Anger expression and suppression: A large-scale multi-site study of people with psoriasis

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The challenges of self-management in psoriasis

- Unhelpful lifestyle behaviours
- Presence, or future risk of, physical co-morbidities
- Mood management
- Adherence to medication

Photograph provided by Professor C. Griffiths.
Psoriasis therapies

Schematic of psoriasis treatment ladder

- Systemic: biologics, ciclosporin, methotrexate, retinoids
- Photo: PUVA, UVB
- Topical: corticosteroids, calcipotriol, anthralin, coal tar

Adherence to medication
Common-sense self-regulatory model (CS-SRM)

Symptom perception

Cognitive representation of illness and treatment

Emotional representation of illness and treatment

Coping strategies

Appraisal

Illness perception questionnaire-revised (IPQ-R; Moss-Morris et al, 2002)
• Treatment usage can be emotionally and practically demanding
• These issues are often missed or distress is undertreated
• People may suppress their feelings such as anger in an attempt to gain control over and mitigate negative mood
One

• Assess real-world levels of **general** and **psoriasis-specific** distress in patients with psoriasis using conventional (tablets) and biologic (injections) systemic therapies

Two

• Examine **emotion-focused coping strategies**—levels of anger suppression (experienced but not expressed), expression (experienced and outwardly expressed) and control (control or resist feelings)

Three

• Assess whether patients’ **beliefs** and emotion-focused coping strategies are associated with **psychological distress**
Methods

Sampling

- 35 dermatology centres across England
- All participants are registered on BADBIR
- Moderate-severe disease, as defined by a PASI ≥ 10 and DLQI > 10
- Oral conventional systemic and/or subcutaneous biologic therapy (etanercept, adalimumab, ustekinumab)
- Prescribed systemic therapy for ≤ 2 years
Methods

Materials

Hospital Anxiety and Depression Scale (HADS)
(score ≥ 8 = possible or probable caseness)

Revised Illness Perception Questionnaire (IPQ-R)

Appearance concerns – the extent to which the individual (1) worried about their appearance and (2) perceived their psoriasis to be noticeable to other people

Beliefs about Medicines Questionnaire (BMQ)

Anger Expression Scale (AX)
### Results

#### Sample size N = 811

<table>
<thead>
<tr>
<th></th>
<th>Total sample (N = 811)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (years)</td>
<td>48.1 (13.1)</td>
</tr>
<tr>
<td>Age range</td>
<td>18 – 83 years</td>
</tr>
<tr>
<td>Male</td>
<td>57.1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Biologic cohort (N = 525; <strong>64.7%</strong>)</th>
<th>Conventional cohort (N = 286; <strong>35.3%</strong>)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adalimumab</td>
<td>52.5%</td>
<td>Methotrexate</td>
</tr>
<tr>
<td>Ustekinumab</td>
<td>32.6%</td>
<td>Ciclosporin</td>
</tr>
<tr>
<td>Etanercept</td>
<td>14.9%</td>
<td>Acitretin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fumaric acid esters</td>
</tr>
</tbody>
</table>
## General psychological distress (HADS)

<table>
<thead>
<tr>
<th>HADS Anxiety</th>
<th>HADS Depression</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean (SD)</strong></td>
<td><strong>Mean (SD)</strong></td>
</tr>
<tr>
<td>Entire sample</td>
<td>Tablet cohort</td>
</tr>
<tr>
<td>6.7 (4.3)</td>
<td>6.9 (4.4)</td>
</tr>
<tr>
<td>4.8 (4.0)</td>
<td>5.3 (4.2)</td>
</tr>
</tbody>
</table>

The prevalence rate of possible or probable caseness (% of patients with a score ≥ 8)

- Anxiety = 39.8% (316)
- Depression = 24.1% (192)
Psoriasis-specific distress (IPQ-R)

- My psoriasis makes me feel afraid: 20.1% (163)
- Having this psoriasis makes me feel anxious: 63.5% (514)
- My psoriasis worries me: 74.8% (604)
- My psoriasis makes me feel angry: 47% (380)
- When I think about my psoriasis I get upset: 59.8% (484)
- I get depressed when I think about my psoriasis: 67.7% (544)
Anger expression

Our findings indicate that individuals believe that they need to make **considerable efforts** to manage their **emotional responses** to having psoriasis.

<table>
<thead>
<tr>
<th>Anger expression</th>
<th>Anger control</th>
<th>Anger suppression</th>
<th>Anger expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>% scoring above the scale mid-point</td>
<td>68.1% (539)</td>
<td>11.5% (91)</td>
<td>4.4% (35)</td>
</tr>
</tbody>
</table>
Illness beliefs

- **Timeline chronic**: 94.5% (752) scoring above the scale mid-point (a score > 3)
- **Timeline cyclical**: 60.8% (488)
- **Consequences**: 81% (651)
- **Personal control**: 47% (376)
- **Treatment control**: 85.9% (680)
- **Coherence (understanding)**: 61.5% (492)

- 56.7% (454) stated that they often or very often **worried** about their appearance
- 61.9% (496) believed their psoriasis to be quite a lot or very much **noticeable** to other people
Symptoms attributed to psoriasis (IPQ-R)

- Itching: 83.2% (670)
- Skin flaking: 82.8% (666)
- Pain: 54.9% (440)
- Burning sensations: 41.2% (330)
- Stiff joints: 39.9% (319)
- Sleep difficulties: 25.3% (202)
- Fatigue: 22% (175)
- Loss of strength: 13.3% (106)
- Sore throat: 11.9% (95)
- Sore eyes: 10.6% (84)
- Upset stomach: 8.2% (65)
- Headaches: 7.3% (58)
- Nausea: 6.8% (54)
- Dizziness: 4.5% (36)
- Breathlessness: 3.8% (30)
- Wheeziness: 3.5% (28)
- Weight loss: 3.1% (25)
Beliefs about medication (BMQ)

26% expressed **conflicting** medication beliefs
- Strong beliefs in perceived need for treatment
- Strong concerns about its usage

**Group 1:** Strongly concerned (26.4%; 213)

**Group 2:** Side-effects and overuse (61%; 493)

**Group 3:** Treatment resolved (12.6%; 102)
## Factors influencing distress: regression models (β coefficients)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Anxiety</th>
<th>Depression</th>
<th>Psoriasis-specific distress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coherence (understanding)</td>
<td>-.105*</td>
<td>-.113*</td>
<td>-.096*</td>
</tr>
<tr>
<td>Worries about appearance</td>
<td>.130*</td>
<td>-</td>
<td>.222*</td>
</tr>
<tr>
<td>Perceive psoriasis to be noticeable to others</td>
<td>-</td>
<td>.171*</td>
<td>-</td>
</tr>
<tr>
<td>Strongly concerned medication belief group¹</td>
<td>-</td>
<td>.121*</td>
<td>-</td>
</tr>
<tr>
<td>Anger suppression</td>
<td>.389*</td>
<td>.382*</td>
<td>.100*</td>
</tr>
<tr>
<td>Anger control</td>
<td>-.166*</td>
<td>-.119*</td>
<td>-</td>
</tr>
<tr>
<td><strong>Adjusted R square</strong></td>
<td><strong>.412</strong>*</td>
<td><strong>.382</strong>*</td>
<td><strong>.538</strong>*</td>
</tr>
</tbody>
</table>

*P < 0.05.

¹Reference category: Medication belief group 2 (side effects and overuse) and group 3 (treatment resolved)

Models control for demographic and clinical variables.
Concerns about medication

High levels of illness and treatment uncertainty

Ongoing concerns about the impact psoriasis has on daily life and unresolved anxieties about appearance

Emotion-focused coping strategies (anger suppression)

Strong perceived need for treatment

Lack of practical and emotional support from healthcare professionals

Internal conflict

= Systemic therapies are highly effective HOWEVER we are not seeing corresponding improvements in mood or lowering of distress in ‘real world’ settings
High levels of anger and its suppression is associated with cardiovascular and metabolic disease.

Psoriasis is associated with the presence, or future risk of, physical co-morbidities.

Further investigation of the role of anger and its management in long-term inflammatory conditions is needed.
Acknowledgments

- **Research team**
  - Dr Lis Cordingley, Prof Darren Ashcroft, Prof Chris Griffiths, Dr Richard Emsley and Prof Chris Bundy
  - People with psoriasis who took part in this study
  - MRC and the Psoriasis Association
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  - The British Association of Dermatologists Biologics Interventions Register (BADBIR)
  - PI’s and research nurses at each of the 35 dermatology centres

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