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AN EXPLORATORY REVIEW OF THE MYTHS AND COMMON BELIEFS ABOUT ACNE AND ITS TREATMENT

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Abstract:
Objective: *To assess considerations of patients about various dietary and preventive factors of acne regarding their disease and treatment*
Methods and Results: *100 patients presenting with Acne Vulgaris to Out Patient Department of Dermatology, Mayo Hospital Lahore were interviewed regarding their disease duration, Intensity, diets that affected their symptoms and the remedies they took to ameliorate their symptoms according to a pre-designed questionnaire during period from September, 2017 to February, 2018. Demographic data was gathered from the respondents. Frequency tables were generated regarding research variables.*
100 respondents were interviewed about their acne vulgaris, remedies they took and the diets they considered responsible for worsening and ameliorating their symptoms.75% of patients were of >20 age. 97% were diagnosed by Physician. 75% of patient were well educated.25% had already some chronic ailment, Chronic Skin Disease being most common, with 47% of patients were using medications before consulting the physician.59% had a dietary trigger for exacerbation of their symptoms, whereas 51% had their symptoms benefited by dietary modifications. 63% of patients were of the view that counselling about the disease and dietary factors helped them a lot about understanding the disease and controlling their symptoms. 54% of patients were using over the counter anti acne creams before consulting the physician.59% had their symptoms worsened by taking fried foods. Contrary to that, fruits were the major relieving factor to ameliorate the symptoms of acne for most patients.
Conclusion: *Majority of the patients had benefitted from counselling regarding relationship of disease to dietary modifications. Fried foods are the most common trigger for exacerbating the symptoms of Acne Vulgaris, whereas Fruits were the major dietary addition that ameliorated the symptoms.*
Key Words: *Acne, Dietary modifications, Self-remedies for Acne Vulgaris, Diet and Acne*

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INTRODUCTION:

Acne is the most common dermatological disease that is not only bothersome for young but also deleteriously affects the extreme of ages.In western population, acne affects about 79 to 95 % of adult population ,40 to 54 % of individuals older than 25 years and 12 percent of woman and 3 percent of men of middle ages.[1]The pooled Prevalence of acne in Chinese population was found to be 39.2% (95% CI 0.310 to 0.479).[16]Although family history and ethical factors have been a known factor to affect the prevalence of acne , dietary factors have always been a controversial element. From 1960 onwards, due to adoption of western life style it was found that there happened to be a upsurge in cases of acne, this observation brings forth the consideration to study the effect of diet on severity of acne.[2]Acne is a considerable source of psychological stress in young women presenting to dermatologists.[3]Acne is a multifactorial dermatosis that commonly affects after age of puberty. The characteristic finding of the disease include seborrhea, and developing lesions ranging from comedones, pustules to papules in areas rich in sebaceous glands.[4]The lesions are predominantly present at face(99 % of cases), back(60 % of cases) and chest (15 % of cases).[5]

In preliminary studies, it was found that majority of people(71 %) considered their food as the major trigger for development of acne, the fried and greasy foods were ranked the highest.[6]Great evidence support the relationship between a high glycemic index diet and acne.[7]Though in the initial studies it was found that fat was a common inciting agent, this observation fell out of focus in the latter half of 20th century where diet was not given that much importance in pathophysiology of acne.[8]Till date , three major studies have been conducted by Abedamowo and colleagues to examine the relationship of dairy consumption and acne.[9,10,11]In the first study that was retrospective cohort study , the prevalence of acne was found to be associated with increased dietary consumption (prevalence ratio {PR}1.22; p=0.002).[9] In 2006 and 2008 , Abedamowo and colleagues conducted two prospective studies among adolescents, a strong association was reported between dietary consumption and development of acne in both males and females.[10,11] In a case controlled study conducted by Di Landro and colleagues, acne was found to be strongly associated with consumption of total milk(OR:1.78)and skimmed milk(OR;2.2) but not with whole milk or cheese.[12]In year 2002, Cordain and colleagues conducted a cross sectional study to determine the prevalence of acne in Kitavan Islanders of Papua New Guinea (n=1,200) and theAchÊ hunter-gatherers of Paraguay (n=115) .They do not find any case of acne and speculated that it was because of consumption of substantially low Glycemic Load diet as compared to westernized nations.[13]However, this speculation was negated by a cross sectional study in year 2007 whereby they showed that there was no significant difference in consumption of high Glycemic Load diet in participants with and without acne.[14]In the same year a randomized controlled clinical trial showed that a ten weeks low glycemic load diet resulted in improvement of acne along with histological evidence from skin biopsy. LowGlycemic Load diet was also found to decrease the level of adrenal androgens.[15] The major study that provides the opposite reviews on the role of Diet on Acne was a Randomized Clinical Control Study done in 1969 that showed no difference in Acne exacerbation in groups that consumed a chocolate bar daily compared to a control group that consumed a placebo bar on daily basis. [17]Various other factors are also considered significant in contributing to theformation of acne also include genetic predispositions, hormonal abnormalities (androgens play the key role), immunological disorders, psychological, environmental and even iatrogenic factors.[18] It was also found that omega 3 rich fish consumption had a positive role in ameliorating the severity of acne.[19]

It was found in an explorative study that majority of patients with acne have been trying to relieve their symptoms of acne by changing their diet.[20] Different diets that were considered among American population to improve the symptoms of acne by patients were vitamin A (41%), followed by antioxidants (33%), fish/omega-3s (29%), and zinc (27%)[20] Similarly, it was found that various dietary elements were considered the major trigger for exacerbating severity of Acne including fried, greasy foods (71%), chocolate (53%), followed by dairy products (47%). This was followed by soda drinks (35%), caffeine (27%), and refined carbohydrates (27%)[20]It is also speculated by dieticians that the role of low GI diet in ameliorating the effect of acne was also due to weight loss.[21] This effect was specifically supported by the fact that decreased caloric intake decreased the production of skin oil as well.[22]

The rationale of this study is to assess the views of patients about their severity of acne and various factors that have aggravated or ameliorated their severity of disease so that it may improve the insight of associated factors related to disease among the

patients and to know various remedies that they have taken before consulting. the physician. Literature has shown that majority of patients have adopted various dietary habits, cosmetics and avoided sunlight to lessen the severity of acne with controversial results. Through this study, the frequency of the patients adopting different remedies for acne will be studied to guide more appropriate counselling and adjuvant treatment policy for treating the patients. This study will also provide various prospective for researches in future.

OBJECTIVE

To assess considerations of patients about various dietary and preventive factors of acne regarding their disease and treatment

METHODS AND MATERIALS:

Study Design:

Cross sectional

Study Setting:

Out Patient Department, Department of Dermatology, Mayo Hospital, Lahore.

Duration:

6 months.

Sample Size:

100 individuals.

Sampling Technique:

Simple random sampling

SAMPLE SELECTION CRITERIA

The sample will be selected according to inclusion and exclusion criteria.

INCLUSION CRITERIA:

1. Adult male and females suffering from Non Inflammatory and Inflammatory Acne

EXCLUSION CRITERIA:

1. unable to coordinate
2. Adult male and female who are suffering from Cystic or Nodulocystic Acne

DATA COLLECTION PROCEDURE:

After taking informed written consent, data was collected by the researchers with the help of Pre-tested data collecting tool (questionnaire)

Data was collected according to the variable of questionnaire which are as following:

1. Demographic data was taken from the participants
2. Questions were asked from the patients of Acne Vulgaris, attending the Out Patient Department, Department of Dermatology, Mayo Hospital about their severity of disease and causative factor related to acne.
3. Patients were counselled about the role of diet management for avoiding exacerbation of acne and follow up was done after 4 weeks about the results of counselling.

DATA ANALYSIS:

The collected data was analyzed by SPSS (statistical package for social scientist) version 20. The data was reported using descriptive and inferential statistics. The quantitative variables like age, BMI etc. were reported using standard deviation, standard errors and mean. The qualitative variables like gender etc.were reported using percentages and frequencies.

SOCIAL AND ETHICAL CONSIDERATIONS

After due permission from the Registrar of Dermatology Department, Mayo Hospital Lahore, the sample was evaluated by pretested questionnaire. Proper Consent was taken from the subjects.

RESULTS:

A total of 100 respondents who fulfilled the criteria of inclusion were recruited and interviewed about their acne, beliefs about the diagnosis and the remedies they took for the treatment of disease. Out of total respondents, 36 were male and 64 were female. 25 % patients were peri pubertal and 75% were of age >20.31% were educated up to level of matriculation, 24% were educated to level of bachelors whereas20% had education of masters or above. 25% of the respondents were uneducated.

Acne was the criteria of inclusion, so all the patients had acne. 56% had the disease for more than a year, whereas 44% had acne for less than a year. 65% had constant symptoms, whereas 35% of respondents had episodic exacerbations.44% patients had family history of acne. 97% were diagnosed by physician and 03% had got information from other resources. The proportion of patients suffering from the chronic ailments was as follow:

Sr. No	Disease	Frequency
1.	Diabetes Mellitus	7%
2.	Hypertension	13%
3.	Ischemic Heart Disease	5%
4.	Chronic Kidney Disease	2%
5.	GIT Pathology	16%
6.	Chronic Skin Pathology	25%
7.	Reproductive Issue	8%

Internet was used as a major source of information about the disease by 16% of respondents.47% of respondents had started their treatment before consulting the physician. 16 % patients graded their symptoms as mild, 62% as moderate while 22% graded their symptoms as severe according to their own assessment.
Following are the frequencies of food that were considered whether they triggered or improved their symptoms or whether they had no effect on symptoms:

Sr. No	Food Ingredient	Exacerbation of Symptoms	Improvement of Symptoms	No Effect on Symptoms
1.	Fried Food	59	12	29
2.	Sweets	33	11	56
3.	Cookies	29	12	59
4.	Breakfast Cereals	21	10	69
5.	Chocolates	20	7	73
6.	Vegetables	6	49	45
7.	Whole Grains	19	28	53
8.	Lentils	14	19	67
9.	Nuts	14	20	66
10.	Fruits	3	58	39
11.	Yogurt	17	30	53
12.	Cheese	13	16	71
13.	Whole Milk	21	28	51
14.	Skimmed Milk	14	35	51
15.	Cream and Bakery Items	17	9	74
16.	Red Meat	35	31	34
17.	Fish	27	51	22
18.	Potato	20	17	63
18.	Eggs	37	8	55

Different treatments have been used by the patients before presenting before the doctor, 26% had used antioxidant Multivitamins,56% had used Medications advertised on media or prescribed to some relative or friend, 62% had used face wash and 54% had used Over the Counter Available Acne Creams. 38 % had used Homeopathic Medications for Acne. 40% had tried the home based remedies. 49% tried to treat their symptoms by dietary modifications.

36% respondents affirmed that their physician has counselled them about the role of dietary changes in treatment of disease besides Medical Treatment. 63% of patients confirmed on follow up that counselling about relationship of diet and acne benefitted them in understanding the disease pathology and managing their symptoms.

DISCUSSION:

The relationship between diet and the development of pathological new lesions in acne patients is still controversial.[23].in 2017,A study conducted about the misconceptions of acne in general population demonstrated that the major cause of delay in the treatment of acne is underestimating and overlooking the severity of the disease and overlooking the causative factors lead to erroneous and unhealthy life styles.[24]This holds true for our study where almost half of the patients started their own treatment before even consulting a physician.

In one exploratory study in 2016, patients reported utilizing a variety of information sources, a majority from the Internet.[20]But in our study, more than half of patients took medicines by themselves including antioxidants, used over the counter face washes and acne creams usually on account of

misguidance by the society including relatives and friends. Internet was used by merely one quarter of the patients which emphasizes that awareness about the beneficial effects of internet in changing the natural history of disease is lacking.

As far as the diet is concerned ,a study carried out in 2015 about the faulty dietary habits revealed that almost 100 percent of the patients were consuming fried and junk foods that led to marked aggravation of symptoms.[25] Fried foods remained the most significant among all the foods in worsening acne in majority of patients in our study . A study conducted on patients taking 100 percent cocoa supported that chocolate does exacerbate acne specially in men between the ages of 18 and 35 years.[26] Our study didn't demonstrated any significant effect of chocolate in exacerbation or alleviation of acne. The deviation could be due to the fact that the composition of chocolate varies in different brands as they have different proportions of ingredients like cocoa ,milk and processed sugars; also the amount of chocolate consumption differs in different individuals and that could also led to deviation .

As far as fruits and vegetables are concerned , almost half of the patients affirmed that they lead to improvement of acne. The relationship of fish to acne was not that significant as in the previous studies demonstrating improvement of lesions in just 50 percent of patients. Majority of people didn't notice the effect of dairy products on acne. On follow up of patients after dietary counseling , it was revealed with follow up of patients that almost 2/3rds of patients noticed a beneficiary effect of adopting a healthy diet on the severity of disease. In future , this study can serve as the pivot regarding the dietary counseling and the awareness that early diagnosis by doctor and change in dietary habits by counseling can lead to dramatic improvement minimizing complications of disease , besides timely treatment .

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