Study Letter

Clinical characteristics of pruritus in scabies

Sir,

Scabies is caused by the mite *Sarcoptes scabiei*. Pruritus, the result of a hypersensitive reaction to the eggs, saliva, and fecal components of the mites, is the major symptom of scabies.[1] Furthermore, subsequent excoriation could make an entry point for bacteria, thus, pyoderma is a common complication of scabies.[2] However, the clinical characteristics of pruritus in scabies have not been explored. Itch is difficult to measure due to its subjective nature.[3] So far, few studies have focused on the sensory and affective dimensions of the pruritus experience in scabies. Recently Yosipovitch *et al*. developed a reliable and reproducible itch questionnaire to evaluate the pruritus in pruritic dermatosis with multi-dimensional approach.[4] This pruritus questionnaire is based on the McGill questionnaire which is the universally accepted questionnaire for pain.[5] In this study, we evaluated the sensory and affective dimensions of the itch experience in scabies patients by utilizing the modified McGill questionnaire.

A face-to-face modified questionnaire based on the McGill pain questionnaire was given to 82 scabies patients who visited Pusan National University Hospital from 1 July 2013 to 31 December 2015. All scabies patients were diagnosed by a dermatologist based on microscopic detection of the mite with skin scrapings. All patients filled out a detailed questionnaire with the aid of an assistant who ensured that the patients understood all the questions. Statistical analysis was performed using SPSS (version 21) for Windows. Spearman's correlation was used for correlation between VAS score for itch and VAS score for sleep disturbance.

Scabies patients comprised 34 men and 48 women with mean age of 52.9 ± 22.8 years and mean disease duration of 3.0 ± 2.7 months.

The most frequently involved areas for pruritus were the groin (62.2%), trunk (51.2%) and axilla (48.8%). Most patients experienced their pruritus before sleep (46.3%) and in the evening (36.6%), rather than in the morning (2.4%) or in the afternoon (3.7%).

Patients reported itch as stinging (73.0%), followed by burning (65.3%) and crawling (61.3%) to a more than mild extent [Table 1]. Patients rarely perceived their itch as pinching sensation (30.3%). Fifty-one patients reported their itch to be moderately or severely worrisome (62.2%), 42 annoying (51.2%) and 30 bothersome (36.6%). The most common associated symptoms with the itch were heat sensation (47.6%), sweating (17.1%) and pain in the pruritic area (7.3%) [Figure 1a].

The commonest aggravating factors of pruritus given by the patients were heat (40.2%), sweating (26.8%) and stress (18.3%) [Figure 1b]. The most common alleviating factors of pruritus were cool environment (32.9%), concentration to work (30.5%) and bath (28.0%) [Figure 1c].

The mean pruritus intensity assed by visual analogue scale (VAS) is 7.2 ± 2.0 and mean VAS score for sleep disturbance is 6.8 ± 2.4. There was correlation between VAS score for itch and VAS score for sleep disturbance (r = 0.6831, $P < 0.0001$) [Figure 2].

Our findings reveal multidimensional characteristics of pruritus in scabies, most frequently involved being groin with stinging sensation. Pruritus in scabies is aggravated with heat

Table 1: Sensory dimensional characteristics of itch in scabies patients

Dimension	None (%)	Mild (%)	Moderate (%)	Severe (%)
Burning	34.7	30.6	27.8	6.9
Crawling	38.7	21.3	33.3	6.7
Pinching	69.7	13.2	14.5	2.6
Stabbing	45.1	25.4	19.7	9.9
Stinging	27.0	25.7	36.5	10.8
Tickling	47.9	17.8	26.0	8.2

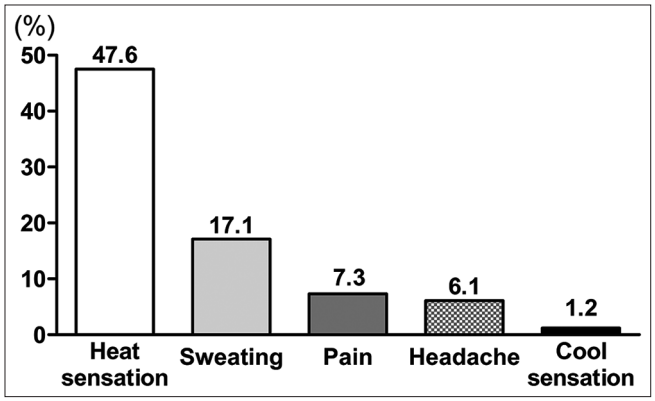

Figure 1a: Associated symptoms of itch in scabies patients

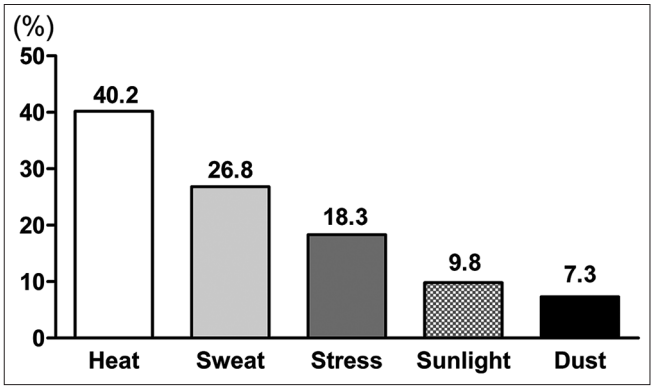

Figure 1b: Aggravating factors of itch in scabies patients

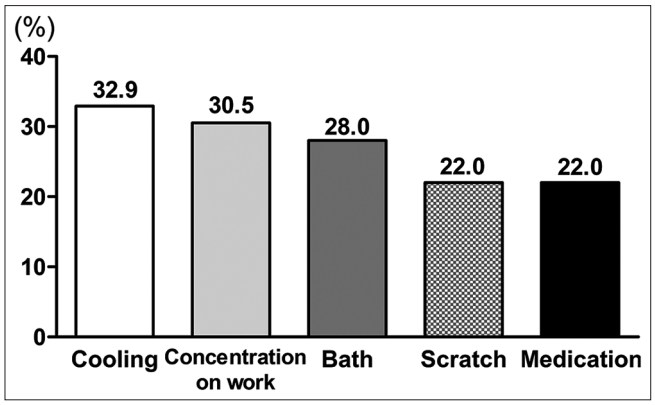

Figure 1c: Alleviating factors of itch in scabies patients

and alleviated with cool environment. Less than a quarter of our scabies patients (17.1%) visited our department during the winter season (from December to February), and it could be consequences of alleviated pruritus in cool environment. Considering that most scabies patients experienced pruritus before sleep, it is a reasonable result that VAS score for itch is positively correlated with VAS score for sleep disturbance [Figure 2].

To our knowledge, there is only one previous report that investigated itch characteristics of scabies patients.[4] However, the previous report may be limited by the patient number (n = 19). They compared itch characteristics among five dermatoses, thus they did not solely focus on scabies.

Herein, we investigated the multidimensional qualitative features of pruritus in scabies using questionnaire adapted from previous questionnaires. Considering the clinical importance of itch in scabies, understanding the previously uninvestigated qualitative features of itch in scabies could support a clinical diagnosis and treatment of scabies.

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Conflicts of interest
There are no conflicts of interest.

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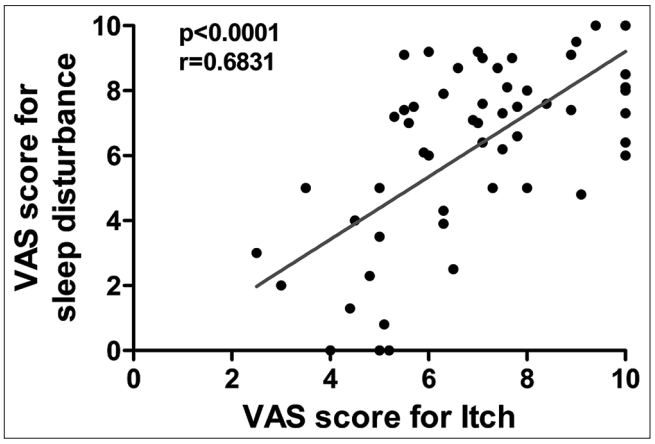

Figure 2: Correlation between visual analogue scale score for itch, and visual analogue scale score for sleep disturbance in scabies patients

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