

Utilisation of rheumatology care services in Germany: the case of physical therapy and self-help groups

Inanspruchnahme von Versorgungsleistungen bei Patienten mit rheumatischen Erkrankungen in Deutschland: Physiotherapie und Selbsthilfe

Abstract

Physical Therapy (PT) and self-help groups (SHG) are important components of health care in rheumatic diseases. The utilisation of PT and SHG by patients with rheumatic diseases may be influenced by several factors. The aim of this study is to summarize the evidence on PT and SHG utilisation of patients with rheumatic diseases in Germany. We systematically searched the MEDLINE-database for studies that evaluated the utilisation and factors that possibly influence the utilisation of PT and SHG. Eight studies were found for PT-utilisation and one for SHG-utilisation. Between 25 and 59 percent of patients with rheumatic diseases received PT services. Several individual and contextual factors that may influence the utilisation could be identified. In conclusion, evidence exists for wide variations in the utilisation of PT services and an underuse of such services among patients with rheumatic diseases in Germany. By contrast, little evidence exists on the utilisation of SHG.

Keywords: rheumatic disease, physical therapy, self-help, utilisation

Zusammenfassung

Physiotherapie (PT) und Selbsthilfegruppen (SHG) sind wichtige Bestandteile der Gesundheitsversorgung von Patienten mit rheumatischen Erkrankungen. Die Inanspruchnahme von PT und SHG ist möglicherweise von verschiedenen Faktoren beeinflusst. Das Ziel der vorliegenden Studie ist die Zusammenfassung der gegenwärtigen Evidenz zur Inanspruchnahme von PT und SHG von Patienten mit rheumatischen Erkrankungen in Deutschland. Eine systematische Suche in der elektronischen Datenbank MEDLINE nach Studien, welche die Inanspruchnahme von PT und SHG und mögliche beeinflussende Faktoren untersuchen, wurde durchgeführt. Acht Studien zur Inanspruchnahme von PT und eine Studie zur SHG Nutzung wurden identifiziert. Zwischen 25 und 59 Prozent der Patienten erhielten PT. Verschiedene individuelle und kontextuelle Faktoren, welche die Inanspruchnahme beeinflussen könnten, wurden identifiziert. Schlussfolgernd zeigte sich eine breite Variation in der Inanspruchnahme von PT und eine Unterversorgung mit diesen Leistungen bei Patienten mit rheumatischen Erkrankungen in Deutschland. Demgegenüber existiert kaum Evidenz zur Inanspruchnahme von SHG.

Schlüsselwörter: rheumatische Erkrankungen, Physiotherapie, Selbsthilfe, Inanspruchnahme

Introduction

Rheumatic diseases are a group of different diagnoses related to musculoskeletal impairments not caused by injury or cancer. The most common diagnoses among adults

are rheumatoid arthritis (RA), psoriatic arthritis (PsA), osteoarthritis (OA), systemic lupus erythematosus (SLE), fibromyalgia (FM) and ankylosing spondylitis (AS). The incidence and prevalence of these diseases are high. In Germany, the lifetime prevalence of RA in adults is 3.4

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percent [1]. This prevalence is highly associated with age. Whereas only one percent of adults under the age of 30 have a rheumatic disease, the prevalence is 6.25 percent in adults over the age of 70. In the population over the age of 40, the lifetime prevalence of rheumatic diseases in women tends to be higher than in men and becomes twice as high as in men after the age of 70 [1]. According to a US study, there was a decline in the incidence of RA from 61.2/100,000 in 1955 to 32.7/100,000 in 1994 [2]. Based on a review of data from studies conducted in various different developed countries, Gabriel and Michaud [3] found RA point prevalence rates of 0.5 to 1 percent of the adult population. In several other studies, incidence rates of PsA between 6/100,000 [4] and 9.8/100,000 [5] were found. Kaipiainen-Seppänen and Aho [4] reported a PsA point prevalence rate of 0.1 percent of the population. A study by Sun et al. [6] examining the incidence of OA – the most common form of arthritis, which primarily affects knee and hip joints – revealed rates of 1,103/100,000 for women and 934/100,000 for men. Murphy et al. [7] estimated a 44 percent lifetime risk of knee OA. Bernatsky et al. [8] calculated an incidence rate of 3.0/100,000 for SLE with a one-year prevalence of 51/100,000 inhabitants, and Weir et al. [9] found an incidence rate of 6.9/100,000 for FM. In Germany, FM one-year prevalence rates of 0.4 percent in women and 0.5 percent in men were found [10].

The burden caused by rheumatic diseases is high. Not only do they significantly impair function and quality of life [11], they are also the most important cause of chronic health problems (approx. 40 percent), long-term disability (approx. 50 percent) and short-term disability (approx. 30 percent) compared to most other common diagnoses [12]. A report issued by the German government in 1997 estimated that rheumatic diseases were responsible for nearly one-third of all early retirement cases, one-fifth of hospital stays and a high percentage of general practitioner consultations [13].

In addition to pharmacological and surgical interventions, physical therapy (PT) is an important part in the evidence-based care of rheumatic diseases. The aim of PT is to reduce pain and restore or maintain optimal physical functioning [14], [15]. Although there is substantial evidence for the effectiveness of physical therapy in reducing impairment and disability for at least some rheumatic diseases, such as RA [16], [17], [18], OA [19], [20], [21], AS [17], [22] and FM [23], [24], little is known about the utilisation of PT services and the factors influencing this utilisation. In Germany, the use of PT services usually requires a referral from a medical doctor. The total number, frequency and content of PT sessions are dependent upon the medical diagnosis and are regulated by the German *Heilmittelkatalog*. The *Heilmittelkatalog* explains which *Heilmittel* (e.g., physical therapy, occupational therapy, speech- and language therapy) in which amount leads to an appropriate and economic health care service in a special diagnosis. Recently, there have been discussions about the possibility of direct access to PT services for certain diagnoses. This option has

already been tested in pilot projects. There are also cases, however, when self-regulation of PT services is possible. Physical therapists may treat patients without a referral if they are licensed as an alternative practitioner or if the patients are paying out of pocket for services.

A study by Zink et al. [25], based on data from a national database in Germany, found high practice variation in the pharmacological and non-pharmacological treatment of patients with RA. However, only a small percentage of this variation could be explained by case mix differences. Self-help groups (SHG) also appear to be important for patients with rheumatic diseases [26], [27], [28]. However, little is known about the effects of such groups. Thumboo and Strand [29], for example, reported improved health-related quality of life through the use of self-help courses in patients with SLE. In Germany, there are no restrictions on the participation on SHG services. One of the biggest self-help organisations in Germany, the “Deutsche Rheuma-Liga e.V.”, organises and supports SHG nationwide [30]. As in the case of PT services, evidence on the participation on SHG and potential factors influencing the participation is scarce.

Based on Andersen’s Behavioural Model [31], [32], we assume that there are both contextual and individual characteristics which influence the health behaviours of individuals. This includes their use of healthcare services, such as PT and SHG. Anderson [32] groups these contextual and individual characteristics into predisposing, enabling and need factors. Factors predisposing to service utilisation encompass demographic characteristics, social structures and personal beliefs. Enabling factors include health policies, financial resources and organizational factors facilitating or impeding utilisation. Population health indices (e.g., mortality, morbidity and disability rates) may be viewed as contextual-level need factors. Need factors at the individual level can be classified as perceived need, as assessed by the individual (e.g., health-related quality of life (HRQOL)), or evaluated need, as assessed by a professional (e.g., severity).

To our knowledge, there are currently no systematic reviews on the utilisation of PT and participation on SHG by patients with rheumatic diseases in Germany. The aim of this study is to systematically search and summarize available evidence on PT utilisation and SHG participation and factors influencing their utilisation in Germany.

Methods

A MEDLINE (PubMed) database search was performed using the search strategy presented in Attachment 1. Search results were limited to human studies of adults over 18 years of age, articles written in English or German and those published between January 1, 1998, and October 11, 2011. We also included trials that were known to us but had not been identified through our search. In order for studies to be included in this review, they (1) had to report data on the utilisation of PT or SHG among adults with rheumatic diseases, (2) have been carried

out in Germany, (3) have been written in German or English and (4) have been published after 1997. Studies were excluded if they only provided reports on patients' perceived needs without relationship to overall utilisation. The titles of the primary references identified through our search were screened for possible relevance to the review. The abstracts and full texts of the resulting articles were then compared to our inclusion and exclusion criteria. We included studies that provided longitudinal or cross-sectional data on the use of PT or SHG. Various types of studies were included, such as observational studies, case-cohort studies and cohort studies. Due to the inconsistency in study design and methods used, it was not possible to consistently rate the methodological quality of the studies. Factors influencing PT or SHG utilisation were classified as contextual or individual characteristics and further categorised as predisposing, enabling and need factors.

Results

Utilisation of physical therapy services

Our MEDLINE search conducted in October 2011 yielded a total of 1,699 references. After screening the titles, 95 articles were identified as possibly relevant to the review. At this point, no limitations were set on the country in which studies had been carried out. After reading the abstracts and full texts, another 91 studies were excluded. Additionally, we then included 4 studies that were known to us [33], [34], [35], [36] but had not been identified through the MEDLINE search. A total of 8 studies were, therefore, included in the review [10], [25], [33], [34], [35], [36], [37], [38]. All studies were carried out exclusively in Germany, with the exception of one study that included a mixed population from the Netherlands and Germany [38]. The studies used different methods to describe the utilisation of PT services. Six studies used a longitudinal approach and two studies used a cross-sectional approach [35], [38]. Utilisation was assessed using questionnaire surveys [33], [37], [38], routine data [25], [35], [36] and health insurance records (10, 34). Further methodological issues are described in Table 1. Between 25 and 59 percent of patients with rheumatic diseases received PT services with wide variations between studies and diagnoses. Seven studies analysed the utilisation or prescription rates of PT services in patients with RA and found that between 25 percent [34], [37] and 55 percent [33] of patients had either used PT services or had had PT prescribed to them. Studies that only investigated the use of outpatient PT [34], [37] found lower prescription rates than studies that investigated overall PT use [35], [36], [25]. Two studies included patients with FM. Based on an analysis of health insurance data Sauer et al. [10] discovered that 59 percent of patients with FM had received PT prescriptions. Thieme et al. [33] used data from a questionnaire survey and found that 53 percent of FM patients actively used PT. Another

study identified a mean increase of 7 percent in the use of PT between 1994 and 1999 [36]. Two studies analysed patients with AS. One found a prescription rate of 48 percent for individual outpatient PT services [37]. The other found rates of 64 percent for individual PT and 13.7 percent for group PT [35] (Table 1).

Several of the studies reported individual factors that may influence the utilisation of PT services in Germany. In patients with RA, Thieme et al. [33] found that patients who received PT were significantly younger than patients who did not. Their data further demonstrated that the time since diagnosis among these patients was longer and that they experienced greater pain intensity and reported poorer HRQOL for at least some of the items of the SF-36. Analysing patient responses, Mau and Müller [37] found that 31 percent of the most disabled and 14 percent of the least disabled RA patients used PT services. They reported that patients in active arthritis stages, with severe fatigue and greater functional disability were more likely to receive physical therapy. In the study by Waltz [38], the best predictors of PT use in RA patients were severe fatigue and more functional limitations. Additionally, they found a weak relationship with active disease stages. For patients with FM, Thieme et al. [33] reported that patients using PT services were younger and had more pain than patients who did not use PT (Table 1). Regarding the contextual factors influencing RA patients' use of PT services, Thieme et al. [33] reported that the prescription rate of PT services varied considerably between the medical specialties of the prescribing practitioners. General practitioners prescribed more outpatient PT services than orthopaedists. The lowest percentage of prescriptions came from internists. Zink et al. [25], [36] reported wide variation in PT utilisation (18 to 76 percent) between 26 different rheumatology centres. In patients with RA and AS, Mau & Müller [37] identified variations in PT utilisation from 10 to 45 percent between different rheumatologists (Table 1).

Participation on self-help groups

Our electronic search in October 2011 yielded a total of 62 references. After screening the titles, 11 articles were identified as possibly relevant to the review. No limitations were set to the country in which studies had been carried out. These 11 studies were excluded after reading the abstracts and full texts of the articles. One study, which examined both PT services and SHG participation, was added after having been included in the PT utilisation section [37]. The authors of this study showed that 15 percent of patients with RA and 13 percent of patients with AS were members of self-help groups (Table 2). No determinants for the participation on self-help groups were identified through our search.

Table 1: Characteristics and results of the reviewed studies on PT service utilisation

Reference	Diagnosis	Sample size	Setting	Study design	Date of evaluation	Method of evaluation	Results
Sauer et al. 2011 [10]	FM	n=2,857	Health insurance records	Cross-sectional	2007	Document analysis	59 percent received outpatient PT services
Thieme et al. 2011 [33]	RA, FM	n=570	Patients were recruited from self-help groups, physical therapy practices, rheumatology practices and clinics	Longitudinal	2001 – 2004	Questionnaire survey	PT use: 55 percent with RA, 53 percent with FM Differences between users and non-users: RA + FM: users were younger, had more pain; RA: time since diagnosis in users was longer, users had more pain and reduced HRQOL
Thieme et al. 2009 [34]	RA	n=18,056	Health insurance records	Cross-sectional	2007	Document analysis	Approximately 25 percent received outpatient PT services; variations by medical speciality
Mau and Müller 2008 [37]	RA, AS	RA: n=204 AS: N=47 Rheumatologists: n=117	10 rheumatology practices Rheumatologists recruited from the German Society for Rheumatology	Cross-sectional	2007	Questionnaire survey	Outpatient individual PT prescribed to 25 percent (25th to 75th percentile: 10–45%) of RA patients and 48 percent (25th to 75th percentile: 20–81%) of AS patients with wide variation between rheumatologists; RA: 31 percent with an FFbH<50, 22 percent with an FFbH>50–70 and 14 percent with an FFbH>70 received individual outpatient PT; general practitioners prescribed more non-medical treatments than rheumatologists
Zink et al. 2006 [35]	RA AS	RA: n=9,627 AS: n=1,378 PsA: n=1,863	24 arthritis centres, over 80 individual inpatient and outpatient institutions	Cross-sectional	2002	National database of routine data	Prescription rates: RA: 41.8 percent for individual PT, 9.2 percent for group PT, PsA: 46 percent for individual PT, 9.5 percent for group PT; AS: 64 percent for individual PT, 13.7 percent for group PT 1993: 34 percent used individual PT, 1999: 41 percent used individual PT; in 29 rheumatology centres PT use 1999 varied between 18 and 76 percent
Zink et al. 2003 [36]	RA	1993: n=23,103 1999: n=28,939	24 arthritis centres	Longitudinal	1993 – 1999	National database of routine data	Prescription rates: 41 percent (25th to 75th percentile: 34–54%) for individual PT, 27 percent (25th to 75th percentile: 19–37%) for group PT; prescription rates varied substantially between different types of practice patterns (use of combination therapy) in clinics
Zink et al. 2001 [25]	RA	n=7,326	24 arthritis centres including 71 single outpatient and inpatient institutions	Cross-sectional		National database of routine data	50 percent of patients in Germany and the Netherlands used PT without national differences Predictors for PT use: strong associations with severe fatigue and more functional limitations, weak association with high disease activity (DAS)
Waltz 2000 [38]	RA	n=200	1 German and 1 Dutch outpatient clinic	Longitudinal	1994 – 1996	Questionnaire survey	

Table 2: Characteristics and results of the reviewed studies on SHG utilisation

Reference	Diagnosis	Sample size	Setting	Study design	Date of evaluation	Method of evaluation	Results
Mau and Müller 2008 [37]	RA, AS	RA: n=204 AS: N=47 Rheumatologists: n=117	10 rheumatology practices Rheumatologists recruited from the German Society for Rheumatology	Cross-sectional	2007	Questionnaire survey	RA: 15 percent are members of a SHG AS: 13 percent are members of a SHG

Discussion

To summarize current evidence on the utilisation of PT services and SHG in Germany, it appears that the use and prescription rates of PT services vary greatly. These variations may be explained, in part, by the different study methods used and the different settings and types of PT services studied. However, variations could also be seen between different diagnoses. The global rate of PT utilisation seems to be lower in patients with RA than in patients with AS and FM. Further, the variations in reported utilisation varied more in patients with RA than in AS and FM. From the perspective of evidence-based healthcare, this pattern of utilisation is surprising given that there is stronger evidence for the effectiveness of PT services in patients with RA than in patients with AS or FM (e.g., [17], [22]). Overall, PT services seem to vary greatly in Germany, especially in patients with RA.

Only one study was found to report on SHG participation among adults in Germany with rheumatic diseases, revealing that nearly 15 percent of patients with RA and AS were SHG members. This limited knowledge about SHG participation in Germany is consistent with the very small amount of evidence on the effects of such groups [29]. More studies on the effects of SHG in patients with rheumatic diseases are therefore warranted. Based on these studies, it would be possible to make recommendations regarding SHG participation. If SHG are shown to improve health and quality of life or to slow their decline, SHG participation rates should be increased.

Several studies investigated *factors* that may influence the utilisation of PT services among patients with rheumatic diseases. However, most of these studies investigated these factors in patients with RA. Little evidence exists regarding other rheumatologic diagnoses. Using Andersen's behavioural model [32], the factors identified in the reviewed studies can primarily be characterized as individual predisposing factors (age) and need factors (longer illness duration, more pain, poorer HRQOL, high disease activity, severe fatigue, more functional limitations). Variations between rheumatologists, medical specialties and clinics can be regarded as contextual enabling factors. In summary, more severely disabled patients and patients who were younger were found to have higher utilisation rates. Little is known, however, about the factors influencing the effectiveness of PT [39], [40]. Despite substantial evidence for the effectiveness of PT, this evidence does not seem to provide any expla-

ation for the identified higher utilisation rates among younger and more severely disabled patients. It does seem, however, that patients with RA in more active disease stages perceive a greater need for PT [41]. Further studies should analyse the influence of different factors on the utilisation of PT services and should place particular focus on the effects of PT services in relation to such influencing factors in order to develop clear recommendations for the prescription and use of PT. Another key result of this review is that enabling contextual factors (e.g., the prescribing medical practitioner or the clinic) influence the utilisation of PT services. The reasons for the variations should be further analysed.

This study has some limitations. Our electronic search was restricted to MEDLINE. This could limit the number of identified studies. Especially studies from Germany, which are published in German journals, may be underrepresented in MEDLINE. Therefore, an extension of the electronic search on other databases may be useful. Additionally, we found some data that only were published as book chapters which could not be identified by an electronic search.

Furthermore, the methodology of the included studies may have influenced the described utilisation rates. For example, it is possible that people in active arthritis stages or patients with more severe functional limitations are restricted in the participation on questionnaire surveys. These patients may use PT but did not participate in questionnaire surveys. Another example could be found in studies of national databases of routine data. These data may be limited on specialised rheumatologic care centres. Data from health insurance records on the other hand, may be limited on outpatient pt-services. One study [33] recruited patients from self-help groups and physical therapy practices, which may provide higher percentages of patients with PT use or SHG participation. Therefore, variations in the utilisation and participation rates may be also generated by different study methodologies.

In conclusion, evidence exists for several variations in the utilisation of PT services among patients with rheumatic diseases in Germany. We also found several individual and contextual factors that influence these variations. These variations could not be explained by current evidence-based recommendations. By contrast, little evidence exists on the participation on SHG. More studies are therefore warranted, especially regarding the effectiveness of SHG. Such studies could help influence the SHG participation.

Notes

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Competing interests

The authors declare that they have no competing interests.

Attachments

Available from

<http://www.egms.de/en/journals/psm/2012-9/psm000086.shtml>

1. psm000086_appendix.pdf (94 KB)
Appendix: Search strategy

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