
Knowledge, Attitude, and Perception of Common Skin Health Problems among Secondary Schools Students in Anaocha Local Government Area, Southeast Nigeria

Afamefuna Obumneme Onyeogulu¹, Kelechi Raphael Onyenemezu², Chukwuemelie Darlington Okeke³, John Chiedu Ubah⁴, Tobechukwu Chinenye Ezike⁵, Theophilus Nwanyigor Agbo⁶

¹Department of internal Medicine, University of Abuja Teaching Hospital, Abuja, Nigeria

^{2,5}College of Public Health, East Tennessee State University, Tennessee, USA

³Department of Internal Medicine, Nnamdi Azikiwe University Teaching Hospital, Nnewi, Nigeria

⁴Royal Wolverhampton NHS Trust, Wolverhampton, UK

⁶Department of Obstetrics and Gynaecology, Lagos University Teaching Hospital, Lagos, Nigeria

ABSTRACT

Background: Dermatological conditions are commonly associated with low mortality rates, but they significantly contribute to morbidity globally. The burden of certain common skin diseases is remarkably higher among adolescents, and associated with psychosocial and physical impacts. This study was aimed at assessing the knowledge, attitude, and perception of common skin diseases among secondary school students in Anaocha.

Methodology: It was a descriptive cross-sectional study among 395 secondary school students in Anaocha Local Government Area of Anambra state using a multistage stratified sampling technique with an interviewer-administered, semi-structured questionnaire. Data analysis was done using SPSS version 25.

Results: There were 178 (45.1%) males and 217 (54.9%) females with an average age of 14.27 years \pm 1.52. The respondents' knowledge of acne, tinea capitis, and scabies was found to have an overall score of 43.29% \pm 13.26. 78.2% of respondents showed a strong perception of common skin health challenges, and 84.3% showed a decisive attitude toward them. The level of knowledge was significantly associated with the student's academic class and gender.

Conclusion: Overall knowledge of common skin conditions was poor and there was a high rate of misconceptions along with the tendency for self-medication. Though most respondents showed a decisive attitude towards these conditions, there is a high potential for neglect of care for skin diseases in general including sinister ones. Therefore, health education on common skin conditions should be intensified within all secondary schools in Anambra state to improve the knowledge of students on these important conditions.

KEYWORDS: Acne, Dermatitis, Pityriasis versicolor, Scabies, Skin diseases, Tinea capitis

1.0 INTRODUCTION

The skin is the largest organ in the human body, making up about 15 percent of the total adult body weight.¹ It is composed of three distinct layers, the epidermis, the dermis, and the subcutaneous tissue. Nestled within the layers of the skin are other specialized structures collectively known as skin adnexa. These include hair follicles, sebaceous glands, eccrine sweat glands, and apocrine glands. The skin, skin adnexa, and nails are collectively referred to as the integumentary system. This system plays several important roles related to immunity, sensory perception, thermoregulation, water homeostasis, protecting against mechanical, thermal, and physical injury, and so on.² Therefore, any structural, functional, or biochemical derangement of any of the components of the integumentary system may manifest in a myriad of symptoms and signs. Skin lesions are collectively referred to as dermatoses. Although many serious pathologies are associated with some form of dermatoses, the vast majority of skin health problems are not life-threatening or serious and are typically acute or self-limiting conditions.³ Adolescence is the phase of life between the ages of 10 and 19 years.⁴ It is characterized by significant biopsychosocial, developmental and behavioral changes such as the formation of the concept of "self", self-image, self-esteem, risk assessment, social standing, peer influence, and the emergence of romantic relationships.^{4,5} Certain dermatoses are more common among secondary school students, particularly in our environment. This is due to the physiological changes which occur during puberty, increased risk of cross-transmission of communicable skin

Knowledge, Attitude, And Perception Of Common Skin Health Problems Among Secondary Schools Students In Anaocha Local Government Area, Southeast Nigeria

diseases due to prolonged contact with peers and greater physical interaction, and certain climatic conditions in the tropics which encourages the proliferation of certain dermatoses.⁶ Studies have shown that common skin lesions in our environment among adolescents include acne vulgaris, pityriasis versicolor, tinea capitis, and traction alopecia.^{6,7} This study is limited to assessing some of these common conditions. Acne: This is an inflammatory disorder of the skin, which involves the sebaceous glands that connect to the hair follicle. Most outbreaks occur on the face but can also appear on the back, chest, and shoulders. The condition affects individuals of all races and ages, but it is most common in teens and young adults.⁸ Tinea capitis (ringworm): It is a common infection of the scalp hair caused by dermatophyte fungi and occurs predominantly in children in resource-poor environments. The clinical manifestations range from mild scaling with little hair loss to large inflammatory and pustular plaques with extensive alopecia.⁹ Most affected patients are children from 6 months to 10–12 years of age, and relatively rare in adults. Scabies: Scabies is a parasitic infestation of the skin caused by the mite *Sarcoptes scabiei*. Globally, more than 200 million people are affected, with a particularly high prevalence in resource-poor tropical regions.¹⁰ In infants and young children, the palms, soles, and head (face, neck, and scalp) are more commonly involved. Pityriasis versicolor: This is a common superficial fungal infection caused by a dimorphic lipophilic fungus known as *Malassezia*. The condition has a benign course that presents as areas of hyperpigmented or hypopigmented finely scaled skin macules which are most commonly found on the trunk, neck, and proximal extremities. It has a worldwide distribution but occurs more commonly in tropical regions most likely due to their warm and humid environmental conditions. It has also been found to be more common among young children and adolescents, possibly due to the higher degree of sebum production in this age group.¹¹ Despite their generally benign nature, skin diseases may be associated with significant psychosocial and physical co-morbidity due to the visible nature of the condition.¹² Some of these consequences include anxiety, depression, reduced ability to function, bodily distress, and poor social participation.^{13,14} This is most especially pertinent among adolescents who make up the secondary school student population.¹⁵ According to Basavaraj and colleagues, about 30 to 60% of patients with dermatological conditions also develop psychiatric disorders.¹⁶ Skin health challenges, especially visible and potentially chronically debilitating skin health problems, can cause significant disruption during the period of adolescence. This may in turn lead to potentially harmful and frequently overlooked consequences such as social avoidance, poor self-image, low self-esteem, and of course higher rates of anxiety and depression as well.⁵ Many skin conditions are relatively easily treatable in healthcare facilities however, many individuals afflicted with any of the various forms of dermatoses typically fail to present to health facilities and the vast majority of skin diseases remain unreported, most likely due to their non-fatal nature. The total burden of skin health problems, therefore, remains underestimated by most epidemiological studies.³ This is worsened by the lack of interest in the field of dermatology in our environment, poor health-seeking behaviour among Nigerians, financial constraints associated with seeking help from a medical facility, and numerous false beliefs surrounding skin health.¹⁷ The combination of the above factors may be a major contributor to the reluctance among patients to present to dermatological clinics. This in turn leads to a high rate of self-medication and misconceptions concerning skin health problems among patients with skin conditions. As many as 63.7% of patients presenting to an outpatient dermatology clinic report the practice of self-medication for dermatological conditions.¹⁸ This study offers information on the childhood prevalence of common skin conditions and the behavioral health of secondary school students concerning skin conditions. The study population provides a large distribution of those in the adolescent age group as most students in secondary schools are adolescents. The study also provides more information concerning misconceptions surrounding skin health problems in our environment.^{8,19-21} It will be useful in health awareness guidelines on skin health among adolescents, and enable health professionals to further promote proper skin health practices and control the spread of skin lesions. The study is therefore aimed at assessing the level of knowledge, attitude, and perception of common skin and health problems among secondary school students in Anaocha Local Government Area. It also examines the period prevalence of these conditions in childhood.

2.0 METHODOLOGY

2.1 Study Area

This study was carried out in Anaocha Local Government Area (LGA). Anaocha is a rural Local Government Area located within Anambra State, southeastern Nigeria. It was created on 21st August 1991 and has a total geographical area of 105.52 km². The population of the area according to the 2006 census was 284,215 with a projected population of 405,000 in 2002 at an annual growth rate of 2.2%. It is bounded by Njikoka LGA and Awka South LGA to the north, to the south by Aguata LGA and Nnewi North LGA, to the east by Aguata LGA and Orumba North LGA, and Idemili South to the West. Some prominent towns within the local government include Aguluzigbo, Agulu, Neni, Ichida, Adazi-Ani, Adazi-Enu, Adazi-Nnukwu, Akwaeze, Nri, and Obeledu. The administrative headquarters is located at Neni and the largest town is Agulu. The major religion is Christianity and the dominant ethnic group is the Igbo tribe. The region has a vibrant agricultural sector with crops such as cassava, yam, and cocoyam grown in substantial quantities. Trading and civil service are other important economic sectors in Anaocha LGA. The people of the area also engage in fishing and commerce with popular markets such as the Afor market in Agulu and the Nkwor market in Adazi-enu contributing to the economy of the LGA.^{22,23}

Knowledge, Attitude, And Perception Of Common Skin Health Problems Among Secondary Schools Students In Anaocha Local Government Area, Southeast Nigeria

The registers from the state Ministry of Education and Post Primary School Service Commission showed that the LGA had eleven private and sixteen public secondary schools. The total number of secondary school students in Anaocha LGA was 9760 students, with 7413 students being public school students and 2347 students attending a private secondary school.

2.2 Study Design

The study was an institution-based cross-sectional survey among secondary school students in Anaocha LGA between 1st to 31st October 2022 using a multi-stage proportionately stratified sampling technique.

2.2.1 Inclusion Criteria

All secondary school students in Anaocha LGA.

2.2.2 Exclusion Criteria

No eligible participant was excluded from the study.

2.3 Sample Size Determination

The sample size was calculated using the Cochran formula, taking our prevalence to be 64.2% as given by Henshaw and colleagues⁶

$$n = z^2pq/d^2$$

Where n = minimum sample size,

$$z=1.96,$$

$$p =0.642,$$

$$q=1-p$$

$$q=0.358$$

$$d=0.05$$

$$n= (1.96)^2 \times 0.642 \times 0.358 / 0.05^2$$

$$n= 353$$

Anticipating a non-response rate of 10%, attrition was factored in with $nf/(1-f)$

Where f = attrition rate = 10% = 0.1

$$353/0.9 = 392.222. \text{ Upgraded to } 395.$$

2.4 Sampling Technique

A proportionately stratified sampling of public and private secondary school students within Anaocha LGA based on their respective proportions in the total study population was used.

Therefore,

Total number of students in Anaocha LGA: 9760

Total number of students in public schools: 7413 (75.95%)

Total number of students in private schools: 2347 (24.05%)

The recognized strata and their respective populations are:

- Male junior secondary school students in public schools –1738 students (17.81% of the total population)
- Male junior secondary school students in private schools – 573 students (5.87% of the total population)
- Female junior secondary school students in public schools – 1684 students (17.25% of the total population)
- Female junior secondary school students in private schools–668 students (6.84% of the total population)
- Male senior secondary school students in public schools – 1591 students (16.36% of the total population)
- Male senior secondary school students in private schools – 493 students (5.05% of the total population)
- Female senior secondary school students in public schools – 2400 students (24.59% of the total population)
- Female senior secondary school students in private schools –613 students (6.28% of the total population)

Using the data provided above, the proportionate sample size for each stratum was calculated as:

Proportionate sample size = nq

Where n = sample size (395)

q = percentage of the total population

Using this formula, the table below was generated for the study sample size.

Table 2.1: Shows proportionate stratification of the study sample

Class	Sex	Type Ownership of	Population Size	Proportionate Sample Size
JSS	M	Public	1738	70
JSS	M	Private	573	23
JSS	F	Public	1684	68

Knowledge, Attitude, And Perception Of Common Skin Health Problems Among Secondary Schools Students In Anaocha Local Government Area, Southeast Nigeria

JSS	F	Private	668	27
SSS	M	Public	1591	65
SSS	M	Private	493	20
SSS	F	Public	2400	97
SSS	F	Private	613	25

A multistage sampling technique was then employed to select the required number of respondents from each stratum.

Stage 1: Selection of Schools. By simple random sampling, three public secondary schools were selected out of the sixteen public secondary schools, and two private secondary schools were chosen out of the eleven private secondary schools in Anaocha LGA - giving a total of five secondary schools for the study. Stage 2: Selection of Respondents. A simple random sampling of the selected public and private school students who consented to the study was carried out by balloting. This was done separately among the male and female students until the required number of respondents for each stratum was obtained. Each of the three public secondary schools provided a third of the sample data of the respective strata for public schools while each of the two private schools provided half of the private school sample data.

2.5 Study Instruments

Data was collected using a pre-tested semi-structured, interviewer-administered questionnaire. The questionnaire was made up of 4 parts (sections A to D); Section A contained the socio-demographic data of the respondents; Section B contained knowledge of common skin health problems including acne, tinea capitis, and scabies; Section C contained self-reported history of any past or current common skin health problems; and Section D assessed the attitude and perception of common skin health problems.

The questionnaire was administered by the researchers and trained research assistants after due consent was obtained from each participant. Each questionnaire administration lasted about 20 minutes. Respondents' knowledge was assessed by a set of ten questions. These questions were a combination of close-ended and open-response-option questions. Each correct response was given a score of 1 while an incorrect response was awarded a score of 0, with an additional point being administered for every correct response not listed in the options. The total knowledge score ranged between 0 and 18. Scores below 30% of the maximum score (from 0 to 5) were considered as poor, 30 to 70% (6-12 correct answers) were considered as average, while scores above 70% (from 13-18) were considered good knowledge. The measure of their perception was assessed using a single question measured on a 5-point Likert scale (strongly agree, agree, neutral, disagree, strongly disagree). Strongly agree and agree were grouped into 'agree' and awarded a score of 1 and considered a strong perception, while strongly disagree, disagree and neutral were grouped into 'disagree' and given a score of 0 and considered a weak perception.

The measure of their attitude was assessed using three questions measured on a 5-point Likert scale (very likely, likely, neutral, unlikely, very unlikely). Very likely and likely were grouped into "likely" and awarded a score of 1, while neutral, unlikely and very unlikely were grouped into "unlikely" and awarded a score of 0. A score of 2 or 3 was considered a decisive attitude, 1 was equivocal, and a score of 0 was considered a passive attitude.

The period prevalence of skin lesions was determined by assessing the respondents' past skin lesion history.

2.6 Research Assistant Training

The research assistants were those fluent in English and the local dialects of the communities who had at least completed secondary school. Research assistants were trained for two days on questionnaire administration and data collection procedures.

2.7 Statistical Analysis

The data were analyzed with SPSS version 25 and presented in tables. Categorical variables were presented as percentages and proportions, and continuous variables as mean and standard deviation. The association between categorical variables was done using chi-square test. A p-value of <0.05 with a confidence level of 95% was considered statistically significant.

3.0 RESULTS

All administered questionnaires were retrieved, giving a response rate of 100%.

Table 3.1 Shows the sociodemographic distribution of respondents

Variable	Frequency	Percentage (%)
Age (years)		
10-12	50	12.7
13-15	249	63.0
16-18	96	24.3
Class		
Junior	188	47.6

Knowledge, Attitude, And Perception Of Common Skin Health Problems Among Secondary Schools Students In Anaocha Local Government Area, Southeast Nigeria

Senior	207	52.4
School		
Private	95	24.1
Public	300	75.9
Religion		
Christian	390	98.7
Muslim	0	0
Traditional	5	1.3
None	0	0
Tribe		
Igbo	387	98.0
Hausa	0	0
Yoruba	1	0.3
Others	7	1.8
Gender		
Male	178	45.1
Female	217	54.9

Table 3.1 gives a summary of the sociodemographic information received from respondents during the course of the study. The ages of the students ranged from 10 to 18 years with the mean age determined as 14.27 ± 1.52 years. Most of the students were between 13-15 years (63%). 98% of respondents were Igbo and 98.7% Christians.

Table 3.2 Shows Respondents' Knowledge of Common Skin Conditions

Variable	Frequency	Percentage (%)
a) ACNE (PIMPLES)		
Believe that acne is a normal part of puberty		
Yes	321	81.3
No	46	11.6
Don't know	28	7.1
Causes of acne		
Poor hygiene	109	27.59
Stress	21	5.32
Smoking	33	8.35
Make-up	100	25.32
Excessive sweating	60	15.19
Drinking alcohol	5	1.27
Being overweight	69	17.47
Excess dietary fat or oil	251	63.54
Sex	15	3.80
Milk	19	4.81
Can inherit from parents	103	26.08
Others	4	1.01
Acne is curable		
Yes	314	79.5
No	41	10.4
Don't know	40	10.1
Acne can spread from person to person		
Yes	59	14.9
No	272	68.9
Don't know	64	16.2
b) TINEA CAPITIS (RINGWORM)		
Ringworm is caused by a fungus		
Yes	247	62.5
No	69	17.5
Don't know	79	20.0
Can be spread from person to person		
Yes	319	80.8
No	43	10.9
Don't know	33	8.4
Isolation of infected persons necessary		

Knowledge, Attitude, And Perception Of Common Skin Health Problems Among Secondary Schools Students In Anaocha Local Government Area, Southeast Nigeria

Yes	259	65.6
No	77	19.5
Don't know	59	15.0
Causes of ringworm		
Overcrowding	100	25.32
Poor hygiene	219	55.44
Sharing clothing	105	26.58
Contact with an infected person	129	32.66
Insect bites	62	15.70
Others	17	4.30
c) SCABIES (CRAW-CRAW)		
Scabies is caused by a parasite		
Yes	171	43.3
No	136	34.4
Don't know	88	22.3
Causes of scabies		
Overcrowding	110	27.85
Poor hygiene	241	61.01
Sharing of clothing	165	41.77
Contact with infected person	125	31.65
Others	34	8.61

Table 3.2 highlights the knowledge of the respondents concerning certain common skin health problems like acne, tinea capitis, and scabies. 81.3% of respondents believe that acne is a normal part of puberty and 79.5% believe it is curable. 63.54% believed it is caused by dietary fats and oils. 62.5% believe tinea capitis is caused by a fungus, and 80.8% believe it can be transmitted from person to person. 43.3% believe scabies is caused by a parasite.

Table 3.3 Shows the score of knowledge of common skin conditions

Parameter	Minimum	Maximum	Mean ± SD
Knowledge of acne (%)	0.00	100.00	40.72 ± 14.50
Knowledge of tinea capitis (%)	0.00	100.00	49.95 ± 19.08
Knowledge of scabies (%)	0.00	100.00	36.14 ± 23.68
Knowledge of skin conditions (%)	16.67	83.33	43.29 ± 13.26

Table 3.3 summarizes the respondents' knowledge of common skin conditions. Their overall knowledge was 43.29% ± 13.26 with respondents showing the best overall knowledge score for tinea capitis (49.95% ± 19.08), while the poorest overall score was in their knowledge of scabies (39.14% ± 23.68).

Table 3.4: Shows the Period prevalence of common skin conditions in childhood

Skin condition	Frequency	Percentage
Acne (pimples)	236	59.75
Tinea capitis (ringworm)	130	32.91
Scabies (craw crawl)	136	34.43
Pityriasis versicolor (eczema)	155	39.24
Chickenpox	175	44.30
Hyperpigmentation (darkened skin)	45	11.39
Traction alopecia (hair loss braiding, etc)	39	9.87
Others	45	11.39

Table 3.4 shows the period prevalence of certain common skin conditions in the lifetime of all respondents. Acne had a prevalence of 59.75% and traction alopecia had a prevalence of 9.87%.

Knowledge, Attitude, And Perception Of Common Skin Health Problems Among Secondary Schools Students In Anaocha Local Government Area, Southeast Nigeria

Table 3.5: Shows the Perception of common skin conditions

Statement	Perception <i>n</i> (%)				
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Skin conditions like acne, ringworm and scabies are serious medical conditions	180 (45.6%)	129 (32.7%)	55 (13.9%)	23 (5.8%)	8 (2.0%)

Table 4.5 highlights the perception of the respondents towards certain common skin conditions with the vast majority of interviewees responding positively to the assertion that such forms of dermatoses are serious medical conditions.

Table 3.6: Shows respondents' attitude towards common skin conditions

Statement	Attitude <i>n</i> (%)				
	Very likely	Likely	Neutral	Unlikely	Very unlikely
Likelihood to avoid an individual with a skin condition	171 (43.3%)	122 (30.9%)	56 (14.2%)	36 (9.1%)	10 (2.5%)
Likelihood to visit a hospital for a skin condition	223 (56.5%)	76 (19.2%)	51 (12.9%)	34 (8.6%)	11 (2.8%)
Likelihood to self-medicate due to a skin problem?	203 (51.4%)	90 (22.8%)	53 (13.4%)	42 (10.6%)	7 (1.8%)

Table 3.6 shows the attitude of respondents towards common skin health challenges with the majority tending toward avoiding an individual with a skin condition (74.2%), visiting a hospital due to skin disease (75.7%), as well as self-medicating for a skin condition (74.2%)

Table 3.7 shows respondents' treatment modality for common skin conditions

Treatment	Frequency	Percentage (%)
How acne was treated		
Medicated soap	116	29.37
Black soap (Dudu osun)	90	22.78
Antibiotic cream	119	30.13
Antibiotic tablets	41	10.38
Benzoyl peroxide	30	7.59
Aloe vera products	73	18.48
Face cleansers	48	12.15
Retin A (tretinoin)	9	2.28
Changing your beddings more frequently	48	12.15
Showering more frequently	70	17.72
Others	8	2.03
How ringworm was treated		
Shaving hair	59	14.94
Scraping the ringworm and applying ash	124	31.39
Washing clothes in hot water	31	7.85
Staying away from other members of family/school	25	6.33
Changing bedding more frequently	24	6.08
Showering more frequently	36	9.11
Others	9	2.28
How scabies was treated		
Medicated soap	73	18.48
Black soap (Dudu osun)	33	8.35
Antibiotic cream	68	17.22
Antibiotic tablets	50	12.66
Benzoyl benzoate	119	30.13
Ivermectin tablets	32	8.10
Washing clothes in hot water	49	12.41
Staying away from other members of family/school	25	6.33
Changing bedding more frequently	29	7.34
Showering more frequently	48	12.15

Table 3.7 summarizes the most commonly employed treatment methods by the respondents for acne, ringworm, and scabies.

Knowledge, Attitude, And Perception Of Common Skin Health Problems Among Secondary Schools Students In Anaocha Local Government Area, Southeast Nigeria

Table 3.8 showing the level of knowledge, perception and attitude towards common skin conditions

Variable	Frequency	Percentage (%)
Level of knowledge		
Good	12	3.0
Average	310	78.5
Poor	73	18.5
Level of perception		
Strong	309	78.2
Weak	86	21.8
Level of attitude		
Decisive	333	84.3
Equivocal	55	13.9
Passive	7	1.8

Table 3.8 is a summary of the level of knowledge, perception and attitude of respondents towards common skin conditions with most respondents showing average knowledge (78.5%), strong perception (78.2%) and a decisive attitude (84.3%) towards these conditions.

Table 3.9 showing the test of independence between of knowledge of common skin conditions with sociodemographic variables of respondents

Variable	Knowledge <i>n</i> (%)			χ^2	p-value
	Good	Average	Poor		
Age (years)					
10-12	3 (6.0%)	35 (70.0%)	12 (24.0%)	6.390	0.172
13-15	4 (1.6%)	199 (79.9%)	46 (18.5%)		
16-18	5 (5.2%)	76 (79.2%)	15 (15.6%)		
Class					
Junior	5 (2.7%)	135 (71.8%)	48 (25.5%)	11.855	0.003
Secondary	7 (3.4%)	175 (84.5%)	25 (12.1%)		
School					
Private	3 (3.2%)	74 (77.9%)	18 (18.9%)	0.026	0.987
Public	9 (3.0%)	236 (78.7%)	55 (18.3%)		
Gender					
Male	6 (3.4%)	126 (70.8%)	46 (25.8%)	12.064	0.002
Female	6 (3.0%)	184 (84.8%)	27 (12.4%)		

Table 3.9 explores the association between the knowledge of common skin conditions and the sociodemographic data of the respondents using chi-square. A statistically significant association ($p < 0.05$) was found between the knowledge of common skin conditions with the academic class and gender of the respondents.

Table 3.10 showing the test of independence between of perception of common skin conditions with sociodemographic variables of respondents

Variable	Perception <i>n</i> (%)		χ^2	p-value
	Strong	Weak		
Age (years)				
10-12	32 (64.0%)	18 (36.0%)	7.170	0.028
13-15	202 (81.1%)	47 (18.9%)		
16-18	75 (78.1%)	21 (21.9%)		
Class				
Junior	145 (77.1%)	43 (22.9%)	0.255	0.614
Secondary	164 (79.2%)	43 (20.8%)		
School				
Private	73 (76.8%)	22 (23.2%)	0.141	0.707
Public	236 (78.7%)	64 (21.3%)		
Gender				
Male	143 (80.3%)	35 (19.7%)	0.846	0.358
Female	166 (76.5%)	51 (23.5%)		

Knowledge, Attitude, And Perception Of Common Skin Health Problems Among Secondary Schools Students In Anaocha Local Government Area, Southeast Nigeria

Table 3.10 explores the association between the perception of respondents towards common skin conditions and the sociodemographic data of the respondents using chi-square. A statistically significant association ($p < 0.05$) was found between the perception of respondents towards common skin conditions and the age of the respondents.

Table 3.11 showing the test of independence between attitude toward common skin conditions and sociodemographic variables of respondents

Variable	Attitude <i>n</i> (%)			χ^2	p-value
	Decisive	Equivocal	Passive		
Age (years)					
10-12	44 (88.0%)	6 (12.0%)	0	2.209	0.697
13-15	210 (84.3%)	35 (14.1%)	4 (1.6%)		
16-18	79 (82.3%)	14 (14.6%)	3 (3.1%)		
Class					
Junior	167 (88.8%)	19 (10.1%)	2 (1.1%)	5.642	0.060
Secondary	166 (80.2%)	36 (17.4%)	5 (2.4%)		
School					
Private	74 (77.9%)	16 (16.8%)	5 (5.3%)	9.976	0.007
Public	259 (86.3%)	39 (13.0%)	2 (0.7%)		
Gender					
Male	148 (83.1%)	26 (14.6%)	4 (2.2%)	0.573	0.751
Female	185 (85.3%)	29 (13.4%)	3 (1.4%)		

Table 3.11 displays the association between the attitude of respondents towards common skin conditions and the sociodemographic data of the respondents using chi-square. A significant association ($p < 0.05$) was found between the attitude of respondents to common skin health problems and the type of school the respondents attend

4.0 DISCUSSION

The ages of the respondents of the study ranged from 10 to 18 years, with a mean age of 14.27 ± 1.52 years, in keeping with other studies carried out in different parts of the country among this same population. The results showed that acne was the most prevalent form of dermatosis among this population with a childhood period prevalence of 59.75%. The least commonly reported skin health problem was traction alopecia (9.87%) which was in keeping with another study carried out among adolescents.⁷ This is most likely due to the fact that secondary school students within Nigeria do not routinely carry out activities associated with this condition like hair braiding and wig installation, as well as the fact that the condition almost uniquely affects females in our environment. The respondents showed an average knowledge score of $40.72\% \pm 14.50$ for acne. This is similar to a study in Saudi Arabia showing an average score of 41.7% for acne¹⁹ and another study in Kaduna by Yahya among secondary school students which also demonstrated poor knowledge concerning the skin condition.⁸ Despite having slightly better overall knowledge concerning the skin condition, similar misconceptions about the causative agents and aggravating factors associated with acne were found to be common among both the study population and previous research done on the topic.^{8,19,21} Some of these included the erroneous belief that acne was caused by poor hygiene, being overweight, cosmetic use, and eating meals which contain significant amounts of fats and oils. This finding has also been found to be common among all age groups.^{20,21} There was a low rate of knowledge concerning the scientifically-supported causative and aggravating agents of acne such as stress, smoking, excessive sweating and genetic inheritability. This corroborates the findings of a similar study carried out in Kaduna by Yahya.²⁰ An exceedingly large number of respondents (81.3%) expressed the belief that acne was a normal part of puberty and not a disease condition. This could be explained by the widespread portrayal of acne as a normal and even expected part of puberty, most likely reinforced by the higher incidence of acne in adolescents due to the significant hormonal changes which occur within this age group during this period. The study population showed the poorest average knowledge for scabies. A particularly poor understanding was seen concerning the risk factors and mode of transmission of scabies. The data showed that a higher number of respondents associated the skin condition with poor hygiene instead of actual risk factors such as overcrowding, close contact with an individual with scabies or sharing fomites with an individual who has a scabies infestation. The respondents showed strong perceptions which suggested that various forms of common dermatoses were considered serious medical conditions by the population and a significant number of respondents (74.2%) stated they were likely to avoid an individual who demonstrated certain forms of dermatosis like acne, tinea capitis and scabies. The findings suggest a strong trend towards self-medication among this population with respect to skin health challenges, most likely due to the widespread availability of over-the-counter medications. Poor health-seeking behavior among the population, when it concerns skin diseases, is also a major challenge, although a large number of respondents demonstrated an openness to visit a health facility due to a dermatological issue.

Knowledge, Attitude, And Perception Of Common Skin Health Problems Among Secondary Schools Students In Anaocha Local Government Area, Southeast Nigeria

In keeping with other studies, medicated soaps, black soap (Dudu Osun), and antibiotic creams were found to be the most commonly used medications for the treatment of acne,⁸ while for tinea capitis, the most commonly employed treatment method involved scraping the lesion and applying ash to the wound. For scabies, the most commonly employed treatment method was the application of the scabicide benzyl benzoate, although the use of medicated soaps and antibiotic creams was still quite popular. There was a significant association between the perception of respondents and their age, with the younger respondents showing a weaker impression of the severity of common skin health conditions. Similarly, there was a significant association between the academic level of the respondents and their knowledge of skin health problems. Although both junior and senior school students had low rates of good knowledge of common skin health challenges, the junior students had significantly more respondents who showed poor knowledge concerning the topic. This is likely due to the fact that the senior and relatively older students have been exposed to more information concerning common skin health problems which may have helped them reject some common misconceptions concerning skin conditions. A study by Oyedepo et al highlighted the fact that the prevalence of common skin health challenges is higher in senior students which may have encouraged them to search for more information concerning the causes, aggravating factors, and possible treatment options for these conditions.⁷ Another important association found in this study was the link between gender and knowledge of common skin health challenges. Females were found to be significantly more knowledgeable about various forms of dermatoses than their male counterparts. This could be due to the fact that some of the most common dermatoses are more prevalent in female adolescents including those with almost exclusive occurrence in this subpopulation such as traction alopecia, as well as the link between female gender and more severe forms of psychosocial consequences due to skin disorders.¹² A significant association was also found between the attitude of the respondents towards common skin conditions and the type of educational institution they attended with public school students having a higher rate of decisive attitude than the private school students.

4.1 Study Limitations

This study was limited by some difficulty encountered in explaining certain skin health problems to the respondents. Some of the ways this challenge was overcome included explaining these common skin health challenges using the local dialect, slang, or misnomers. For instance, pityriasis versicolor was deliberately referred to as “eczema”, which is the name it is most commonly known by in our environment. Secondly, the assessment of childhood period prevalence by this study was limited by the high chance of recall bias, and the possibility of disease recurrence in each respondent was not factored into the assessment. There is also the tendency for misclassification of information as the data was respondent-dependent and unverified. A strength of this study is the reduction of selection bias by proportionate stratification.

4.2 Conclusion And Recommendations

There is a high level of misconception knowledge of common skin diseases in adolescents and a high tendency towards self-medication in the study population. This trend may lead to poor prevention or mismanagement of skin diseases. Skin lesions may tend to persist in this population. This could result in neglect of more sinister skin diseases which may require adequate and timely interventions. Health education should be heightened in schools to correction of misconceptions about common skin diseases affecting adolescents. They should be shown to be maladies that require appropriate medical intervention like any other ailment.

ETHICAL CONSIDERATIONS

Ethical approval was obtained from Nnamdi Azikiwe University Teaching Hospital, Nnewi Ethics Committee (NAUTHEC) and permission was sought from the heads of the institutions where the study was carried out. The entirety of the study, with a special focus on the objectives, was clearly explained to every participant and informed consent was obtained from each of them with the assurance of confidentiality and anonymity of all information supplied for the study by the participants. The participants were granted the freedom to withdraw from the study at any point during the study.

Conflict Of Interest

The authors declare no conflict of interest

Sponsorship

The execution and publication of this work was exclusively sponsored by the authors

REFERENCES

- 1) Kolarsick PA, Kolarsick MA, Goodwin C. Anatomy and physiology of the skin. *Journal of the Dermatology Nurses' Association*, 2011; 3(4): 203–213.
- 2) Chuong CM, Nickoloff BJ, Elias PM, Goldsmith LA, Macher E, Maderson PA, et al. What is the 'true' function of skin? In: *Controversies in Experimental Dermatology*. *Experimental Dermatology*. 2002; 11(2): 159-187.
- 3) Seth D, Cheldize K, Brown D and Freeman EF. Global Burden of Skin Disease: Inequities and Innovations. *Current Dermatology Reports*, 2017; 6(3): 204–210.

Knowledge, Attitude, And Perception Of Common Skin Health Problems Among Secondary Schools Students In Anaocha Local Government Area, Southeast Nigeria

- 4) Jaworska N, MacQueen G. Adolescence as a unique developmental period. *Journal of Psychiatry and Neuroscience*, 2015; 40(5): 291–293.
- 5) De Vere Hunt IJ, Howard E, McPherson T. The impact of chronic skin disease in adolescence and the need for specialist adolescent services. *Clinical and Experimental Dermatology*, 2019; 45(1): 5-9.
- 6) Henshaw E, Olasode O, Ogedegbe E, Etuk I. Dermatologic conditions in teenage adolescents in Nigeria. *Adolescent Health, Medicine and Therapeutics*, 2014; 5: 79-87.
- 7) Oyedepo JT, Katibi OS, Adedoyin OT. Cutaneous disorders of adolescence among Nigerian secondary school students. *Pan African Medical Journal*, 2020; 36(36).
- 8) Yahya H. Acne vulgaris in Nigerian adolescents- prevalence, severity, beliefs, perceptions, and practices. *International Journal of Dermatology*. 2009; 48(5): 498-505.
- 9) Emele FE, Oyeka CA. Tinea capitis among primary school children in Anambra state of Nigeria. *Mycoses*, 2008; 51(6): 536-41.
- 10) Lopes MJ, da Silva ET, Ca J, Gonçalves A, Rodrigues A, Mandjuba C, et al. Perceptions, attitudes and practices towards scabies in communities on the Bijagós Islands, Guinea-Bissau. *Transactions of the Royal Society of Tropical Medicine and Hygiene*. 2020;114(1): 49-56.
- 11) Karray M, McKinney WP. TineaVersicolor. [Updated 2021 Aug 11]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK482500/> Accessed: February 10, 2022
- 12) Yang Y-C, Tu H-P, Hong C-H, Chang W-C, Fu H-C, Ho J-C, et al. Female gender and acne disease are jointly and independently associated with the risk of major depression and suicide: A national population-based study. *BioMed Research International*. 2014;2014:1–7.
- 13) Bewley A, Affleck AG, Bundy C, Higgins E, McBride SR. Psychodermatology services guidance: The report of the British Association of Dermatologists' Psychodermatology Working Party. *British Journal of Dermatology*, 2013; 168(6):1149-50.
- 14) Jafferany M, Franca K. Psychodermatology: Basics Concepts. *Actadermato-venereologica*, 2016; 96(217): 35–37.
- 15) Kelly KA, Balogh EA, Kaplan SG, Feldman SR. Skin Disease in Children: Effects on Quality of Life, Stigmatization, Bullying, and Suicide Risk in Pediatric Acne, Atopic Dermatitis, and Psoriasis Patients. *Children* 2021; 8: 1057.
- 16) Basavaraj KH, Navya MA, Rashmi R. Relevance of psychiatry in dermatology: Present concepts. *Indian Journal of Psychiatry*, 2010; 52(3): 270–275.
- 17) Ukwaja KN, Alphonsus C, Eze CC, Lehman L, Ekeke N, Nwafor CC, et al. Investigating barriers and challenges to the integrated management of neglected tropical skin diseases in an endemic setting in Nigeria. *PLOS Neglected Tropical Diseases*, 2020; 14(4).
- 18) Anaba E, Motunsope OC, Oaku RI. Prevalence, pattern, source of drug information, and reasons for self-medication among dermatology patients. *Dermatological Therapy*, 2021; 34(2).
- 19) Darwish MA, Al-Rubaya AA. Knowledge, Beliefs, and Psychosocial Effect of Acne Vulgaris among Saudi Acne Patients. *ISRN Dermatology*, 2013 Dec 29;2013:929340.
- 20) Dréno B, Thiboutot D, Gollnick H, Finlay AY, Layton A, Leyden JJ, et al. Large-scale worldwide observational study of adherence with acne therapy. *International Journal of Dermatology*, 2010; 49: 448–456.
- 21) Poli F, Auffret N, Beylot C, Chivot M, Faure M, Moyse D, Pawin H, Revuz J, Dréno B. Acne as seen by adolescents: results of questionnaire study in 852 French individuals. *ActaDermVenereol*, 2011; 91(5): 531-536.
- 22) Azuike, E.C., Nwabueze, S.A., Onyemachi, P.E., Egenti, B.N., Okafor, K.C., Aniemena, R.C., Udedibia, I.N. and Nwodo, J.O. (2015) Household Waste Management; Voices of Residents of Anaocha Local Government Area of Anambra State, Nigeria. *Journal of Environmental Protection*, 6, 1394-1401.
- 23) Thomas Brinkhoff: City Population. Available at <http://www.citypopulation.de/php/nigeria-admin.php?adm2id=NGA004004> Accessed: March 25, 2022.