Hirsutism and Quality of Life of Women in Tertiary Care Center in Eastern Nepal

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ABSTRACT

Background

Hirsutism is excess terminal hair growth in women at androgen-dependent sites of the body and it has great impact on psychological and social aspects of their lives, thus affecting their quality of life (QoL). Several studies assessing the quality of life in hirsute women could be found in world literature but none in Nepalese literature. So, this study was undertaken for the assessment of the impact of hirsutism on the quality of life in Nepalese women.

Objective

To assess the effect of hirsutism on quality of life of women in a tertiary center of Eastern Nepal and its association with various socio-demographic and clinical parameters.

Method

A cross-sectional questionnaire-based study was conducted in 49 participants aged 10 to 49 years at the Department of Dermatology, B.P. Koirala Institute of Health Sciences. Clinically diagnosed hirsute females with modified Ferriman-Gallwey (mF-G) score > 8, were enrolled and asked to fill Dermatology Life Quality Index (DLQI) questionnaire in the Nepalese version.

Result

More than 57.2% of the study population was of age 20 to 29 years with a mean of 27.76±8.08 years. The mean Dermatology Life Quality Index score was 7.78±4.95. The moderate effect was seen in the majority of participants (36.7%) with a predominant effect upon aspects of life like daily activities and symptoms and feelings. Participants with higher mF-G score (22.15±3.82) had a very large effect on their quality of life. Younger unmarried women with a school education and having a longer duration of hirsutism were found to have a higher effect upon their quality of life. However, the association was not statistically significant.

Conclusion

Hirsutism had affected the quality of life moderately with predominant effect upon aspects like daily activities and symptoms and feelings. No significant association was elicited between severity of hirsutism and its effect on quality of life from our study.

KEY WORDS

Hirsutism, Modified ferriman-gallwey score, Quality of life

INTRODUCTION

Hirsutism refers to the excess growth of terminal hairs in women at androgen-dependent sites of the body frequently involving face, chest, areolae, lower abdomen and crural areas.[1] It affects 5 to 15% of women of the childbearing age group.[2] As cited by Both et al. the WHO has defined Quality of Life (QoL) as ''the individual's perception of their position in life, in the context of the cultural and value systems in which they live and in relation to their goals, expectations, standards and concerns''. Dermatology Life Quality Index (DLQI) is a simple, practical and a valid tool for assessing the effect of hirsutism in QoL.[3]

Studies show that hirsutism has a very high effect on QoL in 45.8% to 54.5% of women.[4,5] Hodeeb et al. reported a positive association between the severity of hirsutism and QoL while Baig et al. showed no relation between impairment of QoL and severity of hirsutism.[5,6] The most commonly affected aspects of life were symptoms and feelings and personality, daily activities, interpersonal relationships.[4,5] It is considered a frequent reason for cosmetic embarrassment, poor self-esteem, and psychological distress, social phobia, insecurity about interpersonal relationships, shattered confidence.[5,7] The partners of hirsute women have been affected in terms of poor sexual life and interpersonal relationship.[4]

This study was conducted with the objective to assess the impact of hirsutism on the quality of life of women visiting a tertiary care center of Eastern Nepal and to study the association of this impact with various socio-demographic and clinical parameters of the participants.

METHODS

A descriptive cross-sectional study was conducted over a period of one year in the out-patient department of Dermatology in B.P. Koirala Institute of Health Sciences, Dharan (BPKIHS). Forty-nine clinically diagnosed hirsute women were enrolled using a convenience sampling technique. All participants were assured of the confidentiality. Informed consent was obtained from participants aged ≥ 18 years. For participants less than 18 years of age, informed consent was taken from their guardians and assent was taken from them.

Demographic information such as age, race, duration of hirsutism, education level, occupation and marital status were collected and recorded in preset proforma. The degree of hirsutism in all participants was evaluated by an experienced female Dermatologist using the mF-G score system for the nine sites like the upper lip, chin including sideburns and lower jaw with neck, chest including areola, upper back, lower back, upper abdomen, lower abdomen, thighs, and arms. Each area was provided with a score of 0 to 4 and the mF-G score was calculated as the summation of all 9 areas' scores. Then mF-G score was categorized into mild (8 to 15), moderate (16 to 25) and severe (26 to 36) hirsutism.[1] QoL was measured in participants with mF-G score ≥8 using the Nepalese version of DLQI. All participants were asked to fill DLQI questionnaire. For the purpose of this study, the term "skin" in the standard questionnaire was replaced with the phrase "excess hair growth". This contained a total of 10 questions and each was scored as follows: Very much = 3; A lot = 2; A little = 1; Not at all = 0; Not relevant = 0. The total score of DLQI was between 0 and 30 and interpreted as the higher the score, the more QoL impaired. The score of 0 to 1 means no effect at all, 2 to 5 means small effect, 6 to 10 means moderate effect, 11 to 20 means very large effect and 21 to 30 means extremely large effect on participant's life.

Ethical approval was taken from the Institutional Review Committee of BPKIHS prior to the conduction of the study (IRC/0839/016). Clinically diagnosed hirsute female participants aged 10 to 49 years of any race attending the outpatient department of Dermatology and Venereology at BPKIHS were included in this study. The participants with an overall mF-G score < 8 or one area score of < 4 at the time of evaluation, who were pregnant or lactating, postmenopausal, already on any kind of hormonal or anti-androgens or insulin sensitizer drugs were excluded.

Data were analyzed in SPSS version 11.5 and percentage, proportion, mean, SD, median and inter-quartile range were calculated along with graphical and tabular interpretation. For inferential statistics the Chi-square test, Mann-Whitney U-test, Kruskal-Wallis H test, one-way ANOVA test and Spearman correlation were applied to find out the association of impact upon the quality of life due to hirsutism with socio-demographic and clinical parameters at 95% confidence interval. The p-value of < 0.05 was considered as significant.

RESULTS

During the study period, 58 participants attended dermatology OPD with complaints of increased hair growth, out of which nine participants were excluded. The mean age of the study population was 27.76±8.08 years, with 28 participants belonging to age group 20 to 29 years followed by 11 in the age group 30 to 39 years. The shortest duration of hirsutism was found less than 6 years in 30 cases while the longest duration of more than 15 years was found in 2 cases. A Family history of hirsutism was present in 13 cases among which 11 had it in first degree relatives and 2 had it in both first and second-degree relatives. Among the study population, 26 were married and 23 were single (unmarried and divorced).

The median mF-G score was observed to be 19.33 (range=8 to 35) with majority of cases (30) having moderate hirsutism followed by mild (14) and severe (5). The most frequently involved sites were the upper lip, followed by the chin, thighs and the lower abdomen.

In this study, the overall mean DLQI was observed to be 7.78 ± 4.95. Majority of the participants (1.76±1.07) felt more embarrassed or became self-conscious due to hirsutism (Fig. 1). In relation to the aspects of life represented by the DLQI sections, daily activities were most affected (3.14 ± 1.97), followed by symptoms and feelings (1.88±1.25) (Fig. 2). Hirsutism had a moderate effect on the quality of life in 18 cases (36.7%) (Fig. 3).

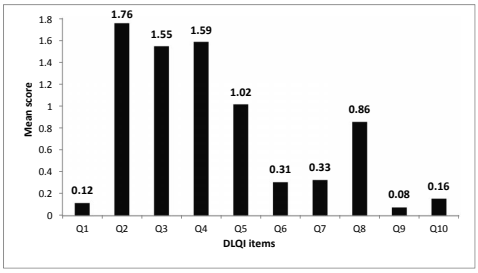

Figure 1. Question-wise mean DLQI score of the study participants.

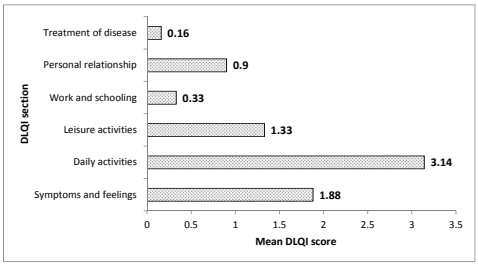

Figure 2. Section-wise mean DLQI score of the study participants.

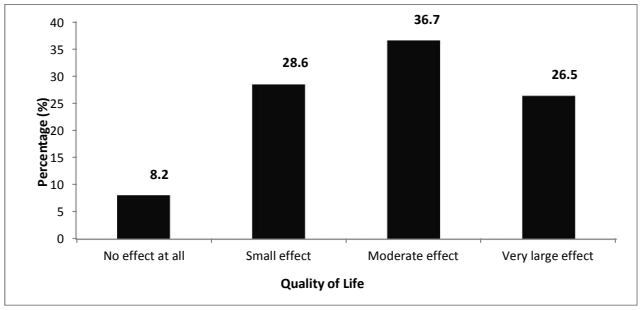

Figure 3. Distribution of the study participants according to effect of hirsutism on quality of life

Association of clinical parameters with DLQI score

In this study, the association of the DLQI score of the study population with parameters like age, occupation, marital status, education level and duration of hirsutism was analyzed and it was found statistically not significant. The participants of the younger age group (10 to 29 years, p=0.789), students (p=0.658), single (p=0.068), school going (p=0.316) and longer duration of hirsutism (> 3 years, p = 0.563) had more effect upon the quality of life though their associations were not statistically significant (Table 1).

All the parameters like age of the cases, duration of hirsutism, age at menarche and BMI showed a weak negative correlation with a DLQI score. In this study, a statistically significant weak positive correlation was found between the mF-G score and DLQI score (r=0.273, p=0.058) (Table 2).

Table 1. Association of DLQI score with socio-demographic characteristics (n = 49)

Characteristics	Frequency (%)	Median DLQI score, IQR (Min – Max)	p value
Age group (years)			
10-29	33 (67.3%)	8.00, 8.00 (0 – 20)	0.789*
30-49	16 (32.7%)	7.00, 8.00 (1 – 17)	
Occupation			
Student	18 (36.7%)	8.50, 6.75 (0 - 20)	0.658**
Home maker	12 (24.5%)	7.00, 7.50 (0 – 17)	
Working	19 (38.8%)	7.00, 9.00 (1 – 16)	
Marital status			
Married	26 (53.0%)	6.00, 7.25 (0 – 17)	0.068*
Single	23 (47.0%)	9.00, 8.00 (2 – 20)	
Education			
Higher secondary and below	24 (49.0%)	8.50, 5.25 (1 – 17)	0.316*
Graduate and above	25 (51.0%)	6.00, 10.00 (0 – 20)	
Duration of hirsutism (years)			
≤ 3	13 (26.6%)	5.00, 8.00 (2 – 20)	0.563*
> 3	36 (73.4%)	8.00, 7.25 (0 – 17)	

* Mann- Whitney U test ** Kruskal – Wallis H test

Table 2. Correlation of clinical parameters with mF-G score and DLQI score.

Characteristics	DLQI score	
	r	p-value
Age (years)	- 0.072	0.624**
Duration of hirsutism (years)	- 0.175	0.230**
Age at menarche (years)	- 0.212	0.144**
BMI (kg/m^2)	- 0.114	0.436**
mF-G score	0.273	0.058**

*Pearson's correlation **Spearman's correlation

DISCUSSION

The effect of hirsutism on the mental status is the most unforgettable aspect that has degraded their self-esteem, confidence, personal and social relationship demanding the need for psychological rehabilitation of these hirsute females.

In this study, the mean DLQI score was observed to be 7.78 ± 4.95 and the median value of 8.0 with IQR 8.0 (0 to 21). Researchers from India, Pakistan, Iran, Turkey and Egypt have shown variable results and our result is in harmony with a study by Agrawal et al. (5.55±1.501) done in India.[8] The variability in the DLQI score in different studies may be due to differences in cultures and social traditions in different countries. The higher mean DLQI scores could be observed in studies by Baig et al. (17.9 ± 5.78), Dorgham and Dorgham (21±2), Gaber and El-Sayed (17.73±3.25).[5,9,10]

The most affected aspect of QoL shown by Rahnama et al. was symptom and feeling with mean 2.66 ± 1.51.[4] Similarly, Baig et al. showed the highest effect on feelings followed by daily activities and personal relationship.[5] In our study, the mean DLQI score for each 10 questions revealed that the highest score was determined for Q2, which is reflective of participants' feelings (1.76 ± 1.07) followed by Q4 showing impact on daily activities (1.59 ± 1.17) and these aspects were also highly affected in the study by Baig et al.[5] The effect on personal relationship had a mean value of 0.86 ± 1.00, which is comparatively much less than that shown by Baig et al.[5] Also daily activities, social and personal relationships were most affected in hirsutes in study by Dorgham and Dorgham.[9]

In this study, QoL is moderately affected in majority of the participants (36.7%) while hirsutism has a very large effect upon QoL in studies by Baig et al. (54.5%), Rahnama et al. (45.8%), Hodeeb et al. (91.0%) and Gaber and El-Sayed (78.0%) whereas Agrawal et al. showed small effect (52%).[4-6,8,10]

The median DLQI scores were calculated with respect to the age group of the study population and the result suggested that the younger age group of 10 to 29 years have poorer quality of life than the middle age group of 30 to 49 years, although it was statistically not significant (p = 0.789) which is in corroboration to the study done by Baig et al.[5] The median values of DLQI scores of both groups were comparable, suggesting that hirsutism is almost equally affecting both age groups as they belong to the reproductive age group and they have problems associated like acne, irregular menses and are usually cosmetically concern. Agrawal et al. presented a weakly positive but non-significant correlation between age and DLQI (r=0.075, p = 0.66).[8]

When the DLQI score was calculated with respect to occupation, students had higher DLQI scores representing a poorer quality of life, but the effect was observed to be comparable with that of homemaker and working group of females. This could be explained by the fact that various groups of participants had their own perception of the effect of hirsutism upon their life, such as students might have problems concentrating on their studies, interacting with friends, especially with the opposite sex, during playtime while homemakers and working females might have a problem in social interactions with relatives, business delegates, personal sexual relationships. Even-though different occupational groups has poorer quality of life, it was observed to be statistically insignificant (p = 0.658). Agrawal et al. also showed comparable mean DLQI scores in housewives and working women in their study (5.13 and 5.83 respectively).[8]

While stratifying the DLQI score according to marital status, the single status participants were found to have poorer quality of life compared to married (9.0 v/s 6.0) but statistically insignificant. This could be because single females are more concerned and worrisome about their matrimony. Our findings are in concordance with Agrawal et al. who presented higher mean DLQI in unmarried than married (5.67 ± 1.37 and 5.50 ± 1.57).[8] Similarly study by Kutlu also showed a higher average DLQI in single (10.42) than married (8.41) women.[11] In the current study, the participants having hirsutism for longer duration (> 3 years) have shown the poorer quality of life compared to those with a shorter duration (8.0 v/s 5.0) but the association was still found to be statistically insignificant (p = 0.563). This could be because the participants are more conscious and anxious initially when they start developing hirsutism but later with the passage of time, they get habituated to their appearance.

Table 3. Association of mF-G score with quality of life.

Characteristics	Frequency (%)	mF-G score Mean ± SD	p value
Quality of life			
No effect and Small effect	18 (36.7%)	17.96 ± 5.695	
Moderate effect	18 (36.7%)	18.24 ± 6.09	0.080*
Very large effect	13 (26.6%)	22.15 ± 3.82	

* One-way ANOVA test

In this study, the mean of the score of hirsutism was compared with respect to the effect of hirsutism on quality of life by one-way ANOVA test and the association was not found statistically significant (p = 0.08) (Table 3). Although, the participants with higher mean mF-G score (22.15 ± 3.82) were found to show very large effect upon their QoL compared to those with lower mean mf-G score (18.24 ± 6.09 and 17.96 ± 5.695) who had shown moderate effect and no to small effect respectively. Our findings are in concordance with the study done by Hodeeb et al. who found that the more severe the hirsutism the greater is the effect on QoL.[6] A study by Dorgham and Dorgham reported similar significant correlation (p ≤ 0.001) but in another study by Baig et al. it was found that mean DLQI score with regard to moderate and severe hirsutism were equivalent in both groups suggesting quality of life is markedly affected whatever the degree of hirsutism.[5,9] Gaber and El-Sayed also reported non-significant association between DLQI score and severity of hirsutism showing equivalent DLQI scores for mild, moderate and severe hirsutism.[10] Similar results could be observed in studies by Agrawal et al. and Kutlu.[8,11]

The sample size is considered to be small for the assessment of this kind of problem in the society and risk factors associated with it. The results of this study cannot be generalized to all Nepalese women.

CONCLUSION

We conclude that hirsutism had moderate effect on the quality of life of women in Eastern Nepal. The aspects of life

that were affected the most were daily activities followed by symptoms and feelings. Even-though more effects were observed in those women who were single, students, having a longer duration of hirsutism, young aged, it was found statistically not significant. No significant association association was elicited between the severity of hirsutism and its effect on QoL from our study.

Further multi-centered studies with larger sample size to evaluate the prevalence of hirsutism and its association with other risk factors is recommended. Participants with hirsutism should be evaluated not only from a cosmetic point of view rather should be evaluated for its causes and psychological status.

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