ORIGINAL ARTICLE

Impact of Androgenetic Alopecia on the Psychological Health of young men

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ABSTRACT

Background: Hair represent an important aspect of an individual's self-image and affect social perceptions about that individual. Hair loss caused by androgenetic alopecia is also known to affect the psychological well-being of an individual but local data in this context is lacking.
Aim: To investigate the psychological impact of hair loss among young men in the local population.
Design: In this descriptive cross-sectional study, three psychometric scales assessing anxiety, self-esteem and depression were administered to male participants between 20 to 30 years of age (n=90).Participants were grouped into those with mild to moderate hair loss and moderate to severe hair loss using the Norwood-Hamilton scale. Age-matched men without evident hair loss were included as controls.
Results: Significantly low self-esteem (p=0.000) and high anxiety levels (p=0.001) were seen in men with hair loss as compared to men who had no hair loss. No difference was observed in terms of depressive symptoms between the control group and the groups of men with hair loss (p=0.084)
Conclusions: Young men from the local population affected by hair loss suffer from psychological complications including anxiety and low self-esteem. Psychosocial measures need to be installed to facilitate affected men in overcoming such deficits. Cosmetic treatments may also be used as a remedy for the psychological concern arising due to hair loss. Further research is needed into the factors affecting psychological health of men with hair loss.
Keywords: Androgenetic alopecia, hair loss, depression, anxiety, self-esteem

INTRODUCTION

Male pattern baldness or androgenetic alopecia is a common condition known to affect between one-third to half all men by the age of 50 years[1]. The pathophysiology of androgenetic alopecia includes changes in follicular growth cycle (short anagen phase of cycle and normal or prolonged telogen phase), sebaceous gland over secretion and follicular inflammation[1]. Familial tendency, genetic predisposition and racial variation in the prevalence of balding is well recognized[2,3]. Androgenetic alopecia has also been associated with increasing age and medical conditions including hypertension, diabetes mellitus and obesity[1,4].

Hair constitutes an attractive element of human body and also serves other functions such as thermoregulation and proprioception[5]. Most men consider hair to be an important feature of image with regard to self-image and personal attractiveness[6]. Hair loss impacts upon the psychological health and quality of life of the affected individuals[7] and increasing degree of hair loss leads to social unattractiveness[8]. Men with hair loss face psychosocial pressure and negative social perceptions about their appearance. Those with severe baldness generally appear older, less attractive and less potent than there age fellows with normal hair distribution[9]. Hair loss not only results in dissatisfaction over physical appearance in affected individuals but these men are also prone to developing psychiatric disorders such as anxiety and social phobia as compared to individual with normal hair[8]. Progressive and severe hair loss has been linked to depression, low confidence and low self-esteem, most notably in young men[10]. However, research on psychological issues due to hair loss has been in consistent and employed vastly differing subjective approaches, thus making interpretation of the psychological consequences extremely challenging. Furthermore, local data on the psychosomatic sequelae of hair loss in are lacking despite the common occurrence of androgenetic alopecia. The present study was conducted to investigate the psychological impact of hair loss in young men from the local population.

METHODOLOGY

A descriptive cross-sectional study design was employed for this study. Ethics approval was obtained from the Central Park Research Ethics

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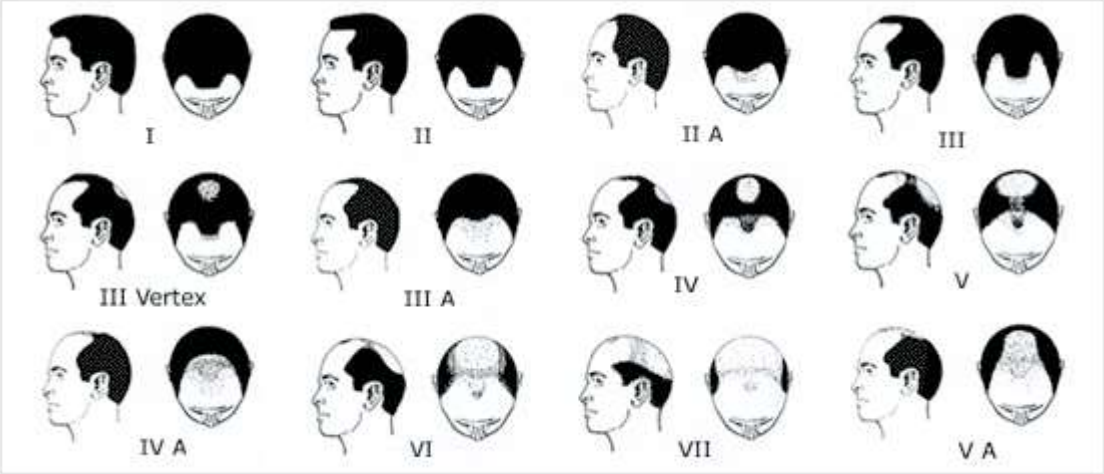
Committee. Non-random convenience sampling technique was employed and men between 20 to 30 years of age showing some degree of hair loss were approached. Informed consent was obtained before the men were enrolled into the study. Age-matched men without evident hair loss were included as controls. A total of 90 men were recruited for the study. Men suffering from hair loss due to a known generalized or scalp-specific dermatologic condition (caused by infection, systemic illness, chemical injury etc.) were excluded. Men with hair transplant or those using hair accessories were also excluded from the study. Based on the degree of hair loss, recruited men were categorized into three groups of 30 each; a) those without evident hair loss (control group) b) those with mild to moderate hair loss and c) those with moderate to severe hair loss. This categorization was done by using the Norwood-Hamilton Scale[11,12] (Fig. 1).

Fig. 1: Norwood-Hamilton Scale for classification of hair loss in men



Basic demographic data were collected and validated psychological instruments namely Hamilton Anxiety Rating Scale (HAM-A), Rosenberg Self-Esteem Scale (RSES) and Zung Self-Rating Depression scale (SDS) were administered to all participants to assess anxiety, self-esteem and depression respectively. Questionnaires were administered by trained interviewer via face to face interaction. HAM-A, a widely used and well-validated tool, consists of 14 items that measure the psychosomatic symptoms of anxiety(13).A high score on HAM-A implies high level of anxiety. The RSES is a commonly employed 10-item tool for assessing global self-esteem[14]. Low self-esteem is characterized by a low score on RSES. The SDS is a 20-item questionnaire used extensively as a screening instrument for ascertaining the level of depression(15). A high score on SDS corresponds to the intensity of the depressive state.

Statistical analyses: The demographic data and psychometric scores of participants were anonymously entered in to Microsoft Excel sheets twice and compared for any errors. Verified data were copied on to and analyzed using Statistical Package for Social Sciences (SPSS) version 23.0 (SPSS Inc. Chicago, Illinois, USA). Mean ± SEM of quantitative variables (HAM-A, RSES and SDS scores) was calculated for participants in the three groups. Frequencies were expressed as percentages. One-way ANOVA and post-hoc Bonferroni correction were applied to observe differences between each group's mean scores. A p-value of <0.05 was assigned for statistical significance.

RESULTS

The overall mean age of participants was 22.27 years. The age range of control group was 20-22years with a mean age of 20.56 years. The age range of the mild-moderate hair loss group was 20-27 years with a mean of 22.30 years. The age range of the moderate-severe hair loss group was 21-28years with a mean of 23.97 years. Table 1. and Figure 1. show the scores on HAM-A, RSES and SDS in the study groups. The range of HAM-A scores in the control group was 4-46 with a mean score of 12.46. The range of HAM-A scores in the mild-moderate hair loss group was 2-34 with a mean score of 20.23. The range of HAM-A scores in the moderate-severe hair loss group was 7-26 with a mean score of 15.46. Significant difference was observed in HAM-A scores between groups, p=0.001. The range of RSES scores in the control group was 14-30 with a mean

score of 21.63. The range of RSES scores in the mild-moderate hair loss group was 8-28 with a mean score of 16.46. The range of RSES scores in the moderate-severe hair loss group was 8-28 with a mean score of 17.3. Significant difference was observed in RSES scores between groups, p=0.000.The range of SDS scores in the control group was 25-51 with a mean score of 38.43. The range of SDS scores in the mild-moderate hair loss group was 21-55 with a mean score of 38.3. The range of SDS scores in the moderate-severe hair loss group was 28-46 with a mean score of 35.3. No significant difference was observed in SDS scores between groups, p=0.084.

After applying post-hoc Bonferroni correction, significant differences were observed between the study variables in various groups (Table 2, Fig. 1). Significant difference was observed between HAM-A scores of control group and mild-moderate hair loss group, p=0.000, showing that HAM-A score in mild-moderate hair loss group was higher than the control group. Significant difference was also observed between RSES score of control group and mild-moderate hair loss group, p=0.001, showing that RSES score of mild-moderate hair loss group is lower than the control group. Significant difference was also observed between RSES score of control group and moderate-severe hair loss group, p=0.005, showing that RSES score of moderate-severe hair loss group is lower than the control group.

Table 1: Group comparisons on the administered scales

Parameter	Control Mean ± SEM	Mild –Moderate Mean ± SEM	Moderate-severe Mean ± SEM	p-value
HAM-A	12.46 ± 1.63	20.23 ± 1.40	15.46±1.08	0.001*
RSES	21.63 ± 0.7	16.46 ± 1.07	17.3 ± 1.0	0.000*
SDS	38.43 ± 1.26	38.3 ± 1.16	35.3±0.8	0.084

*Level of significant difference <5%

Fig 1: Mean scores on the administered scales in the study groups

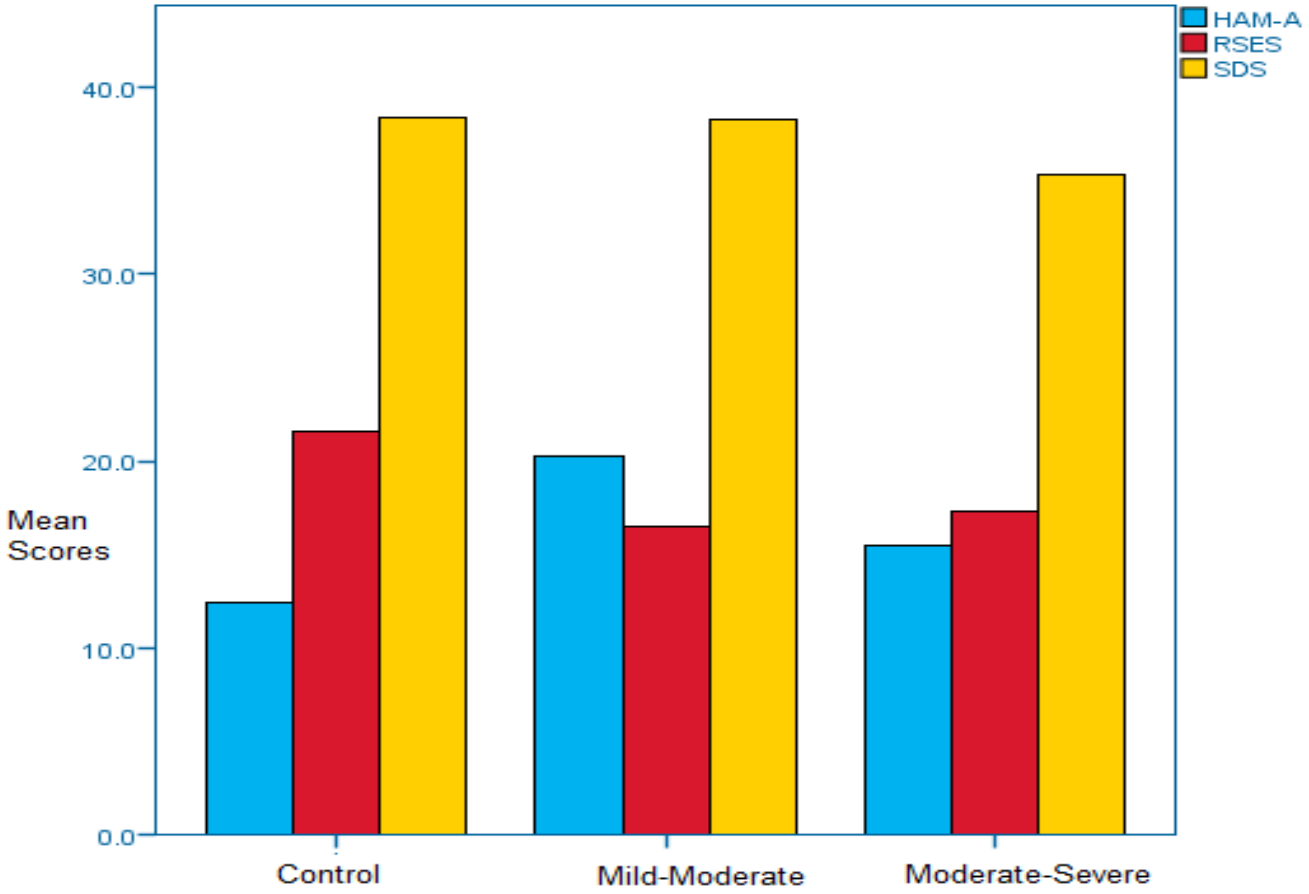


Table 2. Multiple comparisons between groups based on administered scales

Group x	Group y	Mean Difference(x-y)	p-value
HAM-A			
Control	Mild - Moderate	-7.76	0.000*
	Severe	-3.0	0.394
Mild moderate	Control	7.76	0.000*
	Severe	4.76	0.053
Severe	Control	3.0	0.394
	Mild-moderate	-4.76	0.053
RSES			
Control	Mild - Moderate	5.16	0.001*
	Severe	4.33	0.005*
Mild-moderate	Control	-5.16	0.001*
	Severe	-0.83	0.809
Severe	Control	-4.33	0.005*
	Mild-moderate	0.83	0.809
SDS			
Control	Mild - Moderate	0.13	1.000
	Severe	3.13	0.147
Mild-moderate	Control	-0.13	1.000
	Severe	3.0	0.178
Severe	Control	-3.13	0.147
	Mild-moderate	-3.0	0.178

*Level of significant difference <5%

DISCUSSION

The aim of the present study was to investigate anxiety, self-esteem and depression in young men living with androgenetic alopecia. Our results showed that men with male-pattern baldness suffer from significant anxietyin comparison with men with normal scalp hair distribution. In a recent study, Montgomery et al. reported that more than one-third of the surveyed individuals with hair loss had clinically significant anxiety of which 15% had severe anxiety. Nearly half of the men also expressed high levels of social anxiety[16]. Interestingly, our findings revealed that young men with mild-moderate hair loss have more anxiety as compared to those with moderate-severe hair loss. This may be due to the fact that men with severe hair loss have an acceptance of their cosmetic appearance that no longer bothers them. Moreover, society also regards male hair loss as an expected event due to its common occurrence, hence making it less bothersome for some men[17]. Studies have shown that anxiety and stress also contribute to loss of hair loss due to the biochemical and hormonal changes associated with such states[18].

Findings from the present study demonstrated that men with hair loss have a significantly lower self-esteem as compared to those without any evident hair loss. Previous studies have also linked loss of hair to a drop in the self-esteem[10,19,20]. About two-thirds of the men with androgenetic alopecia consider that loss of hair has had a deleterious effect on their self-esteem6.. Androgenetic alopecia has been linked to a reduction in the body image satisfaction of men and resultantly affects the confidence in a negative way[7].

The data from this study did not show a difference in the state of depression between the control group and any of the two groups of men with hair loss. SDS as an assessment tool is mainly employed for determining the level of clinical depression and may not be able to pick up subtle sub-clinical depression[15]. In contrast with our findings, almost one-third of the individuals with hair loss were recently shown to have high levels of depression. That study employed a different questionnaire (Patient Health Questionnaire) to assess level of depression. Moreover, 97% of the participants in that study were women in the age group 35-54 years and most had alopecia areata16. In another study, 61% of the study participants with hair loss were shown to have depression. However, the studied subjects had alopecia areata and Beck Depression Inventory was used to assess depression[21].

CONCLUSION

The prevalence of anxiety and low self-esteem in young men from the local population having varying degrees of hair loss warrants the need to institute measures to address this matter. The clinical practitioners should be aware of the psychological issues stemming from hair loss and psychosocial counseling should be made an integral part of the management plan[5,22]. Affected individuals may be prescribed hair accessories to enhance their cosmetic appearance which may alleviate the adverse psychosomatic effects seen with loss(16). Further investigation into the societal pressures on young individuals suffering from hair loss is required to better understand the mechanisms of development of such psychological derangements.

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Conflict of interest: The authors declare no conflict of interest

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