Awareness, Associated Factors, Practices and Myths Regarding Acne among the Students of University of Sri Jayewardenepura

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Abstract

Background- Acne is one of the most common multifactorial skin conditions beginning in adolescence and often resolving spontaneously but remains as a significant problem in discuss within the society.

Methodology - This study was conducted as a descriptive cross sectional study to describe the awareness of acne, its associated factors, practices and myths regarding acne among the students of the main four faculties of University of Sri Jayewardenepura. Here, an interviewer administered questionnaire was used to a sample of 250 students, aged 20 to 30, selected by stratified random sampling method.

Results - Out of 250 students 170 (68%) had self reported acne as far as they had identified the features and most were having acne for more than one year. Whiteheads was the commonest feature of acne (55.6%), secondly the papules (46.4%) and then the pustules (34.8%). Most students agreed that foods with fat and oils cause more acne (90.4%), followed by chocolates (33.6%), spicy foods (11.2%) and fast foods (2.6%). Lack of sleep also had a great impact on acne (74.4%). Commonest practices were washing the face twice a day with an antibacterial soap or cleanser (76.4%) followed by avoiding touching the face with fingers (50.8%) and avoid squeezing the acnes (46.4%). Students strongly believed that dirty and excessive oily skin cause acne (80%) when 60.8% believed that by frequent washing of the face, acne can be cured.

Conclusion – Even though most students were aware about the commonest features of acne, their awareness regarding its associated factors was not satisfactory. Myths regarding acne are enduring even among university students who suppose to be more logical and practical. This may be due to their inadequate knowledge regarding acne and health education programmes on acne are needed to improve their awareness on this.

Keywords- Awareness, acne, associated factors, myths, university.

I. INTRODUCTION

Acne is one of the most common skin conditions usually beginning in adolescence and often resolving spontaneously, affecting about 80% of persons aged 11-30 years. The majority is adolescents. It commonly affects young people during the time when they are undergoing maximum psychological, social and physical changes. “For those who suffer from acne, it is a cause of distress and embarrassment and some may even develop psychiatric problems as a consequence of this” (Koo & Smith, 1991).

Doctors describe acne as a chronic inflammatory disease of the pilosebaceous units (PSUs) producing comedones, papules, pustules, cysts and scars. These units are most prominent on the face, upper back, and chest or the sternal area (Clark & Kumar, 2009). When considering the researches worldwide, so many associated factors of acne can be recognized. The exact cause of acne is still unknown, but doctors believe it results from several associated factors including heredity, hormones, skin condition, environmental factors, dietary habits, stress and cosmetics. In a research done in Turkey, it was found that there is a positive correlation between dietary habits and

increase risk for acne. Especially with junk food, fatty and sugary food items (Koku et al, 2011).

Treatment modalities vary from person to person and depend on the type and extent of acne, patient's psychological state and myths they hold.

In Sri Lanka, data are lacking on the prevalence of acne, its associated factors and myths, common practices used by the young people on treating and preventing acne. But still, acne remains as a significant problem in discuss within the society. Therefore this study was conducted to study the awareness of acne among the young adults, taking the university students of Sri Jayewardenepura as the study sample. In this study the students' awareness of associated factors and myths regarding acne and common practices and treatment modalities they use for acne prevention are described. This will be useful in future when developing health education programmes regarding acne focusing young adults of the country and be helpful to identify the misconceptions regarding acne and to eliminate them.

II. MATERIALS AND METHODS

This was a descriptive cross-sectional study conducted in university of Sri Jayewardenepura (USJP), Sri Lanka. All internal students aged between 20-30 and who were in the main four faculties in 2012; Humanistic and Social Science, Applied Science, Medical Sciences and Management and Commerce, during the period of data collection were selected to the study.

The calculation of the sample size was performed using Epi info statistical package, using the formula $n= t^2 xp (1-p)/ m^2$, where n is a sample size, t is the confidence interval taken as 1.96, m is taken as 0.05(margin error) and p is the pre estimated proportion of probability in acne prevalence between 20-30 age group, as according to the annual health bulletin-2007 in Sri Lanka. Out of all 9707 university students, the sample was selected according to student ratio from each faculty. Total sample size was 250 and stratified random sampling method was used to select the sample.

After referring and reading many articles related to acne, an interviewer administered questionnaire was developed. This included 12 main questions under which 86 variables were tested covering all the specific objectives of the study. Pre test was done on 10 students and to clarify the questionnaire. Altering or changing the questions was done accordingly. Reliability and validity of the questionnaire was also checked. The final questionnaire was administered to the study population. The lunch hour (12.00noon-1.00pm) of the students during week days was used to select the students and interview them. They were firstly informed about the research through information sheet and explained about the benefits of the study and obtained informed written consent. After that, the students were interviewed to fill the questionnaire which took less than 10 minutes for each individual, based on the participant's own perception of presence or absence of acne.

After collecting data, all were entered in to Excel work sheet and was analysed them using SPSS (Statistical Package for Social Studies) programme (version 16; SPSS Inc., Chicago).Descriptive statistics including Mean, Median, Stranded deviation and percentages were presented with relevant charts accordingly.

III. RESULTS

A. Description of the Participants

From the total of 250 of participants in the study, majority were females and only 67(26.8%) were male students. When considering the age of the students the mean value for their age was 23.33, median was 23 and mode was 24. A highest percentage of students in the study group were 24 years old and 27 was their maximum age. Majority of the students in the study group were having acne (n= 170; 68%) and it was more than a half of all the participants. From the 170 students who were having acne, majority was females and it was more than double of the males who were having acne (27.1%) (See Table 1).

Table 1. Distribution of students who are having pimples with their gender

Gender	Have acne		Total
	Yes	No	
Male	46	21	67
	27.1%	26.3%	
Female	124	59	183
	72.9%	73.7%	
Total	170	80	250

Most of the students who had acne were suffering from it for more than 1 year (n=120;48%) or having persistent acne and there was only a less amount of new cases found which occurred within 3 months time when considering the whole study group (see Table 2).

Table 2. Frequency distribution of students according to the duration they were having acne

Factors		Frequency	Percentage%
I	Diet –		
	Foods with fat and oils	226	90.4
	Foods with spicy	28	11.2
	Chocolates	84	33.6
	Fast foods	65	2.6
II	Close family relation with acne	58	23.2
III	Shampoo	46	18.4
IV	Cosmetics	159	63.6
V	Dandruff	175	70.0
VI	Severe exercises	64	25.6
VII	Environmental changes-		
	Hot weather	115	46.0
	Cold weather	33	13.2
	Rainy weather	15	6.0
VIII	Mental stress-		
	Lack of sleep	186	74.4
	Exams	160	64.0
	Before menstruation	170	68.0
	Stressful experiences	138	55.0
IX	Smoking	28	11.2
X	Drinking alcohol	20	8.0
XI	Squeezing the pimples	129	51.5
XII	Touching and rubbing pimples	100	40.0
XIII	Exposure to sun light	36	14.4
XIV	Certain drugs	72	28.8

The age that acne was more prominent in the study group was 24 years and out of all the students in that age group 71.6 %(n=53) had acne. From the total number of students who were having acne (n=170), the percentage of students with acne was still higher in this age when comparing to other ages(31.2%).But the incidence of acne cases could be seen going down with increase of age and decrease of age. Mid twenties had become more prominent age with acne from 20 to 30 years of age.

B. Awareness about Acne among the Study Group

Majority of students had identified whiteheads as the commonest feature of acne (n=139; 55.6%) and secondly the papules and then the pustules. Most students had a good awareness of the main features of acne, including the features as whiteheads, blackheads, papules and pustules. But still there were some students who had identified some other wrong features as acne, like rossasia, warts and skin rashes. These results are shown further in the Figure 1.

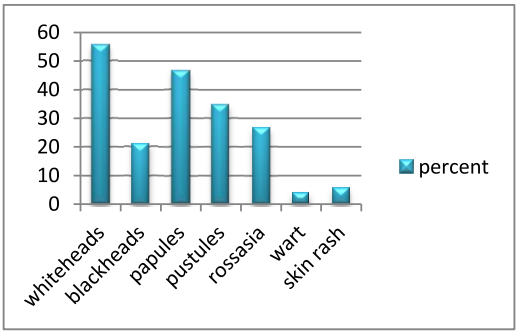

Figure 1. Responses for feature of acne

All most all the students had a good awareness regarding occurrence of acne on other body parts and the most common sites they had indicated other than face were neck, chest and back. From them also 154(61.6%) participants had said that the back was more prominent to have acne and in the genital area it was less (n=43; 17.2%).

C. Awareness of Associated Factors of Acne

Table 3. Frequency distribution of the responses of the students to the known associated factors of acne

Duration	Frequency	Percent
0	80	32.0%
3months	21	8.4%
3-6months	11	4.4%
7-12months	18	7.2%
morethan1year	120	48.0%
Total	250	100.0%

From 250 students, 226 (90.4%) indicated that the foods with fats and oils had a greater effect on occurrence of acne, followed by chocolates (33.6%), spicy foods (11.2%) and fast foods (2.6%). The other most common associated factors of acne which had more than 50% response for each were, having dandruff (70%), mental stress including lack of sleep (74.4%), before menstruation of the girls, exams and stressful experiences, cosmetics and squeezing the pimples. Only 84 participants (33.6%) said that chocolate was an associated factor of acne and only 58 (23.2%) were aware that acne has a familial tendency.115 (46.0%) students agreed to hot weather as an associated factor of acne (see Table 3).

D. Awareness of Methods to overcome Acne and the Treatment Modalities

The most common practices that the students had used and aware of so far were washing the face twice a day with an antibacterial soap or cleanser (n=191; 76.4%) followed by avoiding touching the face with fingers (n=127; 50.8%) and avoid squeezing the acnes (n=116; 46.4%). Shampooing hair daily or once in two days was the third commonest practice they had been used. Externally applicable pastes or home remedies were not used by them as a common method and only turmeric, sandalwood and alovera had a considerable amount of responses (>20%).They had considerably less responses for traditional "kem" methods also (n=19; 7.6%). 62 (24.8%) students indicated that acne needed no special care (see Table 4).

From all the participants, 111 (44.4 %) students said that acne needs a clinical, hospital or chemist concerning advice and treatments. From them also most students indicated that traditional methods are more suitable than the western methods. 12 (10.8%) students, who suggested medical treatments, also preferred cosmetic treatments.

E. Myths regarding Acne

More than half of the participants (n=152; 60.8%) believed that by frequent washing of the face, acne can be cured. And 36 (14.4%) students believed that squeezing the acnes would help them go away faster. They strongly believed that dirty skin and excessive oily skin cause acne and we had more than 80% positive responses for each. Fatty and oily Diets and germs were the next causes that they had indicated as causes for emergence of acne as they believed. Surprisingly 11 participants (4.4%) believed that evil forces also cause acne and 68.4% (which was more than half of the participants) believed that acne can be cured permanently (see Table 5).

Table 4. Frequency distribution of the students according to the practices they use to prevent acne.

	Practices	Frequency	Percentage%
I	Wash face twice a day with antibacterial soap or cleanser.	191	76.4
II	Shampooing hair daily or once in two days.	121	48.4
III	Avoid touching face with fingers.	127	50.8
IV	Avoid squeezing the pimples.	116	46.4
V	Remove make up at night.	96	38.4
VI	Wash the area with lemon juice.	32	12.8
VII	Steam the face and wash with cold water.	44	17.6
VIII	Wash face with warm water.	71	28.4
IX	Use externally applied pastes-		
	Sandalwood.	61	24.4
	Kohomba.	43	17.2
	Yogurt.	16	6.4
	Alovera.	57	22.8
	Avocado.	22	8.8
	Turmeric.	65	26.0
	Carrot.	12	4.8
	Cucumber.	28	11.2
X	Drink plenty of water.	82	32.8
XI	Eat more fruits.	79	31.6
XII	Use traditional methods as kem.	19	7.6
XIII	Use special cosmetics.	85	34.0
XIV	Nothing special done.	62	24.8

Table 5. Frequency distribution of the responses for myths regarding acne

	Myths	Frequency	Percentage
I	Acne cures well and fast by squeezing.	36	14.4%
II	Acne can be prevented by frequent washing of the face.	152	60.8%
III	Acne only occurs in adolescents and teenagers.	55	22.0%
IV	Sun rays will help to get rid of acne.	5	2.0%
V	Sexual activities increase acne.	32	12.8%
VI	Acne is caused by;		
	Dirty skin.	200	80.0%
	Excessive oily skin.	207	82.8%
	Diets with fats and oils	194	77.6%
	Obesity.	45	18.0%
	Germs.	168	67.2%
	Medications.	74	29.6%
	Evil forces.	11	4.4%
	High sugary sweets	110	44.0%
	and chocolates.	73	29.2%
	Positive family history.	124	49.6%
	Excessive action of the sex hormones.		
VII	Acne can be cured	171	68.4%

In this study the participants were given an opportunity to make suggestions and to do comments. According to them, applying oil and gel to hair, sharing face towels of those who have acne, eating prawns and shrimps cause acne. As home remedies, some students had suggested externally applicable pastes made of Green gram, sandalwood with turmeric, sandalwood with bee-honey and rose water with kokumpothu. It was mentioned that acne emergence is a natural process due to sex hormones and we should let it be like that to heal on its own course. And another student commented that acne is an external thing on skin and taking medication is not useful.

IV. DISCUSSION

This study was conducted to see the university students' awareness regarding acne, its associated factors, and the practices they use to overcome acne and the misconceptions they hold regarding acne. From the whole study group, 183(73.2%) were females and 67 (26.8%) were males. They all were from 20-27 years of age but the highest percentage of students were 24 years old (n=74; 29.6%).

A. Awareness of Acne And Its Features

From 250 students 170 (68%) had self reported acne as far as they had identified the features and from those students,73.7%were females and 26.3% were males and most of them were having acne for more than one year. The percentage of students with acne was still higher in 24 years of age when comparing to other ages (31.2%).But the incidence of acne cases could be seen going down with increase of age. Mid twenties had become more prominent age with acne from 20 to 30 years age group. A research done in the United Kingdom by Collier et al (2008) also reveals that after teenage time women were more likely to report having acne than men and in 21 - 29 age group it is 50.9% to 42.5% ratio. It also reveals that acne declines with increasing age in both sexes. The results of this study also prove that statement.

A study done in Cameroon by Mbuaghaw (2007) has revealed that the most commonest acne lesions they have found were comedones (whiteheads and blackheads) 100%, papules 100%, pustules 14.3% and nodules 11.4%. Here also, a majority of students had identified whiteheads as the commonest feature of acne (n=139; 55.6%) secondly the papules (46.4%) and then the pustules (34.8%). Therefore we can say that most of our students also have a good awareness of the main features of acne.

B. Awareness of the Associated Factors.

Many studies show that frequent eating of fat containing foods, fast foods and sugary foods positively associated with increasing acne. According to a Nigerian study, eating too much butter or margarine was the most frequent exacerbating factor of acne (52.5%) (Yahya, 2009). Most of the responders in this study group also agreed that foods with fat and oils cause acne more (n=226; 90.4%) followed by chocolates (33.6%), spicy foods (11.2%) and fast foods (2.6%).But this shows that our students were not much aware that spicy foods or fast foods can cause acne even though they eat curries with lots of spicy for all the three meals. Any how they were aware that sugary things as chocolates can trigger acne and a most recent study done in America also confirms this fact, that consumption of high glycaemic index foods triggers acne (Bowe, 2013). A Chinese study says that there is no association between dietary habits and acne (Wang et al, 2011), but when the facts are as above it is a bit confusing.

Several global studies reveal that inheritance or the positive family history influence acne emergence. In an Indian study 21.7% (Ali G et al, 2010), in a study in Iran 19.9% (Ghodsi et al, 2009) and in a Nigerian study 10.2% (Yahya, 2009) were the response percentages for this fact. And in this study, only 23.2% (n=58) of students were aware that there is a close family relationship with acne. But when considering the whole study group, their response regarding this fact is poor.

It has been identified that weather changes also have some association with acne. A South Indian research has found that 25.9% of acne occur due to seasonal changes and the summer with a hot weather is the most exacerbating time of all (Adityan & Thappa, 2009).Sri Lanka is also a tropical country like India and in this study also 46.0% (n=115) students identified hot weather as an associated factor of acne other than cold or rainy weather.

Our students were much aware that mental stress is an associated factor of acne. The most common factor that they were aware of was lack of sleep (n=186; 74.4%).A Chinese study has also found insufficient sleep as a cause for acne in a sample of 3163 adolescents (Wu et al, 2007).Premenstrual stress was the next factor that the students indicated as a cause for acne (n=170; 68%) and this was a factor that was proven true by a study done in Iran also (Ghodsi et al, 2009).

C. Awareness of Practices.

The most common practices that the students had used were washing the face twice a day with an antibacterial soap or cleanser (n=191; 76.4%) and followed by avoiding touching the face with fingers (n=127; 50.8%) and avoid squeezing the acnes (n=116; 46.4%).Cleansing agents were the most commonly used treatment option according to a Nigerian study also (Yahya, 2009). Externally applicable pastes were not used by our students as a common method. The most probable reason for this would be that most of them were staying in the hostels or boarding places and therefore there could be problems regarding feasibility. But still 57 students (22.8%) had been used alovera and it was 18.8% in the above Nigerian study. 62 students (24.8%) indicated that acne need no special care and this suggestion is very much compatible with

a study done in Pakistan where it was 30% who suggested to let acne runs its own course without treatments (Rehman & Niazi, 2007).Most of our students indicated that traditional methods and treatments are more suitable in treating acne ,whereas several global studies has suggested on western medicine.

D. Myths regarding Acne

More than half of the participants in the study group (n=152; 60.8%) believed that by frequent washing of the face, acne can be cured when 36 (14.4%) students believed that squeezing the acnes would help them go away faster. Those results are very much same as in a study done in Pakistan, where 75% undergraduates in that country also believed that very frequent washing of face would result in fewer breakout of acne and 12% believed squeezing would help to cure acne (Rehman & Niazi, 2007). But dermatologists say that frequent washing irritate the pores and trigger acne and advice to wash face gently with bare hands. Our students strongly believed that dirty skin and excessive oily skin cause acne and they had more than 80% positive responses for each. 95.7% of Pakistan undergraduate medical students also hold the same concept (Ali et al, 2010).Surprisingly 11 participants (4.4%) believed that evil forces also cause acne and 68.4% which was more than the half of the participants believed that acne can be cured permanently but truly it cannot.

V. CONCLUSION

According to the results of this study, 24 years is the most prominent age of having acne within university. Most students are aware about the commonest features of acne and many knew acne can occur in other body parts too. Students' awareness regarding the associated factors of acne is not much for satisfactory, but foods with fat and oils, dandruff, cosmetics, mental stress and touching and squeezing the acne showed to have a greater impact on acne emergence. Hygienic practices as washing the face twice a day with an antibacterial soap or a cleanser, shampooing or bathing daily and avoid touching or squeezing the pimples are the most commonly used methods to overcome and control acne when home remedies as externally applied pastes are not very popular. Misconceptions regarding acne are enduring even among university students who suppose to be more logical and practical. This may be due to their inadequate knowledge regarding acne and health education programmes on acne are needed to improve their awareness on this.

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