Validity and feasibility of the self-assessment vitiligo extent score among Egyptian patients

Sir,

Vitiligo extent score is one of the reliable instruments recently validated and used by physicians to assess the extent of non-segmental vitiligo.[1] However, according to the World Health Organization, if the patients themselves could score the extent of their vitiligo, it could bring about the participation of the patients in assessing the prognosis of their disease. Self-assessment vitiligo extent score was previously validated in patients with fairer skin types allowing them to score their vitiligo extent in an easy way.[2] Both vitiligo extent score and self-assessment vitiligo extent score are available online and easy to calculate (https://www.vitiligo-calculator.com/Calculator for vitiligo extent score, https://www.vitiligo-calculator.com/Calculator?sa=true for self-assessment vitiligo extent score). Further validation of the self-assessment vitiligo extent score on a different ethnic population (Middle East/North African), darker skin types with various cultural and educational levels would add to the generalisability of the new scoring system, as recommended by van Geel *et al*.[2]

After getting the approval of the university's ethical committeee for the current case series (FMASU R 27/2017) and informed consent from all participants, 206 non-segmental vitiligo patients were recruited. Patients with skin type I were excluded. Patients were of different educational levels including adult illiterates, since Ain Shams University Hospital is a government run non-profit hospital attended mostly by patients with low to low- medium socioeconomic levels. Validity for self-assessment vitiligo extent score was determined by comparing the results of both self-assessment vitiligo extent score and vitiligo extent score, while feasibility was determined by recording the completion time (1–4 min, 5–9 min, 10-15 min and >15 min), patient's required mental ability level, ease of administration and comprehensibility of self-assessment vitiligo extent score.

Quantitative variables which were normally distributed were described using mean and standard deviation and those with skewed distribution were described using median and interquartile range. The statistical tests used for comparison were Mann Whitney, ANOVA and Kruskal–Wallis. The Cronbach alpha test was used to examine the internal consistency of vitiligo extent score and self-assessment vitiligo extent score.

Our study included 206 patients with vitiligo, of all age groups (adults [≥16 y, mean age 37.89 ± SD 16.12 y] and children [9.36 ± SD 3.58 y]), educational levels and skin types prevalent in Egypt. Almost half of the patients were children below the age of 16 and 82% were of skin types III and IV [Table 1].

In concordance with the study done by van Geel *et al* in 2017,[2] the mean vitiligo extent score (1.93 ± SD 3.55)

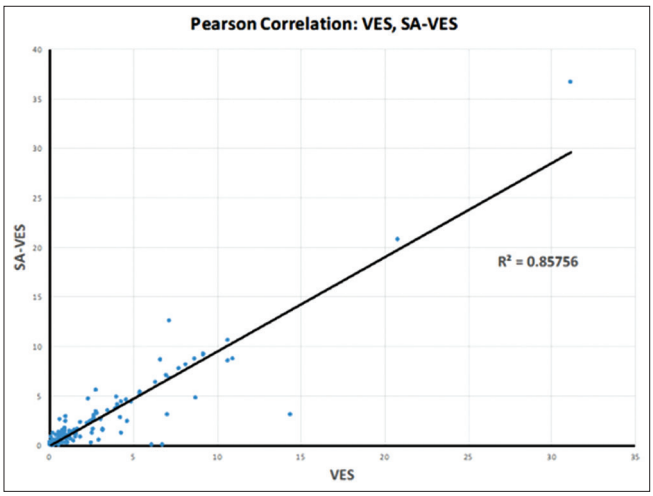

Figure 1: Positive correlation between vitiligo extent score and self-assessment vitiligo extent score with high correlation coefficient (Pearson correlation coefficient, r = +0.923, $P < 0.001$).

How to cite this article: Abdallah M, Nassar A, Samir M, Reda A, Hassan A, Allam MF, *et al*. Validity and feasibility of the self-assessment vitiligo extent score among Egyptian patients. Indian J Dermatol Venereol Leprol 2021;87:723-5.

Received: April, 2020 **Accepted:** January, 2021 **EPub Ahead of Print:** May, 2021 **Published:** August, 2021

DOI: 10.25259/IJDVL_498_20 **PMID:** 34114412

Table 1: Demographic data of included participants

	Number (%)
Age group (y)	
Adults (≥16)	105 (51)
Children (1–15)	101 (49)
Gender	
Females	127 (61.7)
Males	79 (38.3)
Area of origin	
Cairo and Delta	150 (72.5)
Upper Egypt	38 (18.4)
Unknown	18 (8.8)
Fitzpatrick's skin phototype	
II	9 (4.4)
III	71 (34.4)
IV	98 (47.6)
V	18 (8.7)
VI	10 (4.9)
Educational level	
Adult illiterate	23 (11.2)
Preschool	18 (8.7)
Primary school	51 (24.8)
Preparatory school	34 (16.5)
High school	34 (16.5)
University student	11 (5.3)
Postgraduate	21 (10.2)
Not identified	14 (6.8)

Table 2: VES, SA-VES and SA-VES time values

	VES (*n*=206)	SA-VES (*n*=206)	SA-VES time in minutes (*n*=130)
Mean	1.93±SD 3.55	1.79±SD 3.63	3.19±SD 2.17 min
Median	0.62 (IQR 0.20–1.82)	0.56 (IQR 0.20–1.59)	3 min
Range	0.003–31.13	0.01–36.69	1–10 min
Children	1.46±SD 3.46	1.33±SD 3.94	3.31±SD 2.01
Adults*	2.38±SD 3.59 *P*=0.009	2.22±SD 3.27 *P*=0.033	3.10±SD 2.3 *P*=0.65
Females	1.92±SD 3.85	1.81±SD 4.07	3.30±SD 2.22
Males*	1.95±SD 3.04 *P*=0.977	1.74±SD 2.81 *P*=0.811	3.03±SD 2.11 *P*=0.436

Mann–Whitney U-test, VES: Vitiligo extent score, SA-VES: Self-assessment vitiligo extent score

and self-assessment vitiligo extent score (1.79 ± SD 3.63) [Table 2] showed a significant bilateral positive correlation (r= + 0.923, P < 0.001) [Figure 1] and there was internal consistency of the assessment of vitiligo extent by the two scores (Cronbach alpha test = 0.96), indicating validity. Moreover, both the scores were not affected by gender (P = 0.977, 0.811) [Table 2], skin type (P = 0.977, 0.151) and educational level (P = 0.350, 0.632), respectively. However, both were less in children compared to adults (P = 0.009 and P = 0.033, respectively) which may be due to the progressive nature of disease with milder disease in childhood. Alternatively, it could be due to increased awareness and more concern of the parents resulting in early and prompt diagnosis and hence presenting with less/small surface area of lesions.

The score was feasible, as the mean self-assessment vitiligo extent score time (done by 130 patients) was 3.19 ± SD 2.17 min. Most of the participants (101, 77.69 %) completed self-assessment vitiligo extent score in 1–4 min, 26 (20%) in 5–9 minutes, three (2.31%) in ten min and no one exceeded ten minutes. It was not affected by age (P = 0.65), gender (P = 0.436) [Table 2], skin type (P = 0.57) (Kruskal–Wallis) or educational level (P = 0.21) (Kruskal–Wallis). This is in agreement with study by van Geel *et al* in 2017,[2] where none of the patients rated the self-assessment vitiligo extent score scoring as difficult or very difficult.

Self-assessment vitiligo extent score was easy and needed less time to complete than the patient's self-assessment scores of the vitiligo area severity index (SA-VASI), where only 35% of the patients were able to complete the questionnaire in five minutes.[3] Self-assessment vitiligo extent score is a visually illustrated tool which makes it easier to comprehend and complete. Assistance was minimal in patients older than nine years (only 16% were assisted). Assistance required in adults was significantly less than that in children (P = 0.0001). There was a statistically significant association between low educational level and need for assistance (P = 0.0001). Adult illiterates were the group who needed more assistance and took the longest time (4.60 ± SD2.92 vs. 2.25 ± SD 1.58 min for university graduates) in completing self-assessment vitiligo extent score.

Thus, clearly, there are some discrepancies in self-assessment vitiligo extent score among patients related to their age. Most of the children presented with milder form of the disease as evidenced by having lower score compared to adults. In addition, a significant number of children, in contrast to adults, required assistance; nevertheless, patients' age did not influence the timing needed to complete the questionnaire.

In conclusion, self-assessment vitiligo extent score demonstrated excellent feasibility and validity (highly significant correlation with vitiligo extent score) in an Egyptian patient population. It could be implemented in different cultural groups, in darker skin types and in different age groups. It represents a valuable tool in everyday clinical practice as well as in clinical trials.

Limitations

Our study limitation was that we did not assess test-retest reliability of self-assessment vitiligo extent score and we depended on internal consistency using Cronbach alpha with vitiligo extent score. Vitiligo extent score and self-assessment vitiligo extent score, despite the ease of their use, have their limitations in that they do not have separate

representation of the palms, soles and mucosae, such as lips and genitalia.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

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Association of various risk factors with childhood herpes zoster: A case–control study in Indian patients

Sir,
Recent studies from Indian set up are showing a conspicuous rise in cases of childhood herpes zoster in immunocompetent children.[1] The aim was to study the clinical presentation, complications and the association of various risk factors with childhood zoster by conducting age- and sex-matched case–control study in Indian patients.

The study was ethically approved by Institutional Ethics Committee and patients were recruited from the Department of Dermatology, Pandit B. D. Sharma, PGIMS, Rohtak, Haryana. Guardians of patients and controls gave their voluntary informed consent. Convenience sample size was selected which included 30 patients of age ≤14 years, who were clinically diagnosed as a case of herpes zoster and had multinucleated giant cells on Tzanck smear. Equal number of age- and sex-matched controls were selected from the healthy children who did not have a history of having the disease. The children in the control group were those who were coming along with other patients to our outpatients' department and were healthy.

Detailed history and clinical examination was done in all the patients. Patient's sera were tested for antibody to HIV which was confirmed by Western blot assay. Complete blood count, chest X-ray and ultrasonography of abdomen were done to rule out any underlying malignancy. Anemia was diagnosed on the basis of both peripheral blood smear and mean corpuscular volume.

Anemia was defined as hemoglobin concentration <11 g/dL for children between 6 and 59 months; <11.5 g/dL for children between 5 and 11 years and <12 g/dL for children aged 12 years according to the WHO.[2] MCV >100 fL was considered as megaloblastic anemia. Statistical Package for the Social Sciences for Windows version 22.0 was used for statistical analysis. Comparisons among groups were performed using the χ^2 test. Crude odds ratio was calculated.

Thirty patients of childhood herpes zoster were included in the study [Figure 1]. The demographic and clinical data are tabulated in Table 1 [Figures 2 and 3]. None of our patients developed complications except scarring at the site of the lesions in two patients. All patients were treated with oral acyclovir and symptomatic treatment.

Comparison of various risk factors within the study and control groups is given in Table 1. On evaluating patients'

How to cite this article: Sahu P, Dayal S. Association of various risk factors with childhood herpes zoster: A case–control study in Indian patients. Indian J Dermatol Venereol Leprol2021;87:725-8.

Received: March, 2020 **Accepted:** March, 2021 **EPub Ahead of Print:** June, 2021 **Published:** August, 2021

DOI: 10.25259/IJDVL_236_20 **PMID:** 34245533