

REVIEW ARTICLE

Barriers to guideline-compliant psoriasis care: analyses and concepts

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Abstract

Despite the availability of effective therapeutics and evidence-based treatment guidelines, a substantial proportion of patients with moderate-to-severe psoriasis does not receive appropriate care. This under-provision of health care may cause further worsening of health, remarkable limitations of the patient's quality of life, and indirect costs for the health care system. In order to provide guideline-compliant care for every psoriasis patient, it is important to identify barriers obstructing optimal care. Studies have identified various barriers on the physician's and on the patient's side; however, respective studies approached only single barriers, and not all of them in the context of psoriasis. Other publications that describe barriers systematically did not focus on psoriasis either. The objective of this literature review was to identify barriers and facilitators, based on studies analysing quality of care and single barriers, resulting in a comprehensive model of causal factors. Our analyses revealed three categories of barriers – patient-related, physician-related and external factors: On the patient side, we found non-adherence to therapies to be an important barrier, often in close association with psychiatric factors. Barriers on the physician's side predominantly are incomplete knowledge of the guidelines as well as the complexity of psoriasis comorbidity. In some countries, payment for patients with complex disease status is poor and inconsistent reimbursement regulations potentially interfere with optimal care. The current analysis indicates that most barriers are interdependent. Thus, measures approaching related barriers simultaneously are required. To improve care for psoriasis patients, further studies systematically addressing all potentially relevant barriers in conjoint are needed.

Received: 29 June 2015; Accepted: 4 September 2015

Conflicts of Interest

L. Eissing and N. Zander have no conflicts of interest to declare. M. Augustin has served as a consultant and participated in clinical trials sponsored by companies that manufacture drugs used for the treatment of psoriasis including Abbot, Almirall, Amgen, Biogen, Celgene, Centocor, Janssen-Cilag, Leo, Medac, MSD (formerly Essex, Schering-Plough), Novartis, Pfizer (formerly Wyeth). Marc A. Radtke has been working as an advisor and/or presenter and/or participant at clinical studies for the following companies: Abbott/Abbvie, Biogen, Janssen-Cilag, medac, MSD, Novartis and Pfizer.

Funding sources

This study was supported by a research grant from Sandoz Biopharmaceuticals, Holzkirchen, Germany.

Background

With a prevalence of 2–4 %, psoriasis is one of the most common immune-mediated disorders.^{1–3} Currently incurable, it causes remarkable direct costs to health care systems, work limitations and reduced productivity,^{4–6} as well as striking impairment of the patients' quality of life.^{7,8} Due to the visibility of psoriatic lesions, patients often experience feelings of distress and stigmatization.^{9–11} The time-consuming treatment of psoriasis can have an additional negative impact on the quality of

life.¹² The disease-related burden often accumulates over decades, resulting in cumulative life course impairment (CLCI).^{13,14} A significant amount of psoriasis patients concomitantly suffers from psoriatic arthritis, leading to additional disease burden.^{15,16} Other comorbidities such as metabolic syndrome, chronic autoimmune diseases and psychiatric conditions including depression are significantly more prevalent in psoriasis patients than in the general population.^{17–19} These frequent comorbid conditions as well as its chronicity make psoriasis a complex

disease that often requires various measures to achieve optimal care and patient's satisfaction.

Within the last decade, many countries have consented treatment guidelines in order to standardize psoriasis care, including biologicals as second-line treatment options. However, despite having minimum side-effects and being highly effective, biologicals are not prescribed sufficiently for high-need patients and with striking regional differences both between and within countries.^{20,21} In Germany, for example, it was found that a significant proportion of psoriasis patients is not treated according to the national guideline,^{22,23} although health care quality indicators had improved 1 year after implementation of the national S3 guideline²⁴ compared to before the guideline was published.^{25,26} These studies demonstrate the positive effects of treatment guidelines, while deficits in psoriasis care persist due to a variety of barriers.

Barriers of guideline-compliant health care for psoriasis

Barriers in health care

In 2005, the World Health Organization member states consented a resolution to provide 'universal coverage', defined as access to appropriate promotive, preventive, curative and rehabilitative services at an affordable cost for all patients.²⁷ Irrespective of the disease, the way to achieve this goal is obstructed by barriers from three sides: the patient, the health care provider and the system. On the other side, facilitating factors for good health care exist that need to be supported by appropriate measures. The following sections describe the current understanding of barriers from the three major perspectives. It is evident that there is an interaction between the single factors. However, for the sake of better understanding, they are treated separately.

Barriers and facilitators from the patient's perspective

Optimal health care from the patient's perspective in general faces external barriers imposed by the health care system. On the other side, internal factors including attitudes and motivation that are largely influenced by psychological disposition affect the patient's health behaviour.

Non-adherence to treatment as a barrier for guideline-compliant treatment A literature review on adherence/compliance in psoriasis patients estimated that only 50–60 % of patients are adherent or compliant to the prescribed psoriasis therapy regimen.²⁸ Although psoriasis is associated with an enormous physical and psychological burden, adherence to prescribed treatments is often poor, and surprisingly adherence rates are lowest among those patients with the most severe form of the disease.²⁹ A longitudinal study showed that the physician's interpersonal skills are a major contributor to patient satisfaction,

and dissatisfaction with care was significantly associated with medication non-adherence.³⁰

In a National Psoriasis Foundation (NPF) survey of patients who were not taking their medications as directed, concerns about treatment risks and side-effects were the primary reason for non-adherence.

Fear because of side-effects is less in patients who have been fully informed about the probability of occurrence, and in turn, less fear of side-effects is positively associated with adherence.³¹ Furthermore, provision of treatment instructions also affect adherence to the correct usage of medication. It was demonstrated that almost 80 % of patients misunderstood the instructions for taking medication;³² therefore, the clarity of instructions given in written prescriptions seems to be important to further promote adherence.³³ To address the different aspects of non-adherence as a barrier, the patient's education about their disease, comorbidities and treatment is crucial.

Not least, psychological factors have repeatedly been shown to be associated with non-adherence; addressing particularly depression as a frequent comorbidity may be a currently neglected opportunity to improve care.³⁴ It is important to raise the physician's awareness to this comorbidity, e.g. by incorporating a standardized psychological screening into psoriasis guidelines.

Out-of-pocket costs Patients with psoriasis and psoriatic arthritis are adversely affected by out-of-pocket costs.^{4,35–37} These additional costs occur in the form of copayments for drugs, ointments without active ingredients and travelling expenses for physician consultations. Reductions or full exemptions from copayments depend on the country, and reimbursement for other expenses depend on the health care provider's policies. Financial barriers may disrupt patient adherence to treatment,³⁸ affecting especially deprived patients. Limited access to medical care likely prevents patients from being properly monitored. Thus, comorbidities may not be identified at the point at which less costly and less invasive interventions could be applied. It is strongly recommended that any future health care study on barriers of treatment should include a focus on hurdles caused by patient copayment, thereby creating data to initiate patient-oriented improvements in health care policies.

Patient empowerment and the role of patient support groups An informed and knowledgeable patient who is involved in the decision-making process for his disease ('empowered') is obviously more willing to adhere to treatment protocols. Patient support groups can contribute significantly to reaching the goal of patient empowerment and may thus help to overcome barriers to appropriate care.³⁹ A study among members of the National Psoriasis Foundation showed that members were more aware of different treatment options, had tried more of them, and were more satisfied with the provided therapy options than

Table 1 Barriers and facilitators from the patient's perspective

Barrier	Facilitator/need for action
Limited knowledge (about treatment options)	Patient empowerment
Definition of treatment modalities without patient's perspective	Involvement of patient support groups in guideline development/revision
Depression/psychological comorbidity	Standardized screening for psychological comorbidities
Economic factors	Consultancy opportunities on financial support possibilities for patients

non-NPF members; membership in a patient support group therefore has positive impacts.⁴⁰ However, the high number of groups might lead to scattered efforts and disparate messages. Consequently, these groups should create alliances with other advocacy organizations, professional societies and health care practitioners to create a more centralized approach and increase the impact of the patient support groups' messages.⁴¹

In total, there is a large set of determinants of patient adherence which can have a marked impact on guideline-compliant treatment (Table 1). There is need for further data from health care studies to determine the extent and quality of these patient factors. The framework for effective patient training, including sufficient time during consultations, needs to be provided by the health care system.

Barriers and facilitators from the physician's perspective

Barriers in the context of guideline compliance on the physician's side can be categorized into three domains: physician knowledge, physician attitudes and external hurdles.⁴² A literature review on barriers to guideline adherence identified lack of knowledge by physicians as the most frequently investigated barrier,⁴³ indicating the need for further dissemination strategies. Other physician-specific barriers identified include perceived low self-efficacy and negative outcome expectancy beliefs as attitudinal barriers, and lack of time to deal with guidelines, insufficient staff support and funding issues, summarized as resource-related barriers on the physician's side. Surveys have shown that dermatologists' preferences of first-line therapy for treating moderate-to-severe psoriasis as well as beliefs about the safety and effectiveness of these therapies exhibit wide variability.^{44,45} These existing differences underline the need for measures such as guideline training to strengthen physicians' compliance to guidelines.

Costs, reimbursement policies and obligatory step therapy as a barrier to the prescription of biologics In an international survey, physicians named high costs as the main barrier for non-prescription of biologics,⁴⁶ leading to concerns about reimbursement and recourse that most likely are being reflected in their prescribing habits despite guideline-formalized recommen-

dations. Opinions vary greatly on the significance of reimbursement for the use of systemic, especially biologic, treatment, while inter-country variations imply an effect of the health care systems on prescription behaviours.⁴⁶

From the economic perspective, costs in many cases of systemic and even biologic treatment can be justified by added benefits and values.⁴⁷ Biologics and other high-priced treatments are particularly efficient when used as second-line options after unsuccessful treatment with conventional systemics. This evidence is backed by a large number of cost-effectiveness studies, which have been published in the past years for psoriasis drug treatment. The concept of relating costs to benefits (including patient relevant benefits), however, is not generally perceived by dermatologists and can thus be a barrier to treatment with modern drugs.

Substantial time and paperwork are required for preauthorization of treatment, and denials for continued therapy by health care providers occur frequently. However, in practices that specialize in psoriasis treatment, clinicians and staff have a better understanding of the documentation and regulations necessary for prescribing a biologic agent, as they deal with it on a regular basis.⁴⁸ Such barriers need to be avoided by clear regulations that allow physicians to provide care according to guidelines without having to worry about legal or judicial consequences.

Step therapy is commonly imposed by payers before a patient can qualify for and can be prescribed systemic and biologic drugs. These strict practices can ultimately lead to increased costs for both the patients and the health care system. More flexible regulations would be a relevant step towards patient-centred as well as more cost-effective care.

Complexity of disease comorbidities – addressing the different disciplines for guideline application Given the high prevalence of comorbidities in psoriasis patients, late or incomplete diagnosis of comorbid diseases with late referral and/or insufficient interdisciplinary cooperation with other specialists are important parameters that need to be considered for appropriate treatment. Furthermore, a relevant proportion of psoriasis patients is treated by non-dermatologists,⁴⁹ and a large proportion of prescriptions is issued by general practitioners and internists;²³ consequently, measures to ensure guideline-accordant treatment of psoriasis patients by non-dermatologists are important. Awareness of disease complexity and appropriate care could be achieved by respective guidelines such as the one for general practitioners currently implemented in the UK.⁵⁰ Similarly, a 'clinical practice guideline for an integrated approach to comorbidity in patients with psoriasis' has recently been published in Spain.⁵¹

Besides guidelines addressing respective comorbid conditions for non-specialists, pilot projects for the establishment of new approaches aiming at more efficient diagnostic results have been published recently. For example, in the case of

Table 2 Barriers and facilitators from the physician's perspective

Barrier	Facilitator/need for action
Limited knowledge about guidelines, treatment goals, assessment tools	Continuous dissemination of guideline and update of information for physicians; Duty for training
Obligatory step therapy, concerns about reimbursement and recourses	Reliable, transparent regulations for prescription of biologicals
Complexity of psoriasis comorbid diseases	Incorporation of comorbidity screening into guidelines

psoriatic arthritis, a multidisciplinary unit was instituted in Spain. Despite serving only as a temporary support unit, evaluation showed a significant positive impact on disease care and already serves as a model for similar units in Spain.⁵² Other studies found that early detection of comorbid diseases can significantly improve outcomes.^{53,54} These practical examples hold promise for an improved care of psoriatic comorbidities through interdisciplinary cooperation (Table 2). At the same time, insufficient payment for respective efforts in patients with complex diseases is an external hurdle for physicians, which needs to be approached by the system. Recognition of the need for correspondent structures by the health care system is important to enable their extensive institution in the future.

External factors as barriers and facilitators

External factors affecting quality of care originate in the health care system, including national characteristics as well as general aspects. Specifically, the effort to cut costs to increase competitiveness or profit are industrial strategies that most likely negatively affect quality of care in all areas where time is required, thereby creating barriers for physicians.

Regional and national differences in psoriasis care Regional differences were found in a nation-wide study in Germany with regard to the prescription of systemic drugs and biological agents.²¹ These findings had clinical significance that appeared as regional differences in quality of life and success of therapy, with a clear geographic relationship between the use of systemic therapies/biologicals and quality of life as well as patient-defined benefit. While the causes remain to be elucidated and require detailed studies, it is clear that the local infrastructure can work as an enabler or barrier of health behaviour, exemplified by the proximity to health care facilities.

Differences in psoriasis health care between countries were investigated in one study at the level of patient registries in seven countries and revealed high variances (3- to 15-fold) with regard to previous psoriasis therapy.²⁰ Many factors can lead to the observed inhomogeneous care situation, such as existing uncertainties in therapy, economic factors, practice and reimbursement regulations, availability of drugs, or physician's

beliefs. A recent survey among dermatologists with regard to systemic therapy prescription identified the physician's country and work place of as the most important determinants of treatment barriers.⁴⁶ These results emphasize the need for systematic studies investigating the role of different health care systems for the quality of psoriasis care.

Guideline implementation Guideline development is the first step for more coherent care; yet effective implementation into practice is important. One barrier to implementation is a lack of promotion and dissemination, resulting in health care practitioners being unaware of current guidelines.

So far, not all countries have national treatment guidelines, and the European guidelines cannot reflect local policies and practices. For this reason, physicians often rate national guidelines higher than the multinational ones.⁵⁵ Current guidelines provide little information on the indications for switching treatment, so respective decisions depend on the individual physician's knowledge and attitudes. A survey among Dutch dermatologists resulted in the finding that a higher proportion of psoriasis patients in private practices was associated with a more frequent use of the national guideline.⁵⁶ This, along with a survey in Estonia where physicians practicing in outpatient settings instead of specialized clinics were identified as the group most likely to experience difficulties with guideline application,⁵⁷ points out that non-specialists might need to be targeted specifically by second-stage implementation strategies.

Treatment goals as a component of guidelines Treatment goals are a measure to improve guideline-compliant care: They intend to optimize psoriasis care by standardizing therapeutic decisions based on endpoints and outcomes measures over distinct periods of time. They were defined in 2007⁵⁸ and became a European consensus in 2010.⁵⁹ They advise maintenance or switch of therapy as a function of Psoriasis Area and Severity Index improvement (Δ PASI) and Dermatology Life Quality Index (DLQI), and hence comprise objective clinical outcomes as well as quality of life from the subjective patient's perspective.

Their implementation strategy involved incorporation into guidelines and was evaluated by a study analysing treatment goal acceptance as well as impact on disease course and patient satisfaction. The study found that the treatment goals-including therapeutic regimen were accompanied by higher patient satisfaction, although only the minority of patients reported regular outcome measures.⁶⁰ A recent study in the Netherlands investigated whether physicians acted in accordance with treatment goals and found that in those cases where therapy modification was needed, treatment was indeed changed in only 64% of the cases⁶¹; the data support the need for and general implementation of such defined goals. Yet, their promising role for guideline-compliant psoriasis care has been recognized globally: In 2013, an Australian consensus was defined, adopting the Euro-

pean treatment goals to the local environment,⁶² while US dermatologists are currently discussing strategies to improve treatment success through the establishment of treatment goals.⁶³

Although a wide range of assessment tools for the measurement of treatment goals achievement exists, there is little consistency in the use and application in clinical practice, probably due to the absence of a single tool that accurately reflects the full complexities of psoriasis and its true impact on the patient.⁶⁴ It therefore seems that a composite of measures is needed to accu-

rately assess disease severity and outcomes; incorporation of recommendations for assessment tools into guidelines would likely further improve care (Table 3).

Summary

Various studies on the quality of psoriasis care have shown discrepancies between optimal patient care as suggested by the national and European guidelines and care in reality. These discrepancies result from barriers that occur on the sides of all parties involved: the patient, the physician and the system (Fig. 1).

A range of studies indicated non-adherence to therapy being the primary barrier on the patient’s side. The results suggest that improved patient education and empowerment as well as awareness and care of depression as a comorbid condition would contribute to an improvement in care.

From the physician’s side, lack of knowledge of the complexity of psoriasis especially among non-dermatologists as well as

Table 3 External barriers and facilitators

Barrier	Facilitator/need for action
Poor local health care infrastructure	Improved accessibility of specialists
No incentives for application of treatment goals	Regular outcomes measures, to be requested by guideline
Inhomogeneous application of assessment tools	Consent on standardized tools and incorporation into guidelines; improvement of existing tools

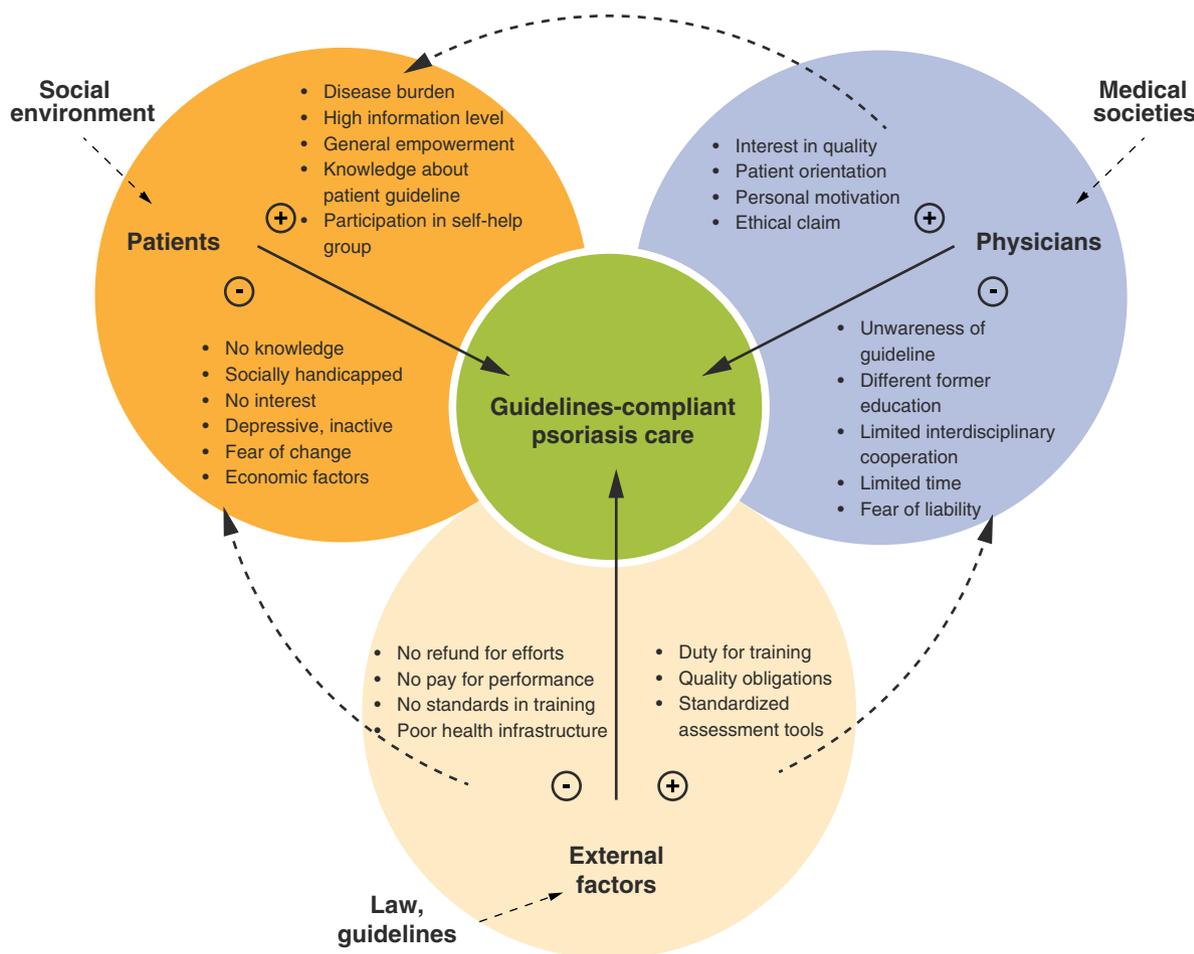


Figure 1 Barriers to and facilitators for guideline-compliant psoriasis care.

general lack of guideline awareness are important contributors to suboptimal patient care; these barriers could be addressed through implementation of more efficient strategies such as guidelines-adherent treatment, setting of specific treatment goals and utilizing appropriate assessment tools. Economic factors and associated concerns affecting the physician's prescribing habits need to be addressed by practical and transparent regulations.

External barriers are more difficult to assess; however, it can be assumed that improved health care infrastructure as well as harmonized frameworks and regulations will help to overcome regional differences in psoriasis care. Not least, the health care system plays an important role for effective guideline implementation, thereby contributing to improved, guideline-compliant care.

Needs for action

According to the barriers model, several measures need to be accomplished in order to overcome barriers and provide all psoriasis patients with appropriate care:

- 1 By implementing standardized, regular screening of patients for depressive symptoms, adherence at the individual level can be enhanced and patient's quality of life improved.
- 2 A standardized comorbidity screening needs to be incorporated into guidelines and implemented into practice. Furthermore, model projects of interdisciplinary care need to be supported and their benefit evaluated.
- 3 Patient empowerment can be achieved when the patient's perspective is considered. Therefore, patient advocacy groups need to be supported and engaged in guideline development and revision processes.
- 4 Time-consuming treatment of patients with complex disease status needs to be financially acknowledged by the health care system, thereby creating incentives for the realization of improved care.
- 5 Awareness of psoriasis and the different treatment options still needs to be increased among decision makers. This is supported by a current appeal of the 67th World Health Assembly⁶⁵ that needs to be introduced to national stakeholders.

Furthermore, international comparative health care research is needed. Respective studies will identify characteristic problems and will provide a scientific basis to learn from others.

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