

Impact on Quality of Life in Chronic Pruritus in a Tertiary Level Hospital in Kathmandu

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Abstract

Introduction: Chronic pruritus is a common complaint in various dermatologic as well as non-cutaneous conditions, and it leads to significant impairment in the quality of life of the individuals suffering from it. The 5-D Itch Scale is an internationally validated multidimensional tool for the assessment of the burden of itching, localization patterns, pruritus intensity and evolution, as well as impaired sleep, difficulty in performing daily household activities, and social obligations and responsibilities in school and work.

Objective: To assess the impact on various aspects of quality of life in chronic pruritus in a tertiary level hospital in Kathmandu.

Materials and Methods: This was a hospital-based descriptive cross-sectional study conducted in the Department of Dermatology and Venereology, Tribhuvan University Teaching Hospital, Kathmandu, over a period of one year (October 2020 through September 2021), involving 180 participants. The impact on quality of life was measured with the 5-D Itch Scale.

Results: The mean total 5-D score was 17.06 ± 2.697 (range 8 to 25), showing a severe impact on the quality of life of participants. Pruritus was unbearable in 22.2% and of severe intensity in 47.8% of participants. The impairments in sleep were found to be the most disabling by 40.5% of participants, while the majority of participants (93.9%) had developed some form of disability in leisure or social activities due to chronic pruritus.

Conclusion: Individuals suffering from chronic pruritus face severe deterioration in various aspects of quality of life.

Key words: Itch; Pruritus; Quality of life

Introduction

Chronic pruritus (CP) is defined as an unpleasant sensation arising in the skin that provokes a desire to scratch and lasts for 6 weeks or more. ¹ CP is commonly associated with various dermatologic as well as systemic, neurologic, and psychogenic diseases. ² CP is common, and it produces the greatest impairment in quality of life (QoL) compared to all other dermatological disorders. ³ The impact on the QoL of individuals due to CP may be comparable to that caused by chronic pain. ⁴ The impact on QoL

is subjective and is perceived differently by various individuals depending upon the extent to which their daily livelihoods are affected. ⁵ Among the various available tools to assess the impact on QoL due to CP, the 5-D Itch Scale is a validated multidimensional tool

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for the assessment of the burden of itching, localization patterns, pruritus intensity and evolution, as well as impaired sleep, difficulty in performing daily household activities, and social obligations and responsibilities in school and work.⁶

To our knowledge, this is the first study done in Nepal with the aim of assessing the impact on various aspects of QoL in CP in a tertiary level hospital in Kathmandu. Also, the 5-D Itch Scale had never been used to evaluate the Nepalese population prior to this.

Since CP affects different individuals to a variable extent, the same therapy may not be enough to manage all the patients. The 5-D Itch Scale effectively assesses the duration, degree, direction, disability, and distribution of pruritus over a period of 2 weeks. By evaluating the severity of pruritus along with the impact on QoL prior to and after initiating treatment, the clinician can better adjust their treatment on an individual basis. This would ultimately enhance the health care provided to individuals with CP and optimize the outcome.

Materials and Methods

This was a hospital-based descriptive cross-sectional study conducted for a period of 12 months, from October 2020 to September 2021. It was carried out in the Department of Dermatology and Venereology of Tribhuvan University Teaching Hospital, Kathmandu. A total of 180 participants were involved in the study. Individuals at and above 18 years of age who presented with complaints of CP due to various causes were enrolled in the study. Descriptive analysis was done using SPSS version 26.

Following written informed consent, demographics, and diagnosis were recorded, and the self-administered 5-D Itch Scale was handed out to the participants. The responses of participants to the 5-D Itch Scale domains of duration, degree, direction, disability, and distribution were obtained. Details of the participants, such as the number of hours a day they have been itching, the intensity of itching suffered by them, whether their itching had gotten better or worse, and the impact of itching on their daily activities such as sleep, leisure/social activities, housework/errands, and work/school during the past 2 weeks, were scored according to a Likert scale. The score of the distribution domain was calculated according to the number of body parts involved. The individual domain scores were obtained, and overall total 5-D Itch Scale score was calculated in the range of 5 (no pruritus) to 25 (most severe pruritus), with higher scores indicating a bigger negative impact of pruritus on the QoL.⁶ The overall impact due to chronic pruritus was classified as mild (5-10 points), moderate (11-15 points), severe (16-20 points), and very severe (21-25 points).⁷

Ethical approval was obtained from the Institutional

Review Committee (IRC), of the Institute of Medicine, Tribhuvan University, before the initiation of the study.

Results

Among the 180 participants enrolled in the study, 48.9% were males (n = 88), and 51.1% were females (n = 92). The mean age of participants was 37.8 ± 15.9 years with a range of 18 to 87 years. Various types of eczemas were the commonest underlying cause of CP (37.2 %, n = 67). (Table 1)

Table 1: Demographics and underlying cause of CP in participants

Variables	Frequency (n)	Percent (%)
Age (years)		
Less than 20 years	17	9.5
21 to 40 years	103	57.2
41 to 60 years	40	22.2
61 years and above	20	11.1
Sex		
Male	88	48.9
Female	92	51.1
Diagnosis		
Eczema	67	37.2
Urticaria	41	22.8
Psoriasis	17	9.4
Dermatophytosis	15	8.3
Lichen Planus	10	5.6
Lichen Simplex Chronicus and Prurigo Nodularis	10	5.6
Others (Scabies, Xerosis, and systemic causes of chronic pruritus such as Chronic Liver Diseases and Chronic Kidney Diseases)	20	11.1

5-D Duration: Itching was present the entire day in 5.6% (n = 10), for 18-23hrs/day in 2.8% (n = 5), 12-18hours/day in 31.1% (n = 56), 6-12hours/day in 50.6% (n=91), and less than 6 hours/day in 10% (n = 18) participants. 5-D Degree: The itching was of unbearable intensity in 22.2% participants (n = 40), severe intensity in 47.8% participants (n = 86), moderate intensity in 20.6% participants (n = 37), and mild intensity in 9.4% participants (n = 17).

5-D Direction: The itch was getting worse in 82.2% (n = 148), was unchanged in 13.9% (n = 25), was a little bit better in 2.8 % (n = 5), and was much better in 1.1% (n =2).

5-D Disability: Among the various domains impacted by CP, the impact on sleep was reported as being the

most disabling by 40.5% (n = 73), followed by impacts on leisure/social activities by 31.7% (n = 57), impacts on housework and errands, and impacts on work and school activities by 13.9% (n = 25) each. Some form of impact on sleep was seen in 81.1% (n = 146) of participants due to CP. (Table 2)

Table 2: 5-D Disability: Sleep

Impact of CP on sleep	Frequency (n)	Percent (%)
Never affects sleep	34	18.9
Occasionally delays falling asleep	42	23.3
Frequently delays falling asleep	32	17.8
Delays falling asleep and occasionally wakes me up at night	36	20.0
Delays falling asleep and frequently wakes me up at night	36	20.0
Total	180	100

Some form of impairment in leisure or social activities was seen in 93.9% of participants (n = 169), while 87.8% of participants (n = 158) were affected to some

extent in regard to performing housework or errands. Work and school activities were impacted to some extent by 68.3% of participants (n = 123). (Table 3)

Table 3: Disability: Leisure/Social, Housework/Errands and Work/School

Impact of CP	Leisure/Social activities		Housework/Errands		Work/School activities	
	Frequency (n)	Percent (%)	Frequency (n)	Percent (%)	Frequency (n)	Percent (%)
Not applicable	-	-	2	1.1	39	21.7
Never affects	11	6.1	20	11.1	18	10.0
Rarely affects	38	21.1	75	41.7	60	33.3
Occasionally affects	64	35.6	50	27.8	30	16.7
Frequently affects	50	27.8	18	10.0	15	8.3
Always affects	17	9.4	15	8.3	18	10.0
Total	180	100	180	100	180	100

5-D Distribution: Among the participants, 44.4% (n = 80) had itching present in up to 2 body parts, 31.1% (n = 56) had 3-5 body parts involved, 19.4% (n = 35) had involvement of 6-10 body parts, 0.6% (n =1) had 11-13 body parts involved, and 4.4% (n = 8) had 14-16 body parts involved. Among the specific body parts involved due to CP, lower legs were involved in 79, followed by thighs in 74, and forearms in 72 participants. (Figure 1)

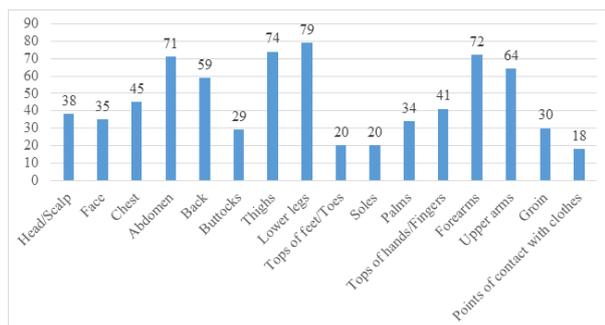


Figure 1: 5-D Distribution: Body parts involved

The total mean 5-D score was calculated to be 17.06 ± 2.697, and median score was found to be 17, suggesting a severe impact on the QoL of the participants. The maximum 5-D score obtained was 25, and minimum 5-D score obtained was 8. (Table 4)

Table 4: Total 5-D score and impact of chronic pruritus

Total 5-D Scores Obtained	Frequency (n)	Percent (%)
5-D score 5-10 (Mild impact)	2	1.1
5-D score 11-15 (Moderate impact)	43	23.9
5-D score 16-20 (Severe Impact)	121	67.2
5-D score 21-25 (Very severe impact)	14	7.8
Total	180	100

The total mean 5-D score was 17.36 ± 2.64 in female participants and 16.75 ± 2.73 in male participants. The total 5-D score was highest in participants aged 61 years and over (mean score of 18.2 ± 3.27). (Table 5)

Table 5: Age groups and total 5-D scores

Age group	Total 5-D Score	
	Mean	SD
Less than 20 years	15.94	2.36
21 to 40 years	16.98	2.60
41 to 60 years	17.18	2.64
61 years and above	18.2	3.27

The Total 5-D scores depending upon body parts involved are listed in Table 6.

Table 6: Body parts involved and impact on QoL

Body parts involved	Total 5-D Score Group				Total
	5-D score of 5 to 10 (Mild Impact)	5-D score of 11 to 15 (Moderate Impact)	5-D score of 16 to 20 (Severe Impact)	5-D score of 21 to 25 (Very Severe Impact)	
0-2	1	32	46	1	80
3-5	1	8	46	1	56
6-10	0	3	26	6	35
11-13	0	0	0	1	1
14-16	0	0	3	5	8
Total	2	43	121	14	180

Discussion

In our study of 180 participants, the total mean 5-D score was calculated to be 17.06 ± 2.697 , the median score was found to be 17, and the range was found to be 8 to 25. It was similar to that found in a study by Elman et al., where the mean total 5-D score was 16.5 ± 4.75 , and scores ranged from 7 to 25.⁶ A severe impact due to chronic pruritus was seen in both studies. In a study by Tuchinda et al., the median total 5-D score was found to be 13, with a range of 5 to 23, which demonstrated a moderate impact of chronic pruritus.⁸ In our study, the total mean 5-D score was slightly higher in females as compared to males, with scores of 17.36 ± 2.64 and 16.75 ± 2.73 respectively. The difference, however, was not statistically significant. This was in agreement with the results of the studies by Elman et al.⁶ The total mean 5-D score was highest in participants aged 61 years and over (mean score of 18.2 ± 3.27) and lowest in participants below 20 years. The detrimental impact on QoL due to CP was found to increase with increasing age. However, the difference in 5-D score among participants of various age groups was not statistically significant.

In our study, the maximum participants (50.6%) had itching present for 6-12 hours/day in the past 2 weeks which was similar to the study by Lin et al., in which itching was present for 6-12 hours/day in the majority

of participants.⁹ Most participants (47.8%) had severe intensity of itching, and 82.2% of participants in our study reported that itch was getting worse, while in a study by Lin et al., mild to moderate intensity of pruritus was reported by most participants, and the itching was a little bit better but still present in the majority of them.⁹ The difference could be attributed to the fact that in the study by Lin et al., the commonest cause of chronic pruritus was found to be xerosis rather than inflammatory dermatological diseases.

In our study, 81.1% of participants had at least some impairment in sleep, which was only slightly higher than that found in a study by Elman et al., where 75% participants had at least some effect on sleep due to pruritus.⁶ The majority of participants (23.3%) had occasional delays in falling asleep in our study, which was similar to that found in a study by Lin et al.⁹ The impairment of sleep due to chronic pruritus was found to be the most disabling among the items of 5-D disability domain in majority of patients (40.5%) in our study which was similar study by Elman et al.⁶ In our study, at least some impact on leisure/social activities, housework/errands, and work/school was seen in 93.9%, 87.8%, and 68.3% of participants, respectively. At least some impact on leisure/social activities, housework/errands, and work/school was found to be present in 35.9%, 31.2%, and 14.5% of participants in a study by Elman et al.⁶ The significantly higher

percentage of participants reporting at least some disability in our study could be explained by the fact that the majority of patients in our part of the world present to health care centers to get consultations only when their disease has become troublesome and started causing various impairments. In our study, an increased severity of impact on QoL was seen with the increase in number of body parts affected by CP. Moderate impact on QoL was seen in 40% (n = 32) participants with pruritus in 0-2 body parts, while 62.5% (n =5) participants with CP involving 14-16 body parts had very severe impact on QoL. The results were not statistically significant but were in agreement with the notion that generalized CP produces more severe impacts on QoL in comparison to localized CP.

The multidimensional effects of CP were seen in our study, with an overall severe impact on the QoL of participants. CP is a common cause for patients to visit dermatology OPD, yet the impact it causes on various aspects of the QoL of the patient's quality remains inadequately evaluated. There is a need for appropriate evaluation of patients suffering from CP for their proper management, so as to reduce or nullify the impairments they face in various activities of their daily lives. We can speculate that the detrimental effects on the QoL due to CP could also arise from the economic burdens resulting from the expenses of treatment as well as work absenteeism; however, these are beyond the scope of this study. We suggest that additional studies be conducted regarding the impact on QoL due to CP and economic burden to fill the gaps in research. This study was based on a single center over a short, fixed time frame with a limited number of participants.

Moreover, the impact of the COVID-19 pandemic was undeniably felt, and consequently, there was a lack of adequate, proportionate representation of participants with different underlying clinical causes of CP.

Conclusion

CP is a common complaint for various dermatological and systemic abnormalities. Although not fatal, CP leads to severe impairments in the QoL of the individuals suffering from it. Individuals suffering from CP often have to face prolonged hours of severe itching in various parts of their body every day with symptoms worsening in most cases. Consequently, multiple aspects of livelihood are negatively impacted by CP. The impact on sleep is considered as the most profound and disabling. The majority of individuals with CP also suffer from impairments in performing day-to-day leisure and social activities which hamper their overall well-being. CP impacts individuals while performing housework/errands, and also interferes with work/school activities, producing a distressful life. Assessment of such impacts on QoL allows monitoring of the individuals with CP and ultimately aids in their effective management so that they can have an improved QoL.

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