Appendix S1. **Quality of life and costs in atopic dermatitis patients interview questionnaire**

[1] Quality of life

A. Dermatology Life Quality Index (DLQI)

1. Over the last week, how itchy, sore, painful or stinging has your skin been?	1. □ Very much 2. □ A lot 3. □ A little 4. □ Not at all
2. Over the last week, how embarrassed or self-conscious have you been because of your skin?	1. □ Very much 2. □ A lot 3. □ A little 4. □ Not at all
3. Over the last week, how much has your skin interfered with you going shopping or looking after your home or garden?	1. □ Very much 2. □ A lot 3. □ A little 4. □ Not at all 5. □ Not relevant
4. Over the last week, how much has your skin influenced the clothes you wear?	1. □ Very much 2. □ A lot 3. □ A little 4. □ Not at all 5. □ Not relevant
5. Over the last week, how much has your skin affected any social or leisure activities?	1. □ Very much 2. □ A lot 3. □ A little 4. □ Not at all 5. □ Not relevant
6. Over the last week, how much has your skin made it difficult for you to do any sport?	1. □ Very much 2. □ A lot 3. □ A little 4. □ Not at all 5. □ Not relevant

7-1. Over the last week, has your skin prevent you from working or studying?	1. □ Yes 2. □ No 3. □ Not relevant
7-2. If 'no', over the last week, how much has your skin been a problem at working and studying?	1. □ A lot 2. □ A little 3. □ Not at all
8. Over the last week, how much has your skin created problems with your partner or any close friends or relatives?	1. □ Very much 2. □ A lot 3. □ A little 4. □ Not at all 5. □ Not relevant
9. Over the last week, how much has your skin caused any sexual difficulties?	1. □ Very much 2. □ A lot 3. □ A little 4. □ Not at all 5. □ Not relevant
10. Over the last week, how much of a problem has the treatment for your skin been, for example by making your home messy, or by taking up time?	1. □ Very much 2. □ A lot 3. □ A little 4. □ Not at all 5. □ Not relevant

B. Pittsburgh Sleep Quality Index (PSQI)

Your answers should indicate the most accurate reply for the majority of days and nights in the past month. Please answer all questions.

1. During the past month, what time have you usually gone to bed at night? ____
2. During the past month, how long (in minutes) has it usually taken you to fall asleep each night? ____
3. During the past month, what time have you usually gotten up in the morning? ____
4. During the past month, how many hours of actual sleep did you get at night? ____

5. During the past month, how often have you had trouble sleeping because you...	Not during the past month	Less than once a week	Once or twice a week	Three or more times a week
a. Cannot get to sleep within 30 minutes				
b. Wake up in the middle of the night or early morning				
c. Have to get up to use the bathroom				
d. Cannot breathe comfortably				
e. Cough or snore loudly				
f. Feel too cold				
g. Feel too hot				
h. Have bad dreams				
i. Have pain				
j. Other reason(s), please describe:				
6. During the past month, how often have you taken medicine to help you sleep (prescribed or "over the counter")				
7. During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?				
	No problem at all	Only a very slight problem	Somewhat of a problem	A very big problem
8. During the past month, how much of a problem has it been for you to keep up enough enthusiasm to get things done?				
	Very good	Fairly good	Fairly bad	Very bad
9. During the past month, how would you rate your sleep quality overall?				
	No bed partner or room mate	Partner/room-mate in other room	Partner in same room but	Partner in same bed

			not same bed	
10. Do you have a bed partner or roommate?				
	Not during the past month	Less than once a week	Once or twice a week	Three or more times a week
If you have a roommate or bed partner, ask him/her how often in the past month you have had:				
a. Loud snoring				
b. Long pauses between breaths while asleep				
c. Legs twitching or jerking while you sleep				
d. Episodes of disorientation or confusion during sleep				
e. Other restlessness while you sleep, please describe:				

C. Hospital Anxiety and Depression Scale (HADS)

Tick the box beside the reply that is closest to how you have been feeling in the past week. Don't take too long over you replies: your immediate is best.

1. I feel tense or 'wound up': □ Most of the time □ A lot of the time □ From time to time, occasionally □ Not at all	8. I feel as if I am slowed down: □ Nearly all the time □ Very often □ Sometimes □ Not at all
2. I still enjoy the things I used to enjoy: □ Definitely as much □ Not quite so much □ Only a little □ Hardly at all	9. I get a sort of frightened feeling like 'butterflies' in the stomach: □ Very often □ Quite often □ Occasionally □ Not at all
3. I get a sort of frightened feeling as if something awful if about to happen:	10. I have lost interest in my appearance: □ Definitely

□ Very definitely and quite badly □ Yes, but not too badly □ A little, but it doesn't worry me □ Hardly at all	□ I don't take as much care as I should □ I may not take quite as much care □ I take just as much care as ever
4. I can laugh and see the funny side of things □ As much as I always could □ Not quite so much now □ Definitely not so much now □ Not at all	11. I feel restless as I have to be on the move: □ Very much needed □ Quite a lot □ Not very much □ Not at all
5. Worrying thoughts go through my mind: □ A great deal of the time □ A lot of the time □ From time to time, but not too often □ Only occasionally	12. I look forward with enjoyment to things: □ As much as I ever did □ Rather less than I used to □ Definitely less than I used to □ Hardly at all
6. I feel cheerful: □ Not at all □ Not often □ Sometimes □ Most of the time	13. I get sudden feelings of panic: □ Very often indeed □ Quite often □ Not very often □ Not at all
7. I can sit at ease and feel relaxed: □ Definitely □ Usually □ Not often □ Not at all	14. I can enjoy a good book or radio or TV program: □ Often □ Sometimes □ Not often □ Very seldom

D. EQ-5D-5L

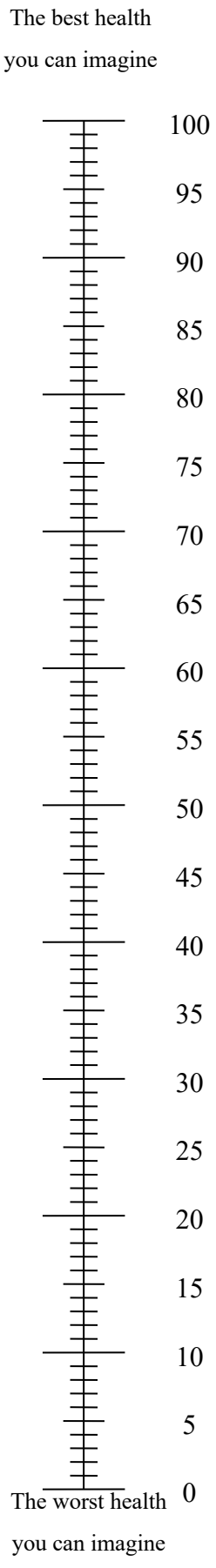
Under each heading, please tick the ONE box that best describes your health TODAY

Mobility	
1. I have no problem in walking about	1. □
2. I have sight problems in walking about	2. □
3. I have moderate problems in walking about	3. □
4. I have severe problems in walking about	4. □

5. I am unable to walk about	5. □
Self-care	
1. I have no problems washing or dressing myself	1. □
2. I have slight problems washing or dressing myself	2. □
3. I have moderate problems washing or dressing myself	3. □
4. I have severe problems washing or dressing myself	4. □
5. I am unable to wash or dress myself	5. □
Usual activities (e.g. work, study, housework, family or leisure activities)	1. □
1. I have no problems doing my usual activities	2. □
2. I have slight problems doing my usual activities	3. □
3. I have moderate problems doing my usual activities	4. □
4. I have severe problems doing my usual activities	5. □
5. I am unable to do my usual activities	
Pain/Discomfort	
1. I have no pain or discomfort	1. □
2. I have slight pain or discomfort	2. □
3. I have moderate pain or discomfort	3. □
4. I have severe pain or discomfort	4. □
5. I have extreme pain or discomfort	5. □
Anxiety/Depression	
1. I am not anxious or depressed	1. □
2. I am slightly anxious or depressed	2. □
3. I am moderately anxious or depressed	3. □
4. I am severely anxious or depressed	4. □
5. I am extremely anxious or depressed	5. □

- We would like to know how good or bad your health is TODAY.
- This scale is numbered from 0 to 100.
- 100 means the best health you can imagine.
  0 means the worst health you can imagine.
- Mark an X on the scale to indicate how your health is TODAY.
- Now, please write the number you marked on the scale in the box below.

YOUR HEALTH TODAY = ☐



[2] Work Productivity and Activity Impairment Questionnaire:

Atopic Dermatitis v2.0 (WPAI:AD)

The following questions ask about the effect of your problems associated with atopic dermatitis on your ability to work and perform regular activities.

1) Are you currently employed (working for pay)? _____ NO _____ YES

If NO, check "NO" and skip to question 6.

The next questions are about the **past seven days**, not including today.

2) During the past seven days, how many hours did you miss from work because of problems associated with atopic dermatitis? *Include hours you missed on sick days, times you went in late, left early, etc., because of atopic dermatitis. Do not include time you missed to participate in this study.*

_____hours

3) During the past seven days, how many hours did you miss from work because of any other reason, such as vacation, holidays, time off to participate in this study?

_____hours

4) During the past seven days, how many hours did you actually work?

_____hours (*If "0", skip to question 6.)*

5) During the past seven days, how much did atopic dermatitis affect your productivity <u>while you were working</u>?

Think about days you were limited in the amount or kind of work you could do, days you accomplished less than you would like, or days you could not do your work as carefully as usual. If atopic dermatitis affected your work only a little, choose a low number. Choose a high number if atopic dermatitis affected your work a great deal.

Consider only how much <u>atopic dermatitis</u> affected productivity <u>while you were working</u>

Atopic dermatitis had	0	1	2	3	4	5	6	7	8	9	10	Atopic dermatitis completely

no effect on work	prevented me from working

CIRCLE A NUMBER

6) During the past seven days, how much did atopic dermatitis affect your ability to do your regular daily activities, other than work at a job?

By regular activities, we mean the usual activities you do, such as work around the house, shopping, child care, exercising, studying, etc. Think about times you were limited in the amount or kind of activities you could do and times you accomplished less than you would like. If atopic dermatitis affected your work only a little, choose a low number. Choose a high number if atopic dermatitis affected your work a great deal.

Consider only how much atopic dermatitis affected your ability to do your regular daily activities, other than work at a job.

Atopic dermatitis had no effect on my daily	0	1	2	3	4	5	6	7	8	9	10	Atopic dermatitis completely prevented me from doing my daily activities

CIRCLE A NUMBER

[3] Non-medical costs and out-of-pocket medical expenses

1. During the past three months, have you seen a doctor at an outpatient clinic because of atopic dermatitis?

1. ☐ yes (answer question 1.1) 2. ☐ no (skip to question 2)

1.1 For your most recent outpatient visit because of atopic dermatitis, what type of transportation did you use to go to the hospital or clinic? How much was the fare and travel time?

1.☐ by means with no extra fare such as walk, bicycle or hitchhiking, etc., with travel time of ____ hour(s) for each way

2.☐ by High Speed Rail, train, Mass Rapid Transit, bus, or taxi, etc., with travel time of ____ hour(s) and transportation fare of NTD____ for each way

3.☐ by car, with travel time of ____ hour(s) for each way

4.☐ by motorcycle, with travel time of ____ hour(s) for each way

5.☐ other means which is _____, with travel time of ____ hour(s) and transportation fare of NTD____ for each way

1.2 For your most recent outpatient visit because of atopic dermatitis, how many hours did it take from entering to leaving the hospital or clinic?

1. ☐ less than 1 hour 2. ☐ 1 to 3 hours 3. ☐ 3 to 5 hours

4. ☐ 5 to 8 hours 5. ☐ 8 to 12 hours 6. ☐ more than 12 hours

1.3 For your most recent outpatient visit because of atopic dermatitis, how much out-of-pocket expense did you pay to the hospital or clinic? NTD____

1.4 For your most recent outpatient visit because of atopic dermatitis, did any family members or friends accompany you to the hospital or clinic?

1. ☐ no 2.☐ yes

2. During the past year, have you been hospitalized because of atopic dermatitis?

1. ☐ yes (answer question 2.1) 2. ☐ no (skip to question 3)

2.1 For your most recent hospitalization because of atopic dermatitis, how long was the hospital length of stay? ____day(s)

2.2 For your most recent hospitalization because of atopic dermatitis, how much out-of-pocket expense did you pay to the hospital or clinic? NTD____

2.3 For your most recent hospitalization because of atopic dermatitis, did any family members or friends accompany you during hospitalization?

1. ☐ no 2.☐ yes, he/she spent ____hour(s) per day on average.

2.4 For your most recent hospitalization because of atopic dermatitis, did you pay for any of the following personnel to take care of you in the hospital?

Caring staff	**Days and Costs**
2.4.1 Caregiver	1.☐ yes, for ____ days, costing NTD____ per day. 2.☐ no
2.4.2 Clinical nurse specialist	1.☐ yes, for ____ days, costing NTD____ per day. 2.☐ no
2.4.3 Foreign domestic worker	1.☐ yes, for ____ days, costing NTD____ per day. 2.☐ no
2.4.4 Other: _____	1.☐ yes, for ____ days, costing NTD____ per day. 2.☐ no

3. During the past year, have you spent money on any of the following self-paid medical services or treatment because of atopic dermatitis?

Treatment or related supplements	**Costs**
3.1 seeing a Chinese medical doctor/taking Chinese medicine	1.☐ yes, costing NTD____ for the past year 2.☐ no
3.2 folk remedies or medicine such as foot massage, manipulation, herbal medicine, etc.	1.☐ yes, costing NTD____ for the past year 2.☐ no
3.3 health food, dietary supplements, vitamins, etc.	1.☐ yes, costing NTD____ for the past year 2.☐ no
3.4 Other: topical medicine, equipment, devices or medical services, etc. Please describe: _____	1.☐ yes, costing NTD____ for the past year 2.☐ no

[4] Patient information

1. Sex： 1.☐ male 2.☐ female

2. Year of birth: ____

3. Height: ____cm; Body weight: ____kg

4. Educational background:

1.☐ elementary school or less 2.☐ middle school 3.☐ senior high school

4.☐ college/university 5.☐ Master/PhD

5. Current marital status:

1.☐ never married

2.☐ married, and currently living together

3.☐ married, but currently seldom living together

4.☐ married, but officially separated

5.☐ divorced

6.☐ widowed

7.☐ other: _____

6.How much is the average monthly income of your household (in NTD)?

(The household refers to the salary, rent, investment income, living expenses from children or spouses, etc.)

1.☐ less than 14999 2.☐ 15000 to 29999 3.☐ 30000 to 49999

4.☐ 50000 to 69999 5.☐ 70000 to 99999 6.☐ 100000 to 149999

7.☐ 150000 to 199999 8.☐ above 200000

7. Have you been suffering from chronic, persistent or relapsing eczema for over 6 months?

1.☐ yes 2.☐ no

8. Do you have atopic diseases such as allergic rhinitis or asthma?

1.☐ yes 2.☐ no

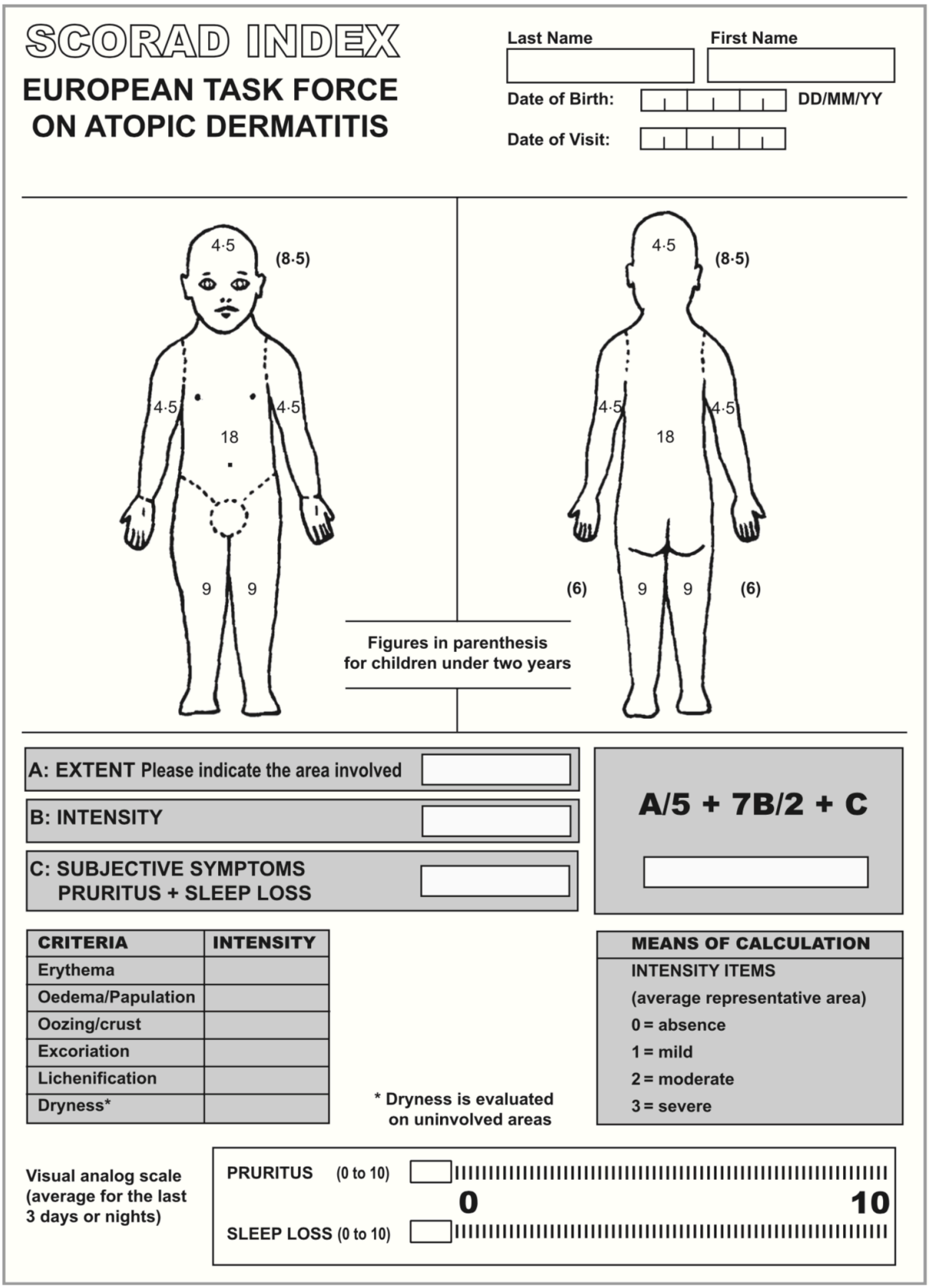
9. Does any of your family members have atopic diseases such as allergic rhinitis, asthma or atopic dermatitis?

1.☐ yes 2.☐ no

10. It has been ____ years since the onset of your atopic dermatitis.

[5] Disease severity

SCORing Atopic Dermatitis (SCORAD)



Derived from the report of the European Task Force on Atopic Dermatitis