

CLINICAL REPORT

Implementing Best Practice in Psoriasis: A Nordic Expert Group Consensus

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In the absence of Nordic-wide guidelines on the best practice management of psoriasis, this paper aims to provide Nordic recommendations for treatment goals, evaluation of quality of life impact and assessment/management of co-morbidities. This Delphi approach consisted of telephone interviews, local Nordic face-to-face meetings, and a Nordic-wide meeting, in which questions on treatment goals, quality of life impact and assessment/management of co-morbidities were posed to 17 dermatologists with psoriasis-treatment experience to gain consensus (≥90% agreement). The dermatologists agreed on the individualisation of treatment goals using Psoriasis Area and Severity Index and Dermatology Life Quality Index, which should be measured at the same frequency. Training of healthcare professionals on the use of these tools and psychological assessments were considered important, along with the referral of psoriasis patients with cardio-metabolic risk factors to their general practitioner. In order to achieve the best practice management of psoriasis, Nordic dermatologists should be trained and adhere to these recommendations in conjunction with available treatment guidelines. *Key words: co-morbidities; Nordic region; psoriasis; quality of life; skin severity; treatment goals.*

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Psoriasis is a chronic skin disease with prevalence rates in adults ranging between 0.9% (USA) and 8.5% (Norway) (1). It imposes a physical and psychological burden on the patient (2) which, depending on disease severity, can cause a quality of life (QoL) impairment similar to other chronic conditions such as cancer and heart disease (3).

Severe psoriasis is associated with an increased risk to develop metabolic dysfunction and cardiovascular morbidity (4–6), which may further impact a patient's QoL. The pathomechanisms are still unclear but shared immunoinflammatory responses have been proposed.

There is a debate concerning the best practice management of psoriasis and whether guidelines should focus

on addressing the patient's skin disease, the impact of psoriasis on QoL, and the prevention and management of any related co-morbidities. Current treatment guidelines, including the Danish Society of Dermatology guidelines, the British Association of Dermatology (BAD) guidelines, the European S3-guidelines, and recommendations obtained from a European consensus of 19 dermatologists mainly focus on the extent of the patient's skin disease and refer to the impact on the patient's QoL (7–11), including the patient's perception of their disability, with some guidelines highlighting that the psychological burden of the disease can be underestimated by clinicians (9). Although, evidence-based guidelines such as the European S3 provide treatment recommendations according to skin severity and impact on health-related QoL (HRQoL) outcomes, there is limited information available on the treatment of patients with psoriasis and co-morbidities. As a consequence, co-morbidities can be undertreated (12) and undiagnosed (13).

At present, there are limited published data on the best practice management of psoriasis in the Nordic region and a lack of region-wide treatment recommendations covering the impact on QoL. The aim of this project was to gain a Nordic consensus on the best practice management of psoriasis via an adapted Delphi process including telephone interviews and face-to-face meetings, culminating in a Nordic-wide consensus consisting of 17 dermatologists. Questions, which were guided by a steering committee, were posed during this meeting on treatment goals for the skin disease, the effective evaluation of QoL and the assessment and management of co-morbidities based on clinical experience. The identification of factors that should be measured and recorded in registries, and whether these data should be used to impact local guidelines was also sought in order to determine the best practice management of psoriasis.

METHODS

The Delphi process

In order to gain consensus on the best practice management of psoriasis in the Nordic region, an adapted version of the Delphi process was used across telephone interviews and face-to-face meetings, with guidance on consensus questions provided from a steering committee of 5 dermatologists in a final Nordic-wide

meeting. The Delphi process is a widely used group approach to gain consensus between experts in a given field. It involves multiple rounds of questioning, usually in a structured format, with anonymous answers provided by the experts shared among the participants between each round of questioning. This approach provides participants with an opportunity to alter their response based on their peers' opinions, thus increasing the likelihood of convergence of opinion.

Process leading up to the Nordic-wide meeting

Our Delphi approach began with individual expert telephone interviews conducted between 9 May 2012 and 24 August 2012 among 24 dermatologists in Denmark, Finland, Norway and Sweden. The 28-question survey covered 4 main topics: treatment goals, co-morbidities, QoL and adherence. Each question posed to the experts allowed them to provide free-text answers.

On completion of the expert telephone interviews, 4 local meetings were held between 24 May and 29 August 2012 in the following Nordic countries: Denmark, Finland, Norway and Sweden. The majority of dermatologists ($n=22$) completing the telephone interviews attended their local meeting. Each local meeting reported the results from the telephone interviews and allowed discussion between the attending dermatologists (4–8 in each meeting), in which they debated the results and agreed on the final wording of statements.

Nordic-wide meeting

Once the results of the local meetings had been collated, a Nordic-wide meeting was held on 19 October 2012 in Copenhagen, Denmark. A total of 17 dermatologists from Denmark ($n=6$), Finland ($n=4$), Norway ($n=4$) and Sweden ($n=3$), 14 of whom participated in their local meeting, attended the Nordic-wide meeting as well as 2 expert speakers: a psychologist (UK) and a cardiologist (Denmark). Speakers were identified as 'experts' based on their publication record, recommendations from the steering committee based on previously delivered presentations, and relevance of their current work to the topics under discussion at the Nordic-wide meeting.

During the meeting, consensus questions were posed to the attending dermatologists after a short presentation on the topic by either the chairman of the session or one of the expert speakers. These consisted of multiple choice questions as well as questions using a 5-point Likert scale; in both cases dermatologists could select one answer only. Three main areas on the best practice management of psoriasis were covered: treatment goals, QoL and co-morbidities; data capture in registries was also discussed. Adherence was not covered in the Nordic-wide meeting due to time constraints and lower importance compared with the other topics. The dermatologists were asked each question up to 3 times, unless consensus was achieved prior to this, with discussion following each answer. Responses were captured using keypads provided by a third party, IML (a global meeting and events solution company). The use of keypads provided anonymity of answers and also allowed weightings to be applied to each question to gain a true Nordic consensus, given the attendee numbers from each Nordic country were unequal.

Consensus for the purpose of the meeting was defined as 90% agreement among the dermatologists. Opinions reported in this article are those provided by 15 of the 17 dermatologists who attended the meeting and provided an answer to the question on which consensus was achieved. The chairman of each session abstained from voting in their own session and the views of one dermatologist were excluded as his opinions were not provided for all of the consensus questions.

RESULTS

Treatment goals in the management of psoriasis

There are various objective measures of the severity of psoriasis, including the body surface area (BSA) score and the Physician's Global Assessment (PGA); however, the Psoriasis Area and Severity Index (PASI) is the objective tool frequently used in clinical trials (8, 14) and is considered the gold standard for measuring disease severity (15). In addition, PASI was identified at the individual country meetings as the usual objective tool used in clinical practice for the measurement of disease severity. Thus, PASI was the disease severity tool incorporated into the consensus statements presented at the Nordic-wide meeting.

Consensus was achieved for the majority of questions posed during the meeting on treatment goals in the management of psoriasis (Table I).

The majority of dermatologists (87.5%, $n=13/15$) agreed that PASI should be measured routinely in patients with psoriasis under consideration for systemic and phototherapy; the remaining experts (12.5%; both Norwegian) believed that PASI should be measured routinely in all patients with psoriasis. The view expressed was that although it would be ideal to measure PASI in all patients with psoriasis, this would be impractical in clinical practice.

The dermatologists (93.75%, $n=14/15$) agreed that the best way to promote the use of PASI would be through enhancing the knowledge and understanding of PASI by all healthcare professionals involved in the management of psoriasis. One dermatologist (6.25%) believed that the best way to promote the use of PASI would be by ensuring guidelines required its use.

All dermatologists agreed (66.67% [$n=10$] strongly agreed; 33.33% [$n=5$] agreed) on the individualisation of treatment goals using PASI and objective measures of HRQoL to guide clinical decision-making.

Consensus was achieved among the dermatologists (6.25% [$n=1$] strongly agreed; 87.5% [$n=13$] agreed) that the European consensus guidelines (11) summarise a reasonable approach to achieving the best treatment outcomes; however, one dermatologist (6.25%) disagreed with this statement.

Consensus was not achieved on the frequency of PASI measurements in patients considered for systemic and

Table I. Statements on which consensus was achieved among the dermatologists on treatment goals in the management of psoriasis

1. The best way to promote the use of Psoriasis Area Severity Index (PASI) would be through enhancing the knowledge and understanding of PASI by all healthcare professionals in the management of psoriasis
2. Treatment goals should be individualised for each patient using PASI and objective measures of health-related quality of life to guide clinical decision-making
3. The European consensus guidelines (11) summarise a reasonable approach to achieving the best treatment outcomes

phototherapy. In total, 52.08% ($n=8$) of dermatologists considered that PASI should be measured at every clinic visit (approximately every 3 months) while the remainder (47.92%, $n=7$) believed that PASI should be measured once every year, but more frequently during treatment induction or transition or if marked changes in disease are observed. The reason for the divided response was the impracticality of measuring PASI every 3 months in countries such as Finland.

Management of the impact of psoriasis on quality of life

Although there are several objective tools to measure the QoL of patients with dermatological conditions including psoriasis, e.g. the Dermatology Life Quality Index (DLQI), the Dermatology Quality of Life Scales (DQOLS), the Dermatology Specific Quality of Life (DSQL) and Skindex, the results from the individual local meetings held during this Delphi approach identified DLQI as the best available tool to objectively assess the QoL of a patient with psoriasis. Although the best available tool, it was evident that this tool was not always used in clinical practice. It was also identified at the Nordic-wide meeting that DLQI lacks a focus on the patient's emotions and beliefs about their condition. With psychosocial morbidities currently underestimated and undertreated in patients with psoriasis (16), incorporation of psychological assessments into clinical practice may improve the QoL of patients with psoriasis.

Consensus was achieved for all of the statements on the impact of psoriasis on QoL (Table II). The majority of dermatologists agreed (8.33% [$n=1$] strongly agreed; 85.42% [$n=13$] agreed) that DLQI is currently the best available measure for HRQoL of a patient with psoriasis; however, one dermatologist (6.25%) disagreed with this statement.

Although DLQI was considered the best available objective measure for HRQoL, the experts emphasised that DLQI is not the optimum tool to measure QoL in patients with psoriasis, as it does not reflect the level of distress experienced by the patient and it does not consider the impact of disease in sensitive areas e.g. the genitals.

Table II. *Statements on which consensus was achieved among the dermatologists on the impact of psoriasis on quality of life*

1. Dermatology Life Quality Index (DLQI) is currently the best available measure of health-related quality of life (HRQoL) of a patient with psoriasis
2. DLQI is currently the best way to measure the impact of treatment on the HRQoL of a patient with psoriasis
3. DLQI should be measured in all candidates for systemic or phototherapy treated by dermatologists
4. DLQI should be measured at the same frequency as Psoriasis Area Severity Index
5. Assessment of the impact of QoL could be improved by: developing better measures, encouraging dermatologists to use DLQI and by training dermatologists to understand the psychological aspects of the disease

Complete agreement (100%, $n=15$) was achieved among the dermatologists that DLQI is the best way to measure the impact of treatment on the HRQoL of a patient with psoriasis.

All dermatologists (100%, $n=15$) believed that DLQI should be measured in all candidates for systemic or phototherapy treated by dermatologists and should be measured in these patients every time PASI is measured, although there was no agreement on the time point.

When discussing how assessment of the impact of QoL on patients with psoriasis could be improved, the dermatologists (100%, $n=15$) agreed that multiple aspects need to be addressed, namely: develop better measures for HRQoL, encourage dermatologists to use DLQI and train them to understand the psychological aspects of the disease.

Management of psoriasis and co-morbidities

According to a Danish nation-wide cohort, the incidence of cardiovascular disease and new-onset diabetes mellitus is increased in patients with mild and severe psoriasis compared with controls, with the highest rates reported in patients with severe disease (4, 17).

Consensus was achieved for the majority of statements relating to the management of psoriasis and co-morbidities (Table III).

All experts ($n=15$) agreed that dermatologists should counsel their patients with psoriasis about their co-morbidities and should write a letter of referral to their GP in cases where clinical features of metabolic dysregulation are present. There was debate surrounding the role of the dermatologist in the treatment of co-morbidities. The dermatologists believed it was their responsibility to initially assess their patients for co-morbidities, but it was not their responsibility to monitor them.

Although consensus was not achieved, the majority of dermatologists (81.67%, $n=12/15$) expressed the view that patients aged over 40 years with psoriasis, patients with moderate or severe psoriasis and patients with psoriasis who have cardio-metabolic risk factors should be assessed for cardio-metabolic risk factors;

Table III. *Statements on which consensus was achieved among the dermatologists on the management of psoriasis and co-morbidities*

1. Dermatologists should counsel their patient with psoriasis about their co-morbidities and write a letter of referral to the general practitioner (GP) in cases where clinical features of metabolic dysregulation are present
2. Assessment of cardio-metabolic risk factors should be repeated every 2–5 years or if apparent risk factors arise
3. It is the primary responsibility of the patient's GP to ensure that cardio-metabolic risk factors are managed according to national guidelines
4. At a minimum, the following should be assessed: blood pressure, blood lipids, weight/BMI/waist measurement, glucose metabolism, smoking and drinking habits and signs and symptoms of psoriatic arthritis

13.33% ($n=2$) believed cardio-metabolic risk factors should be assessed in patients with psoriasis who have cardio-metabolic risk factors only. One dermatologist (5.0%) disagreed with both statements.

All dermatologists ($n=15$) agreed that assessment of risk factors should be repeated every 2–5 years or if risk factors become apparent in the patient.

In total, 93.75% ($n=14/15$) of dermatologists believed that it was the primary responsibility of the patient's GP to ensure that cardio-metabolic risk factors are managed according to national guidelines, while one dermatologist (6.25%) felt it was the primary responsibility of the patient themselves.

The majority of dermatologists agreed (38.33% [$n=5$] strongly agreed; 56.67% [$n=9$] agreed) that, at a minimum, blood pressure, blood lipids, weight/BMI/waist measurements, glucose metabolism, smoking and drinking habits and signs and symptoms of psoriatic arthritis should be assessed. One expert (5%) neither agreed nor disagreed with taking these assessments.

Use of registry data in the management of psoriasis

Short presentations were given on the data captured in the currently available registries in the Nordic region, including DermBio (Denmark), PsoReg (Sweden) and the Stockholm Database and Biobank (Sweden), as well as the data that will be potentially recorded in the upcoming registries in Finland (FinnPso) and Norway.

Consensus was achieved among the dermatologists (100%, $n=15$) that the optimum registry provides information that is valuable at the level of an individual patient and at the level of the whole population.

In total, 91.67% ($n=14/15$) of dermatologists agreed that it would be practical and appropriate to include patients receiving conventional systemic and biologic therapy in a registry; one dermatologist (8.33%) believed that patients receiving phototherapy should also be included in a registry.

All dermatologists ($n=15$) agreed that, at a minimum, the data specified in the PSONET guidelines (18) should be captured in a registry.

There was agreement between all dermatologists ($n=15$) that registry data could be used to improve local guidelines.

DISCUSSION

In the absence of Nordic-wide treatment guidelines for psoriasis, the aim of this Delphi approach was to obtain a consensus from Nordic dermatologists on the best practice management of psoriasis. Consensus was achieved for the majority of questions. Although individual votes remained anonymous in the Nordic-wide face-to-face meeting, the dermatologists could express their views on the results obtained during the

discussion sessions, potentially introducing social bias.

The Nordic dermatologists agreed that the European consensus guidelines formulated by Mrowietz and colleagues (11) provided a reasonable approach to achieving the best treatment outcomes in patients with moderate or severe psoriasis. Although the dermatologists believed this approach was reasonable, it was agreed that treatment goals should be individualised using PASI and objective measures of HRQoL to guide clinical decision-making. Thus, a patient's perception of treatment success would be incorporated into their treatment, a factor which can vary between patients (15).

It was agreed that the best way to promote the use of PASI would be through enhancing the knowledge and understanding of PASI by all healthcare professionals involved in psoriasis management. Given that PASI is the most commonly used objective measure for disease severity, this approach would enable better accuracy and consistency in the assessment of disease severity. Armstrong et al. (19) recently reported that PASI-naïve physicians' total PASI scores for mild, moderate and severe disease increased in accuracy after presentation of an online PASI training video, emphasising the importance of knowledge and understanding of PASI.

Consensus was not achieved among the dermatologists on the set of patients and the frequency with which to measure PASI, with disagreements arising due to impracticalities in the clinical setting and differences in the healthcare systems across individual Nordic countries. Prescribing patterns have also been shown to differ across the individual Nordic countries (20), potentially contributing to the lack of consensus on the patient set in which to measure PASI.

It was agreed that DLQI should be measured in all candidates for systemic or phototherapy treated by a dermatologist and that DLQI should be measured at the same frequency as PASI, for which a time point was not specified. Mrowietz and colleagues (11) also identified the importance of measuring DLQI and PASI in patients with moderate or severe psoriasis to define treatment goals for systemic therapy; however, they did not specify the frequency of these measurements. The majority of clinical trials measure treatment outcomes every 3 months; however, currently there are no recommendations or guidelines identifying an appropriate time frame within clinical practice (15); this requires further investigation in order to standardise follow-up times across the Nordic region.

While it was agreed that DLQI was the best available measure of HRQoL and the impact of treatment on the HRQoL of a patient with psoriasis, a better tool capturing the level of patient distress and the impact of psoriasis in sensitive body areas would be beneficial. Given the lack of a better QoL tool, an expert psychologist recommended using DLQI in clinical practice in conjunction with psychological assessments. This ap-

proach of cognitive behavioural therapy was implemented electronically by Bundy et al. (21) in patients with psoriasis and showed a reduction in anxiety scores and improvement in QoL scores, as assessed by the Hospital Anxiety and Depression Scale and DLQI, respectively. To improve the current assessments of the impact of QoL in patients with psoriasis, dermatologists should be encouraged to use DLQI and be trained to understand the psychological aspects of psoriasis.

The dermatologists did not consider it to be their role to manage co-morbidities in patients with psoriasis. They believed they should be responsible for counselling their patient regarding their co-morbidities and should refer a patient to their GP upon presentation of risk factors, but the patient's GP should manage cardio-metabolic risk factors according to national guidelines. The European guidelines on cardiovascular prevention in clinical practice also emphasise the importance of GPs in identifying individuals at increased risk of cardiovascular disease and assessing the patient's eligibility for intervention according to their risk profile (22).

The Nordic dermatologists agreed that at minimum the following should be assessed every 2–5 years or if cardio-metabolic risk factors became apparent in their patients: blood pressure, blood lipids, weight/BMI/waist measurements, glucose metabolism, smoking and drinking habits, and signs and symptoms of psoriatic arthritis. The European guidelines on cardiovascular prevention in clinical practice recommend that blood pressure, cholesterol levels and smoking habits be assessed in patients to calculate their risk of cardiovascular disease (22).

The dermatologists did not agree on the patient set in which cardio-metabolic risk factors should be assessed; the majority believed that patients aged over 40 years with psoriasis, patients with moderate or severe psoriasis and patients with psoriasis who have cardio-metabolic risk factors should be assessed. This patient set is consistent with published literature and cardiovascular disease prevention guidelines in that patients with psoriasis, particularly those aged over 40 years or with severe disease, are at increased risk of cardio-metabolic risk factors (22, 23).

The Nordic dermatologists believed that the optimum registry provides data, as outlined in the PSONET guidelines (18), at the patient and population levels for patients receiving conventional systemic and biologic therapy. It was agreed that registry data could be used to improve local guidelines; however, registries do not currently exist in all Nordic countries.

These recommendations are the first to provide combined guidance on treatment goals, evaluation of QoL impact and assessment and management of co-morbidities in Nordic patients with psoriasis. While treatment guidelines and recommendations are available (9–11, 22), a lack of awareness of these guidelines and recommendations due to inadequate promotion and

dissemination of information could hinder the goal of achieving the best practice management of psoriasis, as would non-adherence by healthcare professionals to the guidelines. Awareness, acceptance and adherence to treatment guidelines and the recommendations provided in the Nordic-wide meeting needs to be raised and monitored to improve the quality of care provided to patients with psoriasis in the Nordic region.

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