRediT authorship contribution statement

Mercedes Ferrando-Margelí: Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Conceptualization. **Carmen Suárez-Serrano:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Conceptualization. **Aitor Garay Sánchez:** Writing – review & editing, Writing – original draft, Conceptualization. **Yolanda Marcén-Román:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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