



TO STUDY QUALITY OF LIFE IN MALES PRESENTING WITH ANDROGENETIC ALOPECIA

Dermatology

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ABSTRACT

Background: Androgenetic alopecia (AGA) or male pattern baldness affects up to 50% of men worldwide. In males, the hair loss often presents as a receding hairline while in females it typically presents as a thinning of the hair. Male pattern hair loss is believed to be due to a combination of genetics and the male hormone dihydrotestosterone. Considering how lifestyle factors influence hormonal levels greatly, it could be presumed that lifestyle and behavioural patterns may contribute to the occurrence and severity of AGA. This view is supported by a study done by Alfonso et al. in 2005 in male subjects with AGA.

Aim: To study the quality of life in males presenting with androgenetic alopecia to the dermatology OPD.

Material and Methods: It was a hospital-based prospective co-relation study conducted on 100 male patients attending OPD of Dermatology at the Dr D. Y. Patil Medical College and Research Center, Pimpri, Pune, between July 2016 and September 2018 to assess the quality of life in males with androgenetic alopecia.

Results: The patients in the age groups of 21-30 and 31-40 years fared significantly poorly with higher scores as compared to patients in the age groups of 41-50 and >50 years in emotional, functional and stigmatization subscales ($p < 0.05$). The patients in the age group of 21-30 years were less affected as per symptom subscales and were significantly more self-assured as compared to the patients in the other age groups ($p < 0.05$). The association of age and Dermatology Life Quality Index (DLQI) score in patients is shown in Table 2. The DLQI score was significantly higher in patients in the age group of 21-30 years as compared to the patients in the other age groups ($p < 0.05$).

Conclusion: Androgenetic alopecia has a very large effect on patients' quality of life with significant psychosocial limitations. Impairment of QoL was found to be greater in younger age group and with severe disease.

KEYWORDS

Androgenetic alopecia (AGA), Hair loss, Baldness, Quality of Life

BACKGROUND

Hair loss is a universal problem. Androgenetic alopecia (AGA) more commonly known as male pattern baldness affects up to 50% of men worldwide.¹ The disorder occurs in almost all patients before 40 years and in many patients below the age of 30 years.² Pattern hair loss is hair loss that primarily affects the top and front of the scalp. In males, the hair loss often presents as a receding hairline while in females it typically presents as a thinning of the hair. Male pattern hair loss is believed to be due to a combination of genetics and the male hormone dihydrotestosterone. The cause in female pattern hair loss remains unclear.³ Most studies looking into the cause of AGA, correlate this disease with hormonal variations especially dehydroepiandrosterone (DHEA) levels.⁴ Considering how lifestyle factors influence hormonal levels greatly, it could be presumed that lifestyle and behavioural patterns may contribute to the occurrence and severity of AGA. This view is supported by a study done by Alfonso et al. in 2005⁵ in male subjects with AGA, where a majority of them reported that hair loss affected their personal attractiveness and social life. Low self-esteem and loss of self-confidence have also been reported by Williamson et al. in a study in 2001.⁶

Classic male-pattern hair loss begins above the temples and vertex (calvaria) of the scalp. As it progresses only a rim of hair at the sides and rear of the head remains. This has been referred to as a 'Hippocratic wreath', and rarely progresses to complete baldness.⁷ The Hamilton-Norwood scale has been developed to grade androgenic alopecia in males. Female-pattern hair loss more often causes diffuse thinning without a hairline recession; similar to its male counterpart; female androgenic alopecia rarely leads to total hair loss.⁸ The Ludwig scale grades the severity of female-pattern hair loss.

Men with androgenic alopecia typically have higher 5-alpha-reductase, lower total testosterone, higher unbound/free testosterone, and higher free androgens, including DHT. 5-alpha-reductase converts free testosterone into DHT and is highest in the scalp and prostate gland. DHT is most commonly formed at the tissue level by 5 α -reduction of testosterone.⁹ The genetic corollary that codes for this enzyme have been discovered.¹⁰ Prolactin has also been suggested to have different effects on the hair follicle across gender.¹¹ Also, crosstalk occurs between androgens and the Wnt-beta-catenin signalling pathway that leads to hair loss. At the level of the somatic stem cell, androgens promote differentiation of facial hair dermal papillae but

inhibit it at the scalp. Other research suggests the enzyme prostaglandin D2 synthase and its product prostaglandin D2 (PGD2) in hair follicles as contributive.¹²

Thus, the present paper aims to study the quality of life in males presenting with androgenetic alopecia to the dermatology OPD. It focuses on enlisting the various cases of androgenic alopecia and assessing the dermatology life quality index using alopecia impact scale. Finally, it studies the correlation between the clinical severity of androgenic alopecia and the alopecia related quality of life.

MATERIAL AND METHODS

It was a hospital-based prospective co-relation study conducted on 100 male patients attending OPD of Dermatology at the Dr D. Y. Patil Medical College and Research Center, Pimpri, Pune, between July 2016 and September 2018 to assess the quality of life in males with androgenetic alopecia.

Inclusion Criteria:

- Patients 20 years of age or over with a diagnosis of androgenetic alopecia confirmed by a dermatologist.
- Able and willing to give informed consent.

Exclusion Criteria:

- Patients suffering from other cutaneous diseases.

Institute Ethics Committee Clearance was obtained before the start of the study. Moreover, Written and informed consent was obtained from all the patients. An assessment of androgenetic alopecia severity was made using the modified Noorwood-Hamilton classification. DLQI questionnaire was completed by the patients, and the modified Noorwood-Hamilton classification was completed by the dermatologist.

DLQI is a 10- item questionnaire in which each item was scored on a four-point (0-3) Likert scale. Scores of individual items were added to yield a total score in which 0 signifies (no impairment of life quality) to 30 (maximum impairment). The modified Noorwood-Hamilton classification consists of seven broad groups and four specific variant types, which indicated the impact on the QOL. The questionnaires were completed anonymously, after assuring the responders about the confidentiality of the data and explaining the objectives of the research.

RESULTS**Demographic Analysis:**

Majority of the patients (52%) were in the age group of 21-30 years followed by 29% in the age group of 31-40 years, 16% patients in the age group of 41-50 years and 3% patients in the age group of >50 years. The mean age of the patients was 32.3 ± 8.43 years. Further, the Majority of patients (32%) belonged to the middle class, while 23% and 21% of patients belonged to the upper middle and lower class, respectively. 20% and 4% of patients belonged to an upper and lower middle class, respectively. Out of 100 patients, 56% of patients were married while 44% of patients were unmarried. Among all the patients, 62% of patients were vegetarian, while 38% of patients were non-vegetarian. Assessment of personal history showed that stress was observed in 67% of patients while acne was present in 38% subjects. Further, the majority of patients (63%) had alopecia for 3.1-5 years, while 27% and 10% of patients had alopecia for >5 years and ≤ 3 years, respectively. The mean duration of alopecia was 53.3 ± 11.21 months. Results of family history show that 48% of patients have a positive family history of alopecia while no family history of alopecia was observed in 52% of patients. As per the co-morbidities, 5% and 3% of patients had diabetes mellitus and hypertension, respectively, while 2% of patients had ischemic heart disease. It was observed that scalp and hair condition was dry in 9% patients while the hair pull test was positive in 6% patients. Finally, 16% of patients had Type IV grade of Androgenetic Alopecia (AGA) as per Modified Norwood Hamilton Classification followed by Type IIIa 13% and Type II 11%.

Table 1: Association of Age and Hairdex Score in patients

Hairdex Score		Mean	SD	p-Value
Emotional	21-30 years	44.27	5.91	<0.05
	31-40 years	40.52	8.99	
	41-50 years	23.31	3.40	
	>50 years	17.33	0.58	
	Total	39.02	10.58	
Functional	21-30 years	31.54	5.01	<0.05
	31-40 years	31.45	5.12	
	41-50 years	17.19	3.83	
	>50 years	11.33	.058	
	Total	28.61	7.72	
Symptom	21-30 years	14.81	7.45	<0.05
	31-40 years	15.55	4.60	
	41-50 years	15.44	2.85	
	>50 years	11.67	0.58	
	Total	15.03	6.02	
Self-Assurance	21-30 years	14.38	6.19	<0.05
	31-40 years	16.27	4.16	
	41-50 years	17.44	3.88	
	>50 years	15.33	0.58	
	Total	15.45	5.32	
Stigmatization	21-30 years	33.71	4.70	<0.05
	31-40 years	28.79	7.51	
	41-50 years	18.31	3.14	
	>50 years	16.67	1.15	
	Total	29.31	7.97	
Total Hairdex Score	21-30 years	138.71	15.01	<0.05
	31-40 years	132.58	14.36	
	41-50 years	91.69	10.46	
	>50 years	72.33	1.53	
	Total	127.42	23.75	

The association of age and Hairdex score in patients is shown in Table 1. The patients in the age groups of 21-30 and 31-40 years fared significantly poorly with higher scores as compared to patients in the age groups of 41-50 and >50 years in emotional, functional and stigmatization subscales ($p < 0.05$). The patients in the age group of 21-30 years were less affected as per symptom subscales and were significantly more self-assured as compared to the patients in the other age groups ($p < 0.05$).

Table 2: Association of Age and DLQI Score in patients

DLQI Score	Mean	SD	p-Value
21-30 years	14.29	6.93	<0.05
31-40 years	11.03	1.12	
41-50 years	11.49	0.95	
>50 years	11.33	1.53	

The association of age and Dermatology Life Quality Index (DLQI) score in patients is shown in Table 2. The DLQI score was significantly higher in patients in the age group of 21-30 years as compared to the patients in the other age groups ($p < 0.05$).

DISCUSSION

In our study, the patients in the age groups of 21-30 and 31-40 years fared significantly poorly with higher scores as compared to patients in the age groups of 41-50 and >50 years in emotional, functional and stigmatization subscales ($p < 0.05$). The patients in the age group of 21-30 years were less affected as per symptom subscales and were significantly more self-assured as compared to the patients in the other age groups ($p < 0.05$). These findings were consistent with the studies of Bade R et al¹⁵, Tahir K et al¹³, Abedini R et al¹⁴, and Ng KF et al¹⁶. Further, It was observed in the present study that the DLQI score was significantly higher in patients in the age group of 21-30 years as compared to the patients in the other age groups ($p < 0.05$). This is in concordance to the studies of Bade R et al¹⁵, Tahir K et al¹³, and Abedini R et al¹⁴.

CONCLUSION

Androgenetic alopecia has a very large effect on patients' quality of life with significant psychosocial limitations. Impairment of QoL was found to be greater younger age group and with severe disease. During daily life, symptoms and feelings followed by personal relationships are found to be more severely affected in patients. AGA impairs patients' psychology and affects their self-perception. Age less than 40 years old, female, unmarried, disease duration less than 4 years and adopting coping strategies are significant factors influencing the psychological impact and perception in AGA patients. Hence, early integration of psychological support to treatment of AGA is recommended.

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