J. Expt. & Clin. Anat. 6 (1) 6-8 (2007)

JECA

The Study of Hirsutism in Nigeria: A Case Study of Female Students at the Ahmadu Bello University, Zaria

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ABSTRACT

The prevalence of hirsutism was studied among 302 female students of the Ahmadu Bello University, Zaria, with mean age 23.82+3.19. Hirsutism was assessed following the McKnight method of hair distribution. This was done by checking for the presence of hairs on androgenic sensitive areas of the body which include the face, chest, anterior abdominal wall, shoulders, upper and lower limbs. Fifty six percent (56%) of the populations were found to be hirsutes. The study was conducted on the major tribes in Nigeria, which included the Hausa, Yorubas, Igbos, Tivs Igalas, Ebiras, and others (minority tribes). The study indicated that there is an association between tribe and hirsutism as shown by $x^2 = 21.42$ df 6 and P = 0.002, but there is no association between age and hirsutism $x2 = 8.00$ df 4 P = 0.09. The results seem to suggest a genetic basis of the disorders among Nigerian females than any other environmental factor.

Keywords:Hirsutism, Nigeria, prevalence, ethnic groups, associated disorder.

The term hirsutism refers to the growth of terminal coarse pigmented hair on androgen sensitive areas of the body (Sharquie and Al-Kafji, 1992: Kalve and Klein, 1996; Kaufman, 2002). This excessive hair can appear in response to androgen in women and children producing male pattern of hair growth. This condition may either be congenital or acquired (Cohen and Pergum 1970, Azziz et al., 2000) localized or diffused in which case various sites are involved in different patients and races (Ferriman and Gallwey, 1961; McKnight, 1964; Nansemann et al., 1993). Hirsutism in especially young women is a cause of much unhappiness and neurosis (Montgomery and Welbourn, 1975). And those who are inflicted suffer tremendously from psychosocial stress (Paus and Cotsarelis, 1999).

Several factor which have been associated with the development of hirsutism include, elevated level of androgen T due to congenital adrenal hyperplasia, adrenal or ovarian tumour (Hall and Anderson, 1996; Braunstein, 2002: Kaufman, 2002), ethnic background (McKnight, 1964, Carima et al., 1992). Antiepileptic and antihpertensive drugs (Katung, 1998).

This study was designed to provide information on the prevalence of hirsutism and to investigate if there is any association between hirsutism and ethnic background of the subjects.

MATERIALS AND METHODS

Three hundred and two (302) female students of the Ahmadu Bello University, Zaria, with mean age 23.82+3.19 were examined as a sample of the Nigerian females. The full examination of the body parts sensitive to androgens was carried out especially on the thoracic region, the abdominal region the upper and lower limbs and the face by one of us: L. M. D. After subjects gave informed consent. This was done by the administration of questionnaires following the McKnight method of hair distribution (McKnight, 1964). The presence of hair on the face and neck; chest: around areola and nipple and central chest; abdomen: upper and lower abdomen; limbs: upper, shoulder and lower limbs

The family history of subject was obtained to see if it is hereditary, the history of drug usage (antihypertensive drugs and arterial vasodilators) was also obtained, the history of menstrual irregularities, acne vulgaris and any form of emotional stress was also supplied by the subjects.

Statistical Analysis

Mean age of subjects was expressed as mean+SD the data were expressed in percentages. Prevalence and association of hirsutism with ethnic groups of subjects and disorders were obtained using pearson Chi Square analysis and $P<0.05$ was deemed statistically significant. SigmaStat 2.0 for Windows (Systat Inc. Point Richmond, CA) was used to analysis the data.

RESULTS

Out of the 302 subjects that participated in the study 168 (56%) were found to be hirsutes according to McKnight's criteria. The distributions of hair according to androgenic sensitive regions are presented in Tabe1. Presence of male pubic pattern and shoulders were not observed in the present study. Higher percentages were observed in chin, upper abdomen and limbs (46%, 48% and 73%) respectively. Fig.1 which shows hirsutism scored on the basis of ethnic groups of subjects reveal that Hausa subjects had the lowest percentage (50%) and the Igala the highest (100%) respectively. Chi square analysis showed that there is significant associated between hirsutism and ethnic group ($X2=21.42$ $df=6$ $P=0.002$). The study also investigated the prevalence of disorders associated with hirsutism: these are presented in Table 2, with users of antihypertensive drugs with 5% prevalence to subjects with emotional stress recording 75% prevalence. Fig. 2 shows the distribution of hirsutes according to age groups, even though the age group 21-25 had higher prevalence, this did not reach significant level.

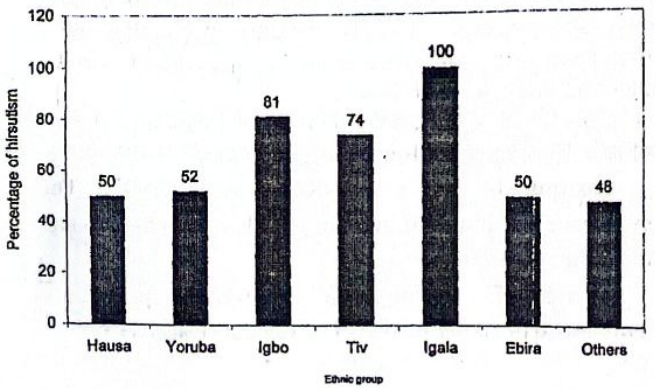

Fig. 2: The incidnece of hirsutism in different tribes. There is significant association between hirsutism and tribe X2 = 21.42 df 6= P = 0.002.

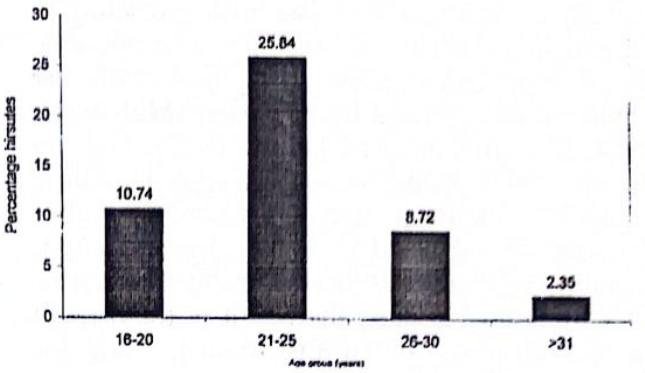

Fig. 3: Prevalence of hirsutism in various age groups. There is no association between age group and hirsutism X2 = 8.00 df = 4 P = 0.09.

Table 1: Hirsutism in different body sites according to McKnight methods of hair distribution assessments

Body site	No. of females	Percentage of 168	Percentage of 302
Face	46	27	15
Upper lip	44	26	14
Chin	78	46	25
Neck	35	20	11
Chest	44	26	14
Around areola and nipple	65	38	21
Central chest	36	21	11
Abdomen			
Upper abdomen	80	48	26
Male pubic pattern	0	0	0
Back			
Upper back	26	15	9
Lower back	45	27	15
Limbs	122	73	40
Shoulders	0	0	0

Table 2: Associated disorders in hirsutes women.

Associated disorders	Hirsute cases 168	% of 168 hirsutes women
Irregular cycle	94	55
Acne vulgaris	85	50
Ovarian tumor	12	7
Drugs e.g. antihypertensive	9	5
Emotional stress	127	75
Hereditary	98	58

$\chi^2 = 290.83$ df= 5 $P < 0.001$

DISCUSSION

The present study showed the prevalence of hirsutism to be 56% according to McKnight's criteria. The face has a comparable prevalence (26%) when compared with the report from Welsh and Iraqi females (McKnight, 1964; Sharquie and Al-Khafaji, 1992). Hair on the chest was found to be 38% this is a little higher than the Iraqi study (36%) but far higher than the Welsh study (17%). Even though, Mediterranean and southern European countries have more coarse hair, the result of the present study tends to be comparable (Sharquie and Al-Khafaji, 1992).

The prevalence of hirsutism according to ethnic groups showed significant association with ethnic groups. Igala subjects recorded 100% hirsutism with Hausa and Ebira subjects having lower prevalence (50%) respectively. The difference in the prevalence of hirsutism according to ethic groups have been established by previous studies conducted among the English, Americans, Swedish and Indian women, showing considerable variation (McKnight, 1964).

The prevalence of hirsutism according to associated disorders shows that the highest prevalence of hirsutism of hirsutism is associated with emotional stress and neurosis are common disorders associated with hirsutism (Montgomery and welbourn, 1975; paus and Cotsarelis, 1999). Since this study was conducted among younger women the prevalence of hypertensiopn is low and thus the use of antihypertensive drugs.

The other abnormalities associated with higher level of androgens also recorded higher prevalence, this is in agreement with the earlier reports (Sharquie and Al-Khafaji, 1992; Azziz et al, 2000) that hirsutism should be considered a sign of internal disorders like polycystic ovarian syndrome, androgen secreting tumors, non classical adrenal hyprecrplasia and syndrome of severe insulin resistance, irregular cycles and acne.

Another thing to note in this study is that 44% of those declared to be hirsuties may be suffering from idoiopathic hirsutism that is the type in which the subject has normal ovolutory function (Azziz et al 2000).

CONCLUSION

In conclusion, this study shows that hirsutism is a common problem among women of Tiv, Igala and Igbo origin who come from the middle belt and eastern part of Nigeria. Further studies are required to ascertain the major cause of hirsutism in these populations.

ACKNOWLEDGMENT

The author wish to thank the subjects who willingly participated in this study.

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