

Direct access in physical therapy: a systematic review

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Abstract

Background. Grooving evidence suggests that patients could have Direct Access (DA) to physiotherapy. It represents a new model of care, which might lead to improve patients' health status and decrease cost services for healthcare compared with a secondary care referral pathway. The aim of this study is to explore the evidence regarding feasibility, effectiveness, costs, safety and patient satisfaction through DA compared to other organizational models.

Methods. A systematic review was carried out through MEDLINE, CINAHL, and EMBASE databases from their inceptions until March 2018 using keywords related with DA. All articles in English, Italian or Polish comparing the modality of DA with any other organizational modality were included. Two reviewers independently selected eligible studies, extracted the data, and assessed methodological quality using the Newcastle-Ottawa Scale for cohort studies.

Results. 1593 articles were initially identified, and thirteen studies met the inclusion criteria. The mean NOS score for study quality was 6.4 ± 1.4 out of a possible total score of nine points. Patients impairments and health care status, were similar through all studies. DA showed less number of physiotherapy treatments, visits to physician, imaging performed and required fewer non-steroidal anti-inflammatory drugs and secondary care. Patients were more satisfied with the service in comparison to the group referred by the physician. and costs per subject were lower. DA patients were younger, with a higher level of education; mostly, they presented a less severe clinical condition and a more acute pathologies related to the spine. No harms were reported. Only one study assessed the clinical safety of the DA.

Conclusion. The findings suggest that DA to physiotherapy is feasible considering the clinical and economic point of view. However, more research is still needed due to the low evidence of the reviewed studies and to explore the clinical safety of DA. *Clin Ter* 2018; 169(5):e249-260. doi: 10.7417/CT.2018.2087

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Introduction

Nowadays, rehabilitation services require modern organizational models in order to meet the patient's needs and to decrease health care costs. Usually, the patient needing a physical therapy treatment is referred to the rehabilitation service from another health professional (e.g., General

Practitioner, orthopedic surgeon). Recently, worldwide, a new organizational model for providing access to physical therapy is developing: "Direct Access" (DA) i.e., the possibility for the patient to directly seek a physiotherapist as the first contact (1).

DA is a healthcare pathway to access to physiotherapy services quite widespread around the world: in 2012 findings from a survey concluded that DA to physiotherapy is available and well accepted in 40 countries, including Australia, Brazil, the Netherlands, South Africa and most of States in the USA (2).

Mallet et al. (3) reported that DA offers advantages from an economic standpoint reducing the number of visits and specialties consultations' needed before the referral, thus reducing the health care costs sustained by the patients (3). DA also offers organizational advantages; it speeds up the access to physiotherapy, reducing delays in assessment and management (4) and decreasing the workload for General Practitioners (GPs) (4, 5). Also, a reduction in the waiting time and length of stay in the emergency room with no adverse effects were reported when musculoskeletal disorders are screened by a physical therapist as first point of contact for the patients seeking care in the emergency department (6). Furthermore, patients managed through DA by the physiotherapist were shown to be more satisfied than patients evaluated by a physician or an orthopedic surgeon in an emergency department setting (7, 8). Moreover, DA would influence the physiotherapist profession; as it would increase professional responsibility and represent an interesting challenge for the physiotherapists category (4, 9).

On the other hand, physiotherapists should be appropriately trained to be able to recognize clinical findings and symptoms that may indicate an underlying serious pathology e.g., red flags (see (10)), which do exclude physiotherapy as primary treatment and rather suggest the need of a further physician investigation or surgeon assessment. Furthermore, DA might reduce either physician - physiotherapists communication regarding the health status of the patient (11, 12) or multidisciplinary collaboration models that shown positive outcomes (13, 14).

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The aim of this study is to review the evidence regarding the DA in physiotherapy with respect to other organizational models in terms of feasibility, effectiveness, costs, safety and patient satisfaction.

Methods

Search strategy

A structured search on multiple literature databases, including, MEDLINE (through PubMed interface), Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Excerpta Medica dataBASE (EMBASE) was carried out from their inceptions until March 2018. The research strategies are reported in the Appendix. The keywords were identified following a preliminary literature research. Additional records were searched on the reference list of the included articles and by hand searching related studies to retrieve other relevant articles.

All studies - in English, Italian or Polish language - regarding any patients' clinical condition, comparing the modality of DA with any other organizational modality, in terms of effectiveness, cost, safety and patient satisfaction were included. Descriptive articles (e.g., reviews, letters to the editor, commentaries, etc.) that did not provide data regarding the effectiveness of DA were excluded.

Studies selection

Two reviewers (LP & DP) independently screened the titles of the articles obtained, excluding duplicates and obviously irrelevant studies. Later, the same reviewers read the abstracts and selected the full-texts to include. Reviewers were not blinded to information regarding authors and journal for each included paper. Disagreement between reviewers was resolved by a consensus.

Assessment of the methodological quality

As the majority of the studies included in this review were retrospective (i.e., without randomization), the methodological quality of the studies was performed using the Newcastle-Ottawa Scale (NOS) (15), a check-list for cohort studies. The scale comprises of nine items investigating three main domains: i) sample selection (four points), ii) comparability (two points), and iii) outcome (three points) for case-control and cohort studies, respectively. The score system allows a semi-quantitative assessment of study quality by counting the number of point given to each item. The NOS score ranges between zero up to nine points, representing the lowest and the highest quality, respectively.

The two reviewers (LP & DP) independently blind to each other assessed the methodological quality of all included studies. In case of disagreement, a consensus was obtained through a discussion involving a third reviewer (RM).

Data extrapolation and analysis

Subsequently, two reviewers (LP & DP) independently extracted the data using a standardized form, including: bibliography, purpose of the study, study design, participants' characteristics and setting, interventions, outcome measures, main results and conclusions.

Results

Study selection

A total of 1,593 articles were initially retrieved through the literature research. Thirteen papers met the established criteria and were included in this systematic review (4, 5, 16-26). The flow diagram of the literature search through the review selection process is outlined in Figure 1.

Assessment of the methodological quality

A detailed evaluation of the methodological quality of the included studies is shown in Table 1. The mean and standard deviation of the NOS score was 6.4 ± 1.4 (median, 25th and 75th percentile were 6, 5 and 7, respectively). The score ranged from a minimum of five points (4, 17, 18, 20) to a maximum of nine points (25, 26). In the majority of the included studies, the sample selection was considered representative for the general population (except for Holdsworth & Webster (19) who considered controls related to the previous year compared to cases, when DA was not yet established). In several studies, the two groups (DA versus access referred by the physician) were not matched-controlled for confounding factor, i.e., sex and other clinical features (e.g., clinical condition, duration of the disease, etc.). Finally, almost all of the studies did not report outcome variables such as the duration of the treatment period or the number of withdrawals/dropouts among participants.

Data extrapolation and analysis

Table 2 outlines the study characteristics and results of each included study.

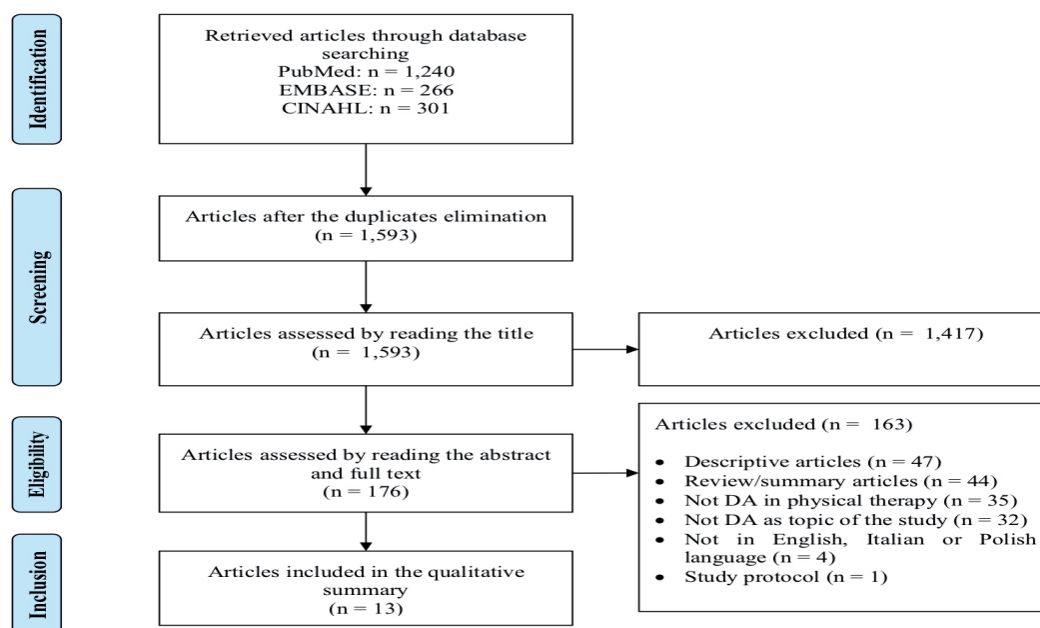


Fig. 1. Flow chart of the study selection

Table 1. Quality assessment of the included studies using the Newcastle-Ottawa Scale.

Reference	Sample selection				Comparability	Outcome			Total Score
	ITEM#1 Representativeness of the Exposed Cohort	ITEM#2 Selection of the Non-Exposed Cohort	ITEM#3 Ascertainment of Exposure	ITEM#4 Demonstration That Outcome of Interest Was Not Present at Start of Study	ITEM#5 Comparability of Cohorts on the Basis of the Design or Analysis	ITEM#6 Assessment of Outcome	ITEM#7 Was Follow-Up Long Enough for Outcomes to Occur	ITEM#8 Adequacy of Follow Up of Cohorts	
Gentle et al., 1984	☆	☆	☆	☆		☆	☆	☆	7
Hackett et al., 1993	☆	☆	☆	☆		☆			5
Mitchell & de Lissvoy, 1997	☆	☆	☆	☆		☆			5
Holdsworth & Webster, 2004	☆		☆	☆	☆ ☆	☆			6
Holdsworth et al., 2006	☆	☆	☆	☆	☆	☆			6
Holdsworth et al., 2007	☆	☆	☆	☆		☆			5
Brooks et al. 2008	☆	☆	☆	☆	☆ ☆	☆			7
Leemrijse et al. 2008	☆	☆	☆	☆		☆			5
Webster et al., 2008	☆	☆	☆	☆	☆		☆	☆	7
Ludvigsson & Enthoven, 2012	☆	☆	☆	☆			☆	☆	6
Pendergast et al., 2012	☆	☆	☆	☆	☆	☆			6
Badke et al., 2014	☆	☆	☆	☆	☆ ☆	☆	☆	☆	9
Bishop et al. 2017	☆	☆	☆	☆	☆ ☆	☆	☆	☆	9

In 1984 Gentle et al. (16) reported the findings of a randomized clinical trial aimed at assessing the effects of a DA service on waiting time before treatment, patient recovery and to describe which patients were considered suitable for DA by GPs. In a UK region (West Cornwall), GP services recruited patients who needed physiotherapy treatment. The patients were randomized for the allocation in the DA group (N=123) and referred by GPs to an outpatient clinic (N=107). The average waiting time before treatment was sensibly lower (i.e., six days) in the DA group compared to the control group (69 days). In the DA group there were less use of consultant outpatient services compared to the GPs referral group. Self-reported questionnaire on the overall recovery of patients revealed a higher rate of improvement in the DA group ($p < 0.05$) at three months of follow-up, highlighting a more rapid recovery. No difference was found on return to work rate. Therefore, DA was found to be a feasible modality to provide physiotherapy care.

In 1993, Hackett et al. (17) compared three different patient management models i.e., referral by GPs (N=183) to physiotherapist on site, access via consultants (N=133) and DA (N=183), in a prospective study over a period of six months. No significant differences on musculoskeletal conditions were found across the three cohorts at the baseline. Referral rates to physiotherapists were higher in the GPs group compared to the other two ($p < 0.001$). On the other hand, on GP referral and DA showed both lower prescription rate ($p < 0.001$) and lower prescribing costs per patient than access via consultants. No differences were reported on the mean number of rehabilitation sessions administered for every patient. Patients in the on-site physiotherapy group showed less lost time from work and daily duties than in the other cohorts. Access via consultant displayed more delays and higher financial costs ($p < 0.001$) compared with the other models. In conclusion, DA showed more benefits in patient care and effectiveness than access by consultant. However, the most cost-effective way on patient management was referral by GPs.

In 1997, Mitchell & de Lissoy (18) analysed data about costs sustained from private health insurances in the United States of America which have reimbursed physiotherapy; costs sustained for patients who had a DA to physiotherapy and costs sustained for patients referred to physiotherapy by a GP were compared respectively. They included all the subjects who request to the insurance for the reimbursement of at least one session of physiotherapy for musculoskeletal disorders from January 1990 to December 1991. They excluded all the subjects with chronic conditions (e.g., arthritis, cancer, osteoporosis) or which a combination of comorbidities. They divided the total participants according to access model to physiotherapy (DA versus referral by the GP), comparing in the number of physiotherapy treatments, costs (in dollars) for: drugs, imaging and total costs. Two-hundred and fifty-two subjects were included in the DA group and 353 subjects in the GP referral group. Compared to the subjects referred by the GP, self-referral patients underwent fewer physiotherapy treatments (7.6 ± 9.1 versus 12.2 ± 12.8 ; $p < 0.01$), had a lower costs for drugs (36 ± 109 \$ versus 78 ± 223 \$; $p < 0.01$), for radiological

examinations (44 ± 190 \$ versus 175 ± 541 \$; $p < 0.01$) and lower total costs (1.004 ± 2.030 \$ versus 2.236 ± 2.827 \$; $p < 0.01$). Therefore, DA episodes were found to be shorter, performed fewer service numbers (both physiotherapeutic, radiological and pharmacological) and were less expensive than GP referral group episodes.

In 2004, Holdsworth & Webster (19) reported the main results of a longitudinal study assessing a physiotherapy treatment based on DA. They included all patients who self-reported or were referred by GP to physiotherapy between 1999 and 2000. Subjects' perception was considered as outcome measure – the patients were asked to assess how severely their problem was influencing them on a 10-centimeter visual analogue scale at admission and discharge. Furthermore, workload of the GPs was also considered. Three hundred and forty subjects were recruited in the DA group and 339 subjects in the group of subjects referred by the GP. The demographic characteristics of the subjects differed between the groups: in fact, the DA group had more males (56 versus 37; $p = 0.007$), had younger subjects ($p = 0.027$), suffering from shorter duration conditions ($p = 0.001$). Moreover, subjects in the DA group had underwent fewer physiotherapy sessions ($p = 0.038$), reported a lower severity of the symptoms at their discharge ($p = 0.011$), waited less time to access physiotherapy (5 ± 3.45 days versus 9 ± 3.8 days; $p = 0.001$) and made fewer GP's visits ($p < 0.01$). Finally, a higher proportion of subjects in the DA group (78%) had achieved the goals that were set at the beginning of their intervention compared to the other group (63%), however this difference was not statistically significant ($p = 0.079$). Based on the study's findings the authors state that DA to physiotherapy was feasible and well-accepted in the setting in which the study was conducted.

In 2006, Holdsworth et al. (20) described the influence of the socio-economic levels across three modalities of access to physiotherapy and investigated if the introduction of self-referral potentially led to an increase of referral rate, in Scotland. All the subjects who were referred or self-referred to physiotherapy were enrolled in three groups, i.e., self-referral ($n = 648$), referred by the GP ($n = 1795$) and GP-suggested referrals ($n = 542$). The three groups were classified according to geographic setting (i.e., urban, semi-rural and rural) and socio-economic level (i.e., deprivation categories). Data from 29 clinics were described. A significant difference ($p < 0.001$) was found among the referral rate within the three-geographic area. DA did not increase the overall referral rate in the geographic setting of the study. However, self-referral and GP-suggested referrals were the most representative access modality to physiotherapy in the rural setting, 32% and 26%, respectively. Interestingly, social deprivation and the socio-economic levels did not influence the modality of access to physiotherapy. The study provided evidence that DA was feasible across different geographic area and socio-economics levels. DA did not lead to an increased rate of access to physiotherapy.

In 2007, Holdsworth et al. (5) established the costs of the Scottish health system regarding different modalities of access to the physiotherapy. They studied three different

organized modalities: subjects with DA, referred by GP suggestion and referred by the GP. The outcome measures included physiotherapeutic treatments number, visits to the GP directly related to the physiotherapy condition over a period of 6 months, prescription costs of non-steroidal anti-inflammatory drugs and analgesics, radiographic exams and/or secondary care. The study included 648 subjects in the DA group, 542 subjects referred by a GP's suggestion, and 1,795 subjects referred by a general practitioner. Self-referral subjects required fewer radiographic exams (47 patients versus 242 patients, $p < 0.001$) or secondary care (9 patients versus 55 patients, $p < 0.001$) compared to subjects referred by the GP. In addition, subjects with DA required fewer prescriptions of non-steroidal anti-inflammatory drugs compared with the suggestion group or directly from the GP (79 patients versus 75 patients versus 219 patients, respectively, $p < 0.001$) and also analgesic drugs (62 patients versus 80 patients versus 276 patients, respectively, $p < 0.001$). Fewer visits to GP were also resulted, if compared with the groups referred with suggestion or directly from the GP (0.82 ± 1.27 versus 1.70 ± 1.24 versus 1.71 ± 1.21 , respectively). Finally, patients with DA had lower total costs per episode, when compared with patients referred to GP-suggested and GP-referral groups (£ 66.31 versus £ 79.50 versus £ 89.99, respectively). The economic implications of this study support the DA mode, which due to less referrals to secondary care or X-ray and less prescribed drugs was found being feasible and cost-effective.

In their 2008 study, Brooks et al. (21) compared the functional outcomes of patients with low back pain according to their modality of access to physiotherapy. They included data from medical records of patients with lumbar disorders who had completed the Roland Morris Disability Questionnaire (RMDQ). The authors included 54 subjects in the DA group and 42 subjects in the group referred by the GP. The number of visits did not differ in the DA group compared to the group referred by physicians (7.1 ± 3.3 versus 6.8 ± 3.5 ; $p = 0.65$). On the other hand, the functional outcome measured by means of RMDQ was better in the DA group than the other group (2.4 ± 2.8 versus 4.1 ± 4.6 ; $p = 0.03$). Therefore, self-reported access was associated with better clinical outcome compared to the control group.

The study by Leemrijse et al. in 2008 (4) aimed to investigate how many patients used DA to physiotherapy and to establish whether these patients have a different demographic and clinical profile from those who use other way to access physiotherapy services. Thus, data from the Dutch national registry were analysed. Subjects treated by physiotherapists who dealt with a specific patient-population such as pediatric and sports physiotherapists were excluded. Subjects were divided into two groups (self-referral and referral by the GP); demographic (e.g., gender, age, education level) and clinical variables (e.g. diagnosis, duration and type of clinical problem, number of sessions) were collected. 2,977 subjects were included in the direct access group and 7,263 subjects in the GP referral group. The self-referral subjects differed significantly from the subjects referred by the GP in terms of age, level of education, duration and recurrence of their health problem ($p < 0.001$); Patients with non-specific

neck and low back pain, with a recurrent and acute condition and with a higher level of education were more likely to make use of DA. Finally, self-referral subjects received fewer treatment sessions (8.1 ± 6.6) compared to GP referral group (10.5 ± 8.9). Therefore, subjects who self-report to physiotherapy have a different demographic and clinical profile compared to patients referred by the doctor.

In a study by Webster et al. (22) physiotherapy services users' opinions regarding access to the service and their experience were collected. Data from three groups that accessed the service with different modalities were reported. A questionnaire was sent via postal service to all the subjects who made use of physical therapy; the questionnaire investigated demographic (gender, age), clinical variables (type of problem, symptom status), satisfaction and related to the service (awareness of the ability to self-referral, perceived level of knowledge of physiotherapy, attitude towards access to physiotherapy, and effectiveness of physiotherapy). Subjects were divided according to modality of access to the physiotherapy service. Five hundred and forty-two subjects were included in the DA group, 1,271 in the referral by GP group, and 364 in the referral at the suggestion of GP group. Most respondents reported they had limited knowledge of physiotherapy, no significant difference between groups was identified ($p = 0.129$); less than 5% of all respondents in all groups considered themselves to be very knowledgeable. The majority of all respondents were satisfied or very satisfied with their physiotherapy intervention and the difference between the groups was statistically significant (79% of the self-referral subjects, 73% of the subjects referred at the suggestion of the GP, 74 % of subjects referred by the GP, $p < 0.001$); less than 3% of all respondents reported not being satisfied. There were significant differences between groups regarding opinions related to access to physiotherapy, autonomous behaviors and future use of physiotherapy; patients in DA group were more likely to strongly support the possibility of self-referral, agreeing that self-referral modality could save time ($p < 0.01$) and that they would use the service again in the future ($p < 0.01$). In conclusion, physiotherapy was positively evaluated by all groups, especially those in the DA group.

In 2012, Ludvigsson & Enthoven (23) compared the patient's satisfaction regarding the assessment performed by a physiotherapist or a GP. This study included subjects with musculoskeletal disorders, administering them a questionnaire to investigate the satisfaction with care and quality of life (through EQ-5D). The questionnaire on care satisfaction included five-question questions regarding the perceived confidence in the ability of the physiotherapist or GP to assess the current disorder, to have received sufficient information about their current disorder and treatment, and the ability of the practitioner to influence their current disorder. They included 51 subjects assessed by the physiotherapist and 42 subjects evaluated by the GP. Significant differences in patient satisfaction were identified between the two groups for all the questions in the questionnaire. Patients evaluated by the physiotherapist were more satisfied about the information on their current disorder ($p < 0.001$), self-treatment information ($p < 0.001$) and the practitioner's

Table 2. Characteristics, results and conclusions of each study included in the review.

Reference	Aim of the study	Study design	Setting & populations	Interventions	Outcome measures	Main results	Conclusions
Gentle et al., 1984 (16)	To assess and describe the DA on patients' use of physiotherapy, consultant outpatient clinics, and the delays encountered.	Randomized clinical trial	Physiotherapy Out-Patient Department in West Cornwall (UK region), and general practitioner clinics form the same region All patients who needed physiotherapy	IG (n=123): DA CG (107): referral by GP to consultant outpatient clinics	Use of services, patient-reported outcome measures about activity and self-reported assessments of the progress	The IG group showed less referral to consultant outpatient clinics, less waiting time for physiotherapy treatment, and recovered more rapidly	DA was an effective way to provide physiotherapy service, resulting in better outcomes compared to GP referral
Hackett et al., 1993 (17)	To assess quality of care, waiting times for treatment and comparative costs across three modalities of physiotherapy access	Open prospective	Three rural practice in North Staffordshire & South Cheshire (UK region) Patients with acute or chronic joint or soft tissue impairments	IG (n=85): DA CG#1 (n=183): referral by GPs to physiotherapy CG#2 (n=133): referral via orthopaedic consultants	Number of treatments, self-reported information about work absence or normal duties, transportation costs and acceptability	CG#1 resulted in higher referral rates to the physiotherapy than IG and CG#2 IG and CG#1 showed lower prescribing cost than CG#1 CG#2 showed more waiting time for physiotherapy than IG and CG#1	DA and CG#1 are cost-effective for patients management with musculoskeletal impairments
Mitchell & Lissovoy, 1997 (18)	Not reported	Retrospective	Data related to a private health insurance of Maryland (USA) All subjects who have had at least one physiotherapy request for acute musculoskeletal disorders	IG (n=252): DA CG (n=353): referral by GP	Physiotherapy treatments, radiological exams, total costs	The IG subjects showed fewer physiotherapy sessions and less costs	DA episodes were of shorter duration, less expensive and subjects performed fewer sessions than subjects referred by GP
Holdsworth & Webster, 2004 (19)	To develop, implement, investigate and report a primary care service of DA in physiotherapy	Retrospective	A general clinic in Scotland All subjects who referred or self-reported to physiotherapy	IG (n=340): DA GC (n = 339): referred to by the GP (sample in reference to the year preceding the advent of the DA)	Perception of the patient's own clinical condition (by VAS), number of physiotherapy sessions, goal achieved at the end of the treatment, visits by the GP	The GI subjects were: males, younger, affected by shorter clinical conditions, in paid employment with less absence of work, performed less physiotherapy sessions, reported less severity of their symptoms to discharge, more satisfied with their physiotherapy assistance and fewer visits from the GP	DA in physiotherapy is an example of an innovative primary care service, feasible, acceptable to both users and suppliers, and has important implications GP workload
Holdsworth et al., 2006 (20)	To investigate the different modalities of referral to physiotherapy across different geographic and socioeconomic settings in Scotland	Prospective, quasi-experimental	29 general practices in Scotland All subjects who referred or self-referred to physiotherapy	IG (n=648): DA CG#1 (n=1795): referral by GPs CG#2 (n=542): GP-suggested referrals	Demographic, socioeconomic (level of deprivation based on the DEPCAT score) and geographic location data	DA did not increase the referral rate to physiotherapy The highest rate of access to physiotherapy was reported among rural areas. CG#2 and IG showed higher referral rates in rural area. Patient form IG came from all socioeconomic settings	The socio-economic level did not influence the modality of access to physiotherapy DA is feasible across different socio-economic levels

(Following table)

Reference	Aim of the study	Study design	Setting & populations	Interventions	Outcome measures	Main results	Conclusions
Holdsworth et al., 2007 (5)	To establish the costs of the Scottish health system of different modalities of access to physiotherapy	Retrospective	26 general clinics in Scotland	IG (n = 648): DA CG# 1 (n = 542): referred to suggestion by the GP CG# 2 (n = 1,795): referred to by the GP	Perception of the patient's own clinical condition (by VAS), number of physiotherapy sessions, visits by the GP, costs for prescription of non-steroidal anti-inflammatory drugs and analgesics, radiographic exams, and/or secondary care	The IG subjects performed less x-rays or secondary care than patients referred by GPs Fewer drugs were prescribed for IG subjects than for CG#1 and CG#2 patients The average cost of a treatment episode was £ 66.31 for IG, £ 79.50 for CG#1, and £ 88.99 for CG#2 IG patients differed significantly from CG patients, based on age, education level and characteristics of their health problem IG patients received fewer treatment sessions than CG patients	Significant implications associated with DA to physiotherapy were found DA did not lead to greater use of physiotherapy services. IG patients have a different profile than patients who have been referred to by their GP. DA group was associated with a better functional outcome
Leemrijse et al., 2008 (4)	To investigate how many patients use DA and determine if these patients have a different profile than the referral patients	Retrospective	Data related to a national network from 43 private practices with 93 physiotherapists in the Netherlands	IG (n = 2,977): DA CG (n = 7,263): referral by GP	Clinical variables, i.e., duration of the health problem, if it was a recurrent problem, previous treatments, number of sessions	The number of visits was not associated with the type of access. Patients reported to the doctor had a higher Roland Morris Disability Questionnaire at discharge	DA did not lead to greater use of physiotherapy services. IG patients have a different profile than patients who have been referred to by their GP.
Brooks et al., 2008 (21)	Describe the characteristics of patients with lumbar disorders, and to compare functional outcomes and the number of physiotherapy treatments according to the type of access	Retrospective	Data from medical records of patients treated for lumbar disorders Patients with back pain	IG (n=54): DA CG (n=42): referred by physician	Roland Morris Disability Questionnaire	The number of visits was not associated with the type of access. Patients reported to the doctor had a higher Roland Morris Disability Questionnaire at discharge	DA group was associated with a better functional outcome
Webster et al., 2008 (22)	To explore the opinions and perceptions of patient who use physiotherapy services about their referral modality and physiotherapy experience	Retrospective	26 general clinics in Scotland All subjects who have had access to physiotherapy	IG (n = 542): DA CG#1 (n = 1,271): referred by the GP CG#2 (n = 364): referred to suggestion by the GP	A questionnaire regarding opinions and perceptions about physiotherapy was administered to all the participants The questionnaire investigated demographic variables, health status, patient satisfaction related to the service	Most of the respondents claimed to have limited knowledge of physiotherapy, with no difference between the groups. The IG subjects were more satisfied than CG# and CG#2 subjects. The IG subjects agreed that the DA could save time	Physiotherapy was considered positively by all groups, especially self-reported patients, despite a considerable lack of knowledge of the physical therapy profession

(Following table)

Reference	Aim of the study	Study design	Setting & populations	Interventions	Outcome measures	Main results	Conclusions
Ludvigsson & Enthoven, 2012 (23)	To compare patient satisfaction with primary assessment by a PT or GP	Retrospective	Primary health center in Sweden, which included 5 PTs with at least three years of experience and training in manual therapy and 5 GPs with several years of experience Patients with musculoskeletal disorders	IG (n = 51): assessed by the PT CG (n = 42): assessed by the GP	Patient satisfaction questionnaire	Patients assessed by a PT were more satisfied with the information received about their disorder and self-care than patients assessed by a GP. Patients had more confidence in the ability of physiotherapists to evaluate their disorder	Patients were satisfied with the primary assessment performed by a PT
Pendergast et al., 2012 (24)	To compare patient's profiles and health care for episodes in DA or referral access of outpatient physiotherapy	Retrospective	Data regarding private health insurances of Iowa and South Dakota (USA) Patients between 18 and 64 age divided into six large diagnostic groups: arthritis and joint problems, neurological impairments, spinal problems; sprains and strains, fractures and other traumatic injuries, miscellaneous	IG (n = 17,497): DA CG (n = 45,210): access referral by GP	Number of physiotherapy treatments, total available costs	The CG showed on average more physiotherapy session than the IG The IG showed lower costs than the CG	The findings do not support the claim that DA leads to overuse of care or discontinuity in care, in a large population of individuals with private health insurance
Badke et al., 2014 (25)	To compare the physiotherapy practice when the patient is evaluated by the PT with or without a referral	Retrospective	A clinic of an American city with 7 PTs who carried out DA program Patients with musculoskeletal disorders of the spine or with sports conditions	IG (n = 252): DA CG (n = 169): access referral by GP	Functional outcomes (questionnaires), use of resources (visits to the doctor, visits by the PT, bio-images, injections, duration of treatment), costs	The number of visits and the average duration of treatment was significantly lower in the IG The CG showed a higher average of medical visits and advanced bio-imaging procedures Costs for physical therapy services, visits, bio-images were significantly more expensive for CG than IG. No significant difference in function and pain between the two groups	Costs and use of resource (bio-imagery and physician consultation) were minor for DA patients compared to those referral by the GP.
Bishop et al., 2017 (26)	To assess the feasibility of a future study to compare the clinical efficacy and costs of DA with referral access for adults with musculoskeletal disorders	Randomized clinical trial	4 general practice clinics in a city of United Kingdom Patients older than 18 years who were present at the GP or at PT for a musculoskeletal condition	IG (n = 425): DA CG (n = 553): referral by the GP	Clinical outcomes (physical function, quality of life, mental health), economic (further health care, absence from work, presentzialism), convenience of service, satisfaction with service, safety of service	The clinical and cost results were similar in both groups. No adverse events were reported.	A future study on DA and is feasible

Legend: IG: intervention group; CG: control group; GP: general practitioner; DA: direct access; VAS: Visual Analogue Scale, PT: Physical Therapist

ability to influence their current disorder ($p = 0.002$) than to patients evaluated by a GP. Significantly more subjects evaluated by the physiotherapist expressed complete confidence in the physiotherapist's ability to evaluate their disorder compared to patients evaluated by the general practitioner who express complete confidence in the doctor's abilities. Therefore, subjects were satisfied in the primary evaluation performed by a physiotherapist.

In 2012 Pendergast et al. (24) compared patients' characteristics and their type of health care in subjects with direct access to outpatient physiotherapy services compared to subjects referred by the GP. They collected and analysed data from American health insurances of patients between the ages of 18 and 64, subdividing them into six large diagnostic groups: arthritis and joint problems, neurological diagnosis, spinal problems, sprains and strain, fractures and other disorders, traumatic to the joints, miscellaneous. As outcome measures, they considered the number of physiotherapy treatments and the total costs available. This study included 17,497 subjects with direct access and 45,210 subjects referred by the GP. The group with DA was younger (43.5 ± 13.12 years versus 45.9 ± 12.62 years; $p < 0.001$) compared to the group referred by GP, with a greater prevalence of female subjects (59% versus 41%; $p < 0.001$). Furthermore, the group with DA performed on average fewer physiotherapy treatments (5.90 ± 5.55 versus 7.00 ± 6.09 ; $p < 0.001$) compared to subjects referred by GP. Finally, episodes of subjects with DA had lower costs (503.12 ± 478.18 \$ versus 605.49 ± 549.61 \$; $p < 0.001$) than subjects referred by GP. Therefore, the findings of this study showed that patients with DA performed less physiotherapy treatments and had lower costs than those referred by GP.

In 2014, Badke et al. (25) evaluated a DA service for outpatients. They included subjects with musculoskeletal disorders of the spine or sports injuries, excluding subjects who underwent physiotherapy following surgery. Total costs and functional outcomes (through questionnaires administered to the subjects) were considered. They included 252 subjects in the DA group and 169 subjects in the group with access referred by GP. The number of visits (3.9 ± 3.0 versus 5.4 ± 3.2 ; $p < 0.0001$) and the mean duration of treatment (8.4 ± 8.6 weeks versus 10.2 ± 8.1 weeks; $p = 0.03$) were significantly lower in the group with DA. The group referred by the GP underwent more medical examinations (4.6 ± 5.9 versus 8.2 ± 6.4 ; $p < 0.0001$), radiographs (0.25 ± 0.62 versus 0.48 ± 0.80 ; $p = 0.0003$) and advanced bio-imaging procedures (TC, resonances magnetic imaging and ultrasound) (0.15 ± 0.54 versus 0.48 ± 0.80 ; $p = 0.0001$) compared to the group with DA. In addition, the costs for physiotherapy treatments (1143.5 ± 789.1 \$ versus 1463 ± 817.9 \$; $p < 0.0001$), visits to the physician (839.2 ± 1422.6 \$ versus 1520.9 ± 1721.9 \$; $p < 0.001$) radiographs (873 ± 222.9 \$ versus 163.0 ± 262.0 \$; $p = 0.0001$) and advanced bio-imaging procedures (288.1 ± 989.6 \$ versus 626.5 ± 1277.0 \$; $p = 0.0001$) were found to be greater in the group referred by GP than the DA group. No statistically significant difference resulted from the analysis of the clinical variables concerning baseline function (77.6 ± 12.6 versus 75.6 ± 12.9 ; $p = 0.35$) and

after treatment (91.3 ± 6.5 versus 90.2 ± 11.3 ; $p = 0.50$), both with regard to pain reduction (64.6% versus 66.6%; $p = 0.76$). The authors concluded that DA was less expensive compared to GP referral.

In 2017, Bishop et al. (26) reported the findings of a pilot randomized clinical trial aimed at investigate the feasibility of a future study. The authors evaluated the clinical efficacy and the costs of DA to the physiotherapy service, compared to GP referral. They included adults (18 years old) with musculoskeletal impairments, excluding those undergoing palliative care, with severe learning difficulties, and that were forced to stay at home or at the nursing home. Clinical outcomes were evaluated, such as physical function, quality of life, mental health (through questionnaires), economic, such as further health care, absence from work, attendance, convenience of service, satisfaction with service and service safety. The authors included in the study 425 subjects in the group of DA and 553 subjects in the group referred by GP. With regard to clinical outcomes, the questionnaire scores were very similar over time among the participants in both groups. Considering the economic outcomes, the GP referral group was subjected to a slightly higher number of visits to the general medicine doctor, to more investigations (e.g., TC, X-ray and magnetic resonance), specialist visits (e.g., rheumatologists and orthopaedic surgeons) and hospital days deriving from surgical interventions; instead the group with DA carried out more physiotherapy treatments. In addition, the average total costs per subject were slightly lower in the group with direct access (940.02 ± 2157.24 £ versus 951.25 ± 2050.88 £). The proportion of participants who reported work absence due to their musculoskeletal problem was similar between the two groups. No adverse events occurred in the two groups throughout the study.

Eight study (4, 5, 17, 20, 22-24, 26) reported to receive funding or financial support for implementation of their researches.

Discussion

The purpose of this review was to explore evidence regarding DA compared with physician referral or other organizational model. DA to physiotherapy is a recently pathway care that showed advantages in clinical and economic terms. It also represents an excellent future health model care for access to physiotherapy without referrals from a physician. However, DA should be studied in terms of clinical safety, patient satisfaction, and economic feasibility, in order, to be implemented in healthcare systems.

Following a systematic literature search, thirteen articles which met the inclusion criteria for this review were included and analyzed. In summary, the DA modality group showed lower costs (in terms of physiotherapy treatments, visits to the GP, and bio-images performed) and was more satisfied with the service than the group referred by the physician. Patient health-status were similar through all studies, no significant differences were highlighted. Only one study assessed the clinical safety of the DA.

Demographic and clinical characteristics of the subjects were different between the two studied groups. With regard to demographic variables, the group with DA was younger (4, 19, 24) and reported a higher level of education (4). These findings can be explained in terms of a change of culture; in fact, older patients (whose prevalence was higher in the group referred by physicians) are still used to consult in the first instance the GP according to their past habits. On the other hand, younger patients are more likely to keep up with the new possibilities the health system can offer. Moreover, the latter also showed a higher level of education; therefore, DA group was more likely to know about available healthcare pathway and, therefore, could be more inclined to make their own treatment decisions, choosing alternative ways to access physiotherapy treatments. These two groups also differed in clinical characteristics; in fact, patients in DA were affected by a less severe clinical condition (19) and had more acute pathologies related to the spine - such as nonspecific neck and low back pain (4). This finding can be explained by the fact that physiotherapy is recommended as a first treatment in acute musculoskeletal impairments of the spine (27). Finally, the DA group had a higher prevalence of recurrent musculoskeletal episodes (4); patient's knowledge of the symptoms and specific competence of the physiotherapist could also explain these outcomes, i.e., patients with recurrent problems referred directly more often than patients who had no previous experience with physical therapy. Although, it's important to point out that not all diseases should have DA to physiotherapy. Patients presenting chronic diseases with different co-morbidities require multidisciplinary management whose responsible clinician must be a doctor. However, acute pathologies can be managed through DA; in fact, the first treatment for some pathologies - after excluding organic causes that are of medical competence (i.e., red flags (10)) - is the physiotherapy treatment (28).

DA group performed fewer physiotherapy treatments (18, 19, 24, 25), and fewer visits from their GP (19, 20, 25, 26). In addition, the DA group required fewer diagnostic imaging (20, 25, 26), analgesic (18, 20, 25), non-steroidal anti-inflammatory drugs (20), and secondary care (20).

Several studies assessed the costs incurred by each subject, comparing the DA with the group referred by the physician; episodes of care with DA less expensive than those referred by the physician (18, 20, 24, 25). This finding is straightforward considering the previous results (in terms of performance that the two groups needed). In fact, the group with DA needed a smaller number of physiotherapy treatments, medical visits, drugs, bio-images; all this had a positive effect on the total expenditure of a single episode of care.

As far as clinical results are concerned, reviewed studies are divergent. Holdsworth & Webster (19) reported better clinical outcomes (lower symptom severity) of patients at discharge; instead, other studies did not find significant differences between the two groups at the end of the treatment on health conditions (25, 26) and pain (25). Only one study (19) showed that subjects with DA waited shorter time to

access physiotherapy.

The safety of DA has been assessed only in one study. Bishop et al. (26) found no adverse event in their study. Moreover, a single cohort retrospective study performed in 25 military health facilities described adverse events in a group of 50,799 subjects using physiotherapy services in DA (29). No adverse events have been documented due to direct management of the physiotherapist. Furthermore, none of the physiotherapists modified or revoked their license to practice for disciplinary actions and no cases of contentious against physiotherapists were reported. This aspect concerning safety remains important and not studied in-depth; in fact, one of the negative consequences of DA is that physiotherapists may neglect serious medical conditions that do not require physiotherapy treatment, but a specialized medical assessment. For these reasons, in Netherlands, a mandatory post-graduate training was implemented before the introduction of DA for physical therapist in order to acquire specific skills on the detection of relative and absolute contraindications for physiotherapy treatment (4).

In literature, evidence of efficacy is also available from different clinical settings than those included in this review. Duncan et al. (30) in their retrospective study described a physiotherapy service in a medical-surgical intensive neurological therapy before and after the implementation of DA. Physiotherapy treatments consisted of cardiorespiratory, mobilization and combined treatments. The number of days of stay in intensive care did not differ comparing before and after the implementation of DA; however, patients who were treated in DA began physiotherapy earlier than patients previously assessed by the physician (1.8 days versus 3.2 days, $p = 0.01$). Obviously, operating in settings with high clinical instability patients, such as intensive care, requires advanced and specialized skills. However, this study highlighted that a physiotherapy service with DA to an intensive care unit can be supported, by implementing suitable procedures and protocols for the DA. Primary contact has also been extensively studied in the accident and emergency departments. Taylor et al. (6) included 315 patients who had access to the emergency room for musculoskeletal injuries and assessed by experienced physiotherapists. Primary contact with the physiotherapist resulted in a reduction of the waiting time of 59.5 minutes (IC 95%: 38.4- 80.6 min) and of the time necessary for the treatment of 25 minutes (IC 95%: 12.1 and 38.0 min) compared with secondary contact with the physiotherapist. The majority of patients were satisfied with their treatment. Furthermore, 96% of emergency healthcare professional agreed about the fact that physiotherapists had appropriate skills to provide this type of treatment. DA has not been studied only in physiotherapy field. Indeed, Addley et al. (31) examined the impact of self-referral to an occupational therapy service in 231 participants. The study reported improvements in function, pain reduction, and improvement in clinical status following occupational therapy treatment in DA.

This review has some limitations. First, only articles published in English, Italian and Polish were included. Second, the search was performed only in three databases, and some relevant article may not have been included; however,

a hand-searching in the bibliography of the included articles was carried out. Third, most of the included studies were not matched-controlled for confounding factors (i.e. for sex and clinical variables) and the follow-up was not long enough, introducing a high risk of bias in the interpretation of the results. Furthermore, all studies but one (26) were of a retrospective nature; therefore, it is desirable that in future randomized clinical trials are developed to reduce this risk of bias and to obtain solid evidence in this topic.

DA has been extensively studied only in terms of costs, clinical outcomes and patient satisfaction. Therefore, other outcomes of clinical interest should be investigated, in particular the clinical safety of this modality. Furthermore, future research should also focus on communication between physicians and physiotherapists; the fact that the doctor no longer refers the patient to the physiotherapist could lead to a decrease in communication between the two clinicians, which plays a fundamental role throughout the therapeutic process (32); sharing information and collaboration on patient care and patient health issues between physiotherapists and primary care physicians should be assured in the interest of patients. The conclusions of this systematic review come almost exclusively from retrospective studies; unfortunately, only two randomized clinical trial has been published on the topic (16, 26). Therefore, there is a need to implement high quality methodological studies to give valid answers to questions that remained open.

In conclusion, this systematic review showed that the DA to physiotherapy is feasible considering the clinical and economic impact. Further research should explore the clinical safety of self-referral.

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References

- World Confederation for Physical Therapy. Policy statement. Direct access and service users' self-referral to physical therapy 2011 [March, 2018]. Available from: <http://www.wcpt.org/policy/ps-direct-access>
- Bury TJ, Stokes EK. Direct access and patient/client self-referral to physiotherapy: a review of contemporary practice within the European Union. *Physiotherapy* 2013; 99(4): 285-91
- Mallett R, Bakker E, Burton M. Is physiotherapy self-referral with telephone triage viable, cost-effective and beneficial to musculoskeletal outpatients in a primary care setting? *Musculoskeletal Care* 2014; 12(4): 251-60
- Leemrijse CJ, Swinkels IC, Veenhof C. Direct access to physical therapy in the Netherlands: results from the first year in community-based physical therapy. *Phys Ther* 2008; 88(8): 936-46
- Holdsworth LK, Webster VS, McFadyen AK. What are the costs to NHS Scotland of self-referral to physiotherapy? Results of a national trial. *Physiotherapy* 2007; 93(1): 3-11
- Taylor NF, Norman E, Roddy L, et al. Primary contact physiotherapy in emergency departments can reduce length of stay for patients with peripheral musculoskeletal injuries compared with secondary contact physiotherapy: a prospective non-randomised controlled trial. *Physiotherapy* 2011; 97(2): 107-14
- Holdsworth LK, Webster VS, McFadyen AK. Physiotherapists' and general practitioners' views of self-referral and physiotherapy scope of practice: results from a national trial. *Physiotherapy* 2008; 94(3): 236-243
- McClellan CM, Greenwood R, Bengler JR. Effect of an extended scope physiotherapy service on patient satisfaction and the outcome of soft tissue injuries in an adult emergency department. *Emerg Med J* 2006; 23(5): 384-7
- American Physical Therapy Association. Vision 2020 [March, 2018]. Available from: <http://www.apta.org/Vision2020/>
- Ferguson F, Holdsworth L, Rafferty D. Low back pain and physiotherapy use of red flags: the evidence from Scotland. *Physiotherapy* 2010; 96(4): 282-8
- Snow BL, Shamus E, Hill C. Physical therapy as primary health care: public perceptions. *J Allied Health* 2001; 30(1): 35-8
- Deyle GD. Direct access physical therapy and diagnostic responsibility: the risk-to-benefit ratio. *J Orthop Sports Phys Ther* 2006; 36(9): 632-4
- Parisi S, Celletti C, Scarati M, et al. Neuromuscular taping enhances hand function in patients with systemic sclerosis: a pilot study. *Clin Ter* 2017; 168(6): e371-e375
- Celletti C, Sinibaldi E, Pierelli F, et al. Focal Muscle Vibration and Progressive Modular Rebalancing with neurokinetic facilitations in post-stroke recovery of upper limb. *Clin Ter* 2017; 168(1): e33-e36
- Wells G, Shea B, O'Connell J, et al. The Newcastle-Ottawa Scale (NOS) for Assessing the Quality of Nonrandomised Studies in Meta-analyses 2011 [November, 2017]. Available from: http://www.ohri.ca/programs/clinical_epidemiology/oxford.asp
- Gentle PH, Herlihy PJ, Roxburgh IO. Controlled trial of an open-access physiotherapy service. *The Journal of the Royal College of General Practitioners* 1984; 34(264): 371-6
- Hackett GI, Bundred P, Hutton JL, et al. Management of joint and soft tissue injuries in three general practices: Value of on-site physiotherapy. *Br J Gen Pract* 1993; 43(367): 61-64
- Mitchell JM, de Lissovoy G. A comparison of resource use and cost in direct access versus physician referral episodes of physical therapy. *Phys Ther* 1997; 77(1): 10-8
- Holdsworth LK, Webster VS. Direct access to physiotherapy in primary care: now?—and into the future? *Physiotherapy* 2004; 90(2): 64-72
- Holdsworth LK, Webster VS, McFadyen AK. Self-referral to physiotherapy: deprivation and geographical setting: is there a relationship? Results of a national trial. *Physiotherapy* 2006; 92(1): 16-25
- Brooks G, Dripchak S, Vanbeveren P, et al. Is a prescriptive or an open referral related to physical therapy outcomes in patients with lumbar spine-related problems? *J Orthop Sports Phys Ther* 2008; 38(3): 109-115
- Webster VS, Holdsworth LK, McFadyen AK, et al. Self-referral, access and physiotherapy: patients' knowledge and attitudes—results of a national trial. *Physiotherapy* 2008; 94(2): 141-149
- Ludvigsson ML, Enthoven P. Evaluation of physiotherapists as primary assessors of patients with musculoskeletal disorders seeking primary health care. *Physiotherapy* 2012; 98(2):

- 131-7
24. Pendergast J, Kliethermes SA, Freburger JK, et al. A comparison of health care use for physician-referred and self-referred episodes of outpatient physical therapy. *Health Serv Res* 2012; 47(2): 633-54
 25. Badke M, Sherry J, Sherry M, et al. Physical therapy direct patient access versus physician patient referred episodes of care: comparisons of cost, resource utilization & outcomes. *PTJ-PAL* 2014; 14(3): 3-13
 26. Bishop A, Ogollah RO, Jowett S, et al. STEMS pilot trial: a pilot cluster randomised controlled trial to investigate the addition of patient direct access to physiotherapy to usual GP-led primary care for adults with musculoskeletal pain. *BMJ Open* 2017; 7(3): e012987
 27. Qaseem A, Wilt TJ, McLean RM, et al. Noninvasive Treatments for Acute, Subacute, and Chronic Low Back Pain: A Clinical Practice Guideline From the American College of Physicians. *Ann Intern Med* 2017; 166(7): 514-530
 28. Casazza BA. Diagnosis and treatment of acute low back pain. *Am Fam Physician* 2012; 85(4): 343-50
 29. Moore JH, McMillian DJ, Rosenthal MD, et al. Risk determination for patients with direct access to physical therapy in military health care facilities. *J Orthop Sports Phys Ther* 2005; 35(10): 674-8
 30. Duncan C, Muc L, Heck C. Impact of using physiotherapy self-referral in the medical-surgical neurological intensive care unit. *Physiother Can* 2015; 67(1): 39-45
 31. Addley K, Burke C, McQuillan P. Impact of a direct access occupational physiotherapy treatment service. *Occup Med (Lond)* 2010; 60(8): 651-3
 32. Dingley C, Daugherty K, Derieg MK, et al. Improving Patient Safety Through Provider Communication Strategy Enhancements. In: Henriksen K, Battles JB, Keyes MA, et al., editors. *Advances in Patient Safety: New Directions and Alternative Approaches (Vol. 3: Performance and Tools)*. Advances in Patient Safety. Rockville (MD)2008.

Appendix 1. Search strategy for each queried database

Databases	Search strategy
MEDLINE	<i>("Direct access" OR Self-referred OR "Self referred" OR "Self-referral" OR "Self referral" OR Referral and Consultation [Mesh]) AND ("Physical therapy" OR Physiotherapy OR Physical Therapy Modalities [Mesh] OR "Physical therapist" OR Physiotherapist)</i>
EMBASE	<i>('direct access' OR 'self referred' OR 'self-referral' OR 'self referral'/exp OR 'self referral') AND ('physical therapy'/exp OR 'physical therapy' OR 'physiotherapy'/exp OR physiotherapy OR 'physical therapist'/exp OR 'physical therapist' OR 'physiotherapist'/exp OR physiotherapist)</i>
CINAHL	<i>("Direct access" OR "Self-referred" OR "Self referred" OR "Self-referral" OR "Self referral") AND ("Physical therapy" OR Physiotherapy OR "Physical therapist" OR Physiotherapist)</i>