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Original Research Article

Knowledge, Attitude and Practices study of Acanthosis Nigricans in Indian Sub population

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Abstract: The study was carried out to assess the knowledge, attitudes and practices of patients towards Acanthosis Nigricans(AN). The Methods was cross-sectional study included 180 patients of Acanthosis nigricans of both genders attending the outpatient department of Mandya Institute of Medical Sciences, Mandya from April 2015 to September 2015. They were asked to complete a self administered questionnaire that contained several items measuring different areas in their beliefs, knowledge, attitudes and practices about Acanthosis nigricans. In Results the Male and female responders were 42 (23%) and 138 (76%). More than half(62.77%) of the sample considered the use of neck chains contribute to occurrence of AN, 31% believed that weight gain is one of etiologic factor. Eighty four percent believed that AN is not a serious problem, while 24% consider it as a cosmetic problem rather than health problem. Thirty one percent of the patients reported that AN has an impact on social participation and 56 patients reported decrease in self confidence. Scrubbing and rubbing were the most common practice noticed in our study. In Conclusion the results of this study pointed out that misconceptions and false beliefs on AN are widespread and enduring among the AN patients. Health education program on AN is needed to improve their understanding of the condition.
Keywords: acanthosis nigricans, knowledge, attitute, practices

INTRODUCTION

Acanthosis nigricans (AN) is a dermatosis characterized by velvety, papillomatous, brownish-black, hyperkeratotic plaques, typically on the intertriginous surfaces and neck, histopathologically characterized by papillomatosis and hyperkeratosis of the skin [1, 2]. A high prevalence of AN has been observed recently being 7% to 74%, according to age, race, frequency of type, degree of obesity and concomitant endocrinopathy [3].

The term AN was originally proposed by Unna, but the first case was described by Pollitzer and Janovsky in 1891 [4]. Curth classified AN into malignant, benign, and syndromic or pseudo AN. Hernandez-Perez proposed more simplified classification: simple AN not related to malignancy and paraneoplastic AN [5]. Although AN is associated with malignancy, the recognition of AN is with its more common connection to obesity and insulin resistance which allows for diagnosis of related disorders including type 2 diabetes, the metabolic syndrome, and polycystic ovary syndrome. Early recognition of these conditions is essential for prevention of disease progression.

Clinically, the neck is the most commonly affected area in AN patients seen in ninety-nine percent of patients followed by axillary involvement in 73% of patients. Other less common areas affected are eyelids, lips, vulva, mucosal surfaces, dorsal hands, and flexural areas in the groin, knees and elbows [6, 7]. AN is usually asymptomatic, occasional pruritus may be present. Histopathology reveals a thickened stratum corneum with minimal involvement of the dermis except for thickened and elongated dermal projections. The dark color of AN is due to hyperkeratosis rather than a mild increase in melanin pigmentation. A subtle infiltrate composed of lymphocytes, plasma cells, or neutrophils may be present, as well as horn pseudocyst formation. AN is associated with variety of syndromes and most of them are associated with insulin resistance or fibroblast growth factor receptor (FGFR) mutations. AN may appear as an adverse effect of several medications like glucocorticoids, niacin, insulin, oral

contraceptives, and protease inhibitors etc., that promote hyperinsulinemia [8].

Although AN is a common skin condition, literature is wealthy of studies that looks to clinico-pathologic and treatment aspects of this common condition. However, none of the studies have been conducted till date in India and abroad to explore the knowledge, attitude and practices among the affected individuals towards acanthosis nigricans. Hence this cross-sectional study was conducted to assess knowledge, attitude and practices among acanthosis nigricans patients attending dermatology outpatient department, Mandya Institute of Medical Sciences, Mandya.

MATERIAL AND METHODS

All acanthosis nigricans patients (males and females) attending dermatology outpatient department of MIMS, Mandya during the period from April 2015 to September 2015 were involved. Data were collected using structured, self-administered questionnaire which was designed after reviewing the recent literature and similar questionnaires and based on the objectives of the study putting in consideration sociocultural backgrounds. The questionnaire was divided into two parts. The first part includes sociodemographic data like age, gender, and marital status. The second part includes questions to assess: (1) knowledge and beliefs about causes and aggravating factors, (2) practices and (3) the perceived psychological effects of acanthosis nigricans. Questionnaire was validated and modified in the light of pilot study.

Patients who have the features of AN were enrolled for the study after explaining the study requirement in the language they understand and after obtaining written informed consent. They were asked to fill self-directed questionnaire and were collected after being completed.

The data were entered and analyzed in a personal computer using statistical package for social sciences (SPSS) software version 16. The study was approved by the Ethical Committee of Mandya Institute of Medical Sciences(MIMS), Mandya, Karnataka.

RESULTS

In this study, 180 acanthosis nigricans patients who completed the questionnaire were included in the study . Males accounted for 23% of the sample and females were 76%.

Table 1 illustrates sociodemographic characteristics of study population while Table 2 showed assessment of knowledge and believes about causes among AN patients/study populations. Factors affecting psycho-social aspects of AN among study sample are illustrated in Table 3 while Table 4 shows practices followed in AN patients.

Table 1:Sociodemographic characteristics of study population

Variable	No	%
Age		
<15	19	10.55
15-30	60	33.33
>30	101	56.11
Gender		
Male	42	23.33
Female	138	76.66
Marital status		
Single	30	16.66
Married	150	83.33
Education		
Illiterate	5	2.77
Primary school	126	70
Graduate or more	49	27.22
Occupation		
Student	56	31.11
Housewife	96	53.33
Job	28	15.55

Table 2: Knowledge about causes and aggravating factors among acanthosis nigricans patients

Factors	Yes		No		Unknown	
	No	**%**	**No**	**%**	**No**	**%**
Is it health problem	57	31.6	81	45	42	23.33
Cosmetic problem	38	21.11	47	26.11	95	52.77
Serious condition	8	4.5	152	84.44	20	11.11
Is it hereditary	28	15.55	134	74.44	18	10
Wearing of chains	113	62.77	46	25.55	21	11.66
Relation to diet	22	12.22	148	82.22	10	5.55
Relation to infection	16	8.88	120	66.66	44	24.44
Relation to stress	8	4.5	141	78.33	31	17.22
Relation to weight gain	56	31.11	72	40	52	28.88
Relation with hormonal changes	32	17.77	118	65.55	30	16.66
Relation with sun rays	27	15	141	78.33	12	6.66
Relation with drugs	13	7.22	58	32.22	59	32.77
Relation to malignancy	5	2.77	120	66.66	55	30.55
Relation to diabetes or other systemic disease	24	13.33	90	50	46	25.55

Table 3: Psycho-social aspects of acanthosis nigricans

Impact on	No	Yes %	No	No %
Social participation	24	13.33	156	86.66
Scholastic achievement	8	4.5	172	95.55
Work achievement	19	10.55	161	89.44
Self confidence	56	31.11	124	68.88
Friendship relations	31	17.22	149	82.77
Anxiety status	21	11.66	159	88.33
Marriage willingness	15	8.33	125	69.44
Marital relations	4	2.22	142	78.88

Table 4: Practices among acanthosis nigricans patients

Practices	No	Yes %	No	No %
Scrubbing and rubbing	62	34.44	118	65.55
Application of native medicines	23	12.77	157	87.22
Application of any other creams	13	7.22	167	92.77
Exercises to lose weight	6	3.33	174	96.66

DISCUSSION

1. Knowledge, Beliefs, and Misconceptions about Causes.

Thirty one patients considered acanthosis nigricans as a health problem, twenty one percent considered it as a cosmetic problem. Wearing of chains around the neck both gold and other metal chains was considered as the most common cause for the development of AN seen in 62.77% of patients. Fifteen percent of our patients believed that AN is inherited or having genetic factors.

Weight gain, hormonal changes, sun rays, infection and stress were considered as a cause of AN in 31.1%, 17.77%, 15%, 8.8% and 4.5% of the sample, respectively. 12.22% of patients sample believed that AN is related to diet. Seven percent of the patients related drugs as the cause for AN particularly antidiabetic and antihypertensive drugs. 13.33% considered diabetes mellitus and thyroid disorder as the cause for AN. Only 2% considered AN as a malignant disorder.

2.Psycho social effects of acanthosis nigricans.

Self confidence was low in 56 patients, i.e 31.11% of total sample. The effect of AN on social participation was reported by 13.3% of patients. Work and scholastic achievements were affected in 10.5% and 4.5% respectively. While friendship relations, marriage willingness, and spouse relations were thought to be affected by 17.22%, 8.33%, and 2.22% % of our sample, respectively.

3.Practices followed among acanthosis nigricans patients.

Scrubbing and rubbing the affected part with brushes and stone were the most common practices noticed in our sample, i.e 62%. Followed by application of native medicines like turmeric and other steroid creams was observed in 23% and 13% of our sample respectively. Six percent of the patients had started exercises to lose weight as advised by the doctor.

CONCLUSION AND RECOMMENDATIONS

The study results showed that poor knowledge, false beliefs, and many misconceptions are prevalent among acanthosis nigricans patients in India. More effort for health education in general and selective patient education in particular is needed to improve patients knowledge about AN and its modalities of treatment and to encourage early medical consultation behaviour and improve patient adherence to treatment. Considering psychological effect, it appears to be high and needs to be considered and addressed early in the course of patient management.

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