

Online Research @ Cardiff

This is an Open Access document downloaded from ORCA, Cardiff University's institutional repository: <http://orca.cf.ac.uk/100493/>

This is the author's version of a work that was submitted to / accepted for publication.

Citation for final published version:

Atwan, Ausama, Piguet, Vincent, Finlay, Andrew Y., Francis, Nicholas A. and Ingram, John R. 2017. Dermatology life quality index (DLQI) as a psoriasis referral triage tool. British Journal of Dermatology 177 (4) , e136-e137. 10.1111/bjd.15446 file

Publishers page: <http://dx.doi.org/10.1111/bjd.15446> <<http://dx.doi.org/10.1111/bjd.15446>>

Please note:

Changes made as a result of publishing processes such as copy-editing, formatting and page numbers may not be reflected in this version. For the definitive version of this publication, please refer to the published source. You are advised to consult the publisher's version if you wish to cite this paper.

This version is being made available in accordance with publisher policies. See <http://orca.cf.ac.uk/policies.html> for usage policies. Copyright and moral rights for publications made available in ORCA are retained by the copyright holders.



Title: Dermatology Life Quality Index (DLQI) as a psoriasis referral triage tool

Running title: DLQI as a triage tool

Word count: 776

Number of tables: 1

Number of figures: 0

Authors: A Atwan¹, V Pigué¹, AY Finlay¹, NA Francis², JR Ingram¹.

Affiliations:

- 1- Department of Dermatology and Wound Healing, Division of Infection and Immunity, School of Medicine, Cardiff University, Cardiff, CF14 4XN, UK.
- 2- Department of Primary Care & Public Health, School of Medicine, Cardiff University, Cardiff, CF14 4XW, UK.

ORCID numbers:

A Atwan: ORCID 0000-0003-2104-6350

V Pigué: ORCID 0000-0001-6079-4517

A Y Finlay: ORCID 0000-0003-2143-1646

N A Francis: ORCID 0000-0001-8939-7312

J R Ingram: ORCID 0000-0002-5257-1142

Corresponding author:

Dr Ausama Atwan, Department of Dermatology, Heath Park, Cardiff University School of Medicine, Cardiff, CF14 4XN, UK. E-mail: AbouAtwanAA@cardiff.ac.uk

Funding: A research grant from the Dermatology Forum for Wales.

Conflicts of Interest:

Vincent Pigué has received departmental support from AbbVie, Johnson & Johnson, Pfizer, GSK, Novartis, and CEO. He has received honoraria from Johnson & Johnson, Novartis, and AbbVie. His department benefits financially from the Dermatology Life Quality Index (DLQI). AYF is joint copyright holder of the DLQI: Cardiff University and AYF receive royalties. AYF has received honoraria from Novartis, Eli Lilly, Sanofi, Napp and Galderma.

Acknowledgements:

We would like to thank Dr M. K. Basra and Professor A. V. Anstey for their contribution to the study protocol and comments on this letter and thank Dr Mark Kelson for his comments on the statistical data.

Dermatology Life Quality Index (DLQI) as a psoriasis referral triage tool

Dear Editor,

Most primary care psoriasis referrals in the UK are triaged as 'routine', in part because of the prioritisation of skin cancer. As a result, patients with severe psoriasis may wait several months to be seen, enduring quality of life (QoL) impairment that could have been reduced. Furthermore some patients may spontaneously improve by the time they are seen by a specialist, making the appointment unnecessary at that time. Therefore, following approval from the local ethics committee, we conducted a prospective study to evaluate the usefulness of Dermatology Life Quality Index (DLQI) scores in triaging patients with psoriasis referred to our dermatology secondary health care services.

Local general practitioners (GPs) were provided with DLQI questionnaires when referring patients with psoriasis. Referrals were triaged as 'urgent' if the DLQI score was > 10 because this represents a very large effect on a patient's life.¹ Those referred with no DLQI scores, either from participating or non-participating GPs, were triaged as routine, as a control group. When patients were seen in clinic, we measured their DLQI and Psoriasis Area and Severity Index (PASI) scores, and satisfaction with the waiting time (measured on a five-point Likert scale, 1=Not at all happy to 5=Very happy). A power calculation predicted that 20 patients were required in each group to give 80% power to detect a five point difference in PASI score for an alpha significance level of 0.05. The 40 recruited patients had no significant difference in demographics and disease characteristics (Table 1). The median waiting time for the 'urgent' group was 88 days (interquartile range (IQR) 66-99 days) whereas patients triaged as 'routine' waited 256 days (IQR 228–295 days).

As expected, of those patients seen urgently 60% were 'happy' or 'very happy' with the waiting time. In contrast, in the routine group no patients were 'happy' or 'very happy'. The median PASI score in the urgent group was 6.2 (IQR 3.5–10.6) compared to 3.85 (IQR 2.8–6.3) in the routine group (no significant difference). The median DLQI score in the urgent group when seen in secondary care was four points higher compared to the routine group (urgent=16, IQR 12-20, vs. routine=12, IQR 8.5–17). In those triaged as urgent, the median DLQI score was not significantly different compared to their baseline scores at the time of referral (17.5; IQR 13.5–23).

Pressures on dermatology secondary care services in the UK and a requirement to meet skin cancer waiting time targets results in patients with inflammatory dermatoses having long waiting times. Triage GP referrals accurately is difficult if information is incomplete and disease severity scores are not given. Asking GPs to perform a severity score involving complete skin examination, such as PASI, is not practical because of lack of time and insufficient training. However, a QoL questionnaire can easily be completed by patients while the GP documents the consultation. The DLQI is the most commonly used QoL assessment tool in psoriasis trials² and takes 1-2 minutes to complete.³ Patients seen urgently due to a baseline DLQI score > 10 at referral had a DLQI score four points higher than those referred without a DLQI and seen 'routinely'. As the minimal clinically important difference (MCID) for DLQI is four points,⁴ using a baseline DLQI score greater than 10 does identify those patients whose psoriasis has a particularly high impact on QoL, compared to an unselected group of psoriasis referrals.

One limitation is the lack of a separate group of psoriasis referrals with a DLQI score ≤10. However we found that almost no patients were referred with scores in this range, perhaps because GPs chose not to refer less severely affected patients. The Scottish⁵ and Malaysian⁶ guidelines recommend referral for DLQI scores >5 in psoriasis patients unresponsive to topical therapy and, in

keeping with our study experience, 65.5% of eligible patients in Scotland were not seen by a specialist.⁷ It is possible that patients or GPs might inflate DLQI scores to reduce waiting time delays, however we mitigated this in our study by not specifying the DLQI score triage cut-off for urgent appointments.

Our long waiting time of 256 days for routine referrals reflects pressures on dermatology secondary care services in Wales. While we chose a DLQI cut off score of 10 points, as it indicates major impairment of QoL, a different cut off score could be selected depending on the attitude and resources of the referral centre.

In summary, we have demonstrated that a QoL instrument such as the DLQI can be used as a triage tool. Its use may help GPs quantify psoriasis severity, and ensure that patients whose psoriasis is causing greatest impact on QoL are seen in a timely manner. A much larger randomised study is needed to evaluate the usefulness of DLQI as a triage tool in dermatology services.

Acknowledgements:

We would like to thank Dr M. K. Basra and Professor A. V. Anstey for their contribution to the study protocol and comments on this letter and thank Dr Mark Kelson for his comments on the statistical data.

References:

1. Finlay AY. Current severe psoriasis and the rule of tens. *Br J Dermatol* 2005; **152**: 861-7.
2. Ali FM, Cueva AC, Vyas J, Atwan AA, Salek MS, Finlay AY, et al. A systematic review of the use of quality of life instruments in randomised controlled trials of psoriasis. *Br J Dermatol* 2016 [Epub ahead of print].
3. Finlay AY, Khan GK. Dermatology Life Quality Index (DLQI) - a simple practical measure for routine clinical use. *Clin Exp Dermatol* 1994; **19**:210-6.
4. Basra MK, Salek MS, Camilleri L, Sturkey R, Finlay AY. Determining the minimal clinically important difference and responsiveness of the Dermatology Life Quality Index (DLQI): further data. *Dermatology* 2015; **230**:27-33.
5. Scottish Intercollegiate Guidelines Network (SIGN): 121-Diagnosis and management of psoriasis and psoriatic arthritis in adults - A national clinical guideline; October 2010. Available at: www.sign.ac.uk/guidelines/fulltext/121/recommendations.html (accessed 18 Dec 2016).
6. Choon S, Chan L, Choon SE, Jamil A, Chin CL, Cheng CH, et al. Malaysian Clinical Practice Guideline for the Management of Psoriasis Vulgaris: Summary of recommendations for management in primary healthcare setting. *Malays Fam Physician* 2014; **9**:16-21.
7. Wade AG, Crawford GM, Young D, Leman J, Pumford N. Severity and management of psoriasis within primary care. *BMC Fam Pract* 2016; **17**:145.

Table 1 Participants' characteristics. HT: hypertension; IQR: interquartile range; PsA: Psoriatic arthritis.

	Routine (no DLQI at referral)	Urgent (DLQI > 10 at referral)
Number	20	20
Gender	M=9; F=11	M=11; F=9
Age median (years) (IQR)	34 (28-51)	40 (33-52)
Psoriasis duration median (years) (IQR)	13 (8.5-20)	8.5 (4-20)
Body Mass Index (BMI) (median kg/m²) (IQR)	27.1 (23.4-31.2)	29.2 (26-33.5)
Family history of psoriasis	10	9
Co-morbidities	11 (HT=5; hypercholesterolaemia=2; depression=8)	8 (HT=4; DM=1; hypercholesterolaemia=2; depression=2; PsA=2)
Waiting time median (days) (IQR)	256 days (228-295)	88 days (66-99)