

## Research Article

## Kilatis Kutis: Addressing the Prevalence of Skin Disorders among Congressional National High School Students

Jeffrey Alcantara Lucero

Healthcare practitioner and educator, Teacher at Congressional National High School. &amp; College professor, Western Colleges, Inc, Philippines

\*Corresponding Author  
Jeffrey Alcantara Lucero

**Abstract:** This research determined the prevalence of skin disorders among the students of Congressional National High School and the effectiveness of the 'Kilatis Kutis' strategy in addressing these. This study utilized one group pre-test and post-test experimental design. It was participated by 225 students from Congressional National High School. Majority of the participants had various infectious dermatoses. They likewise had low knowledge on these disorders, particularly on its nature and treatment. Significant difference in the seriousness of the participants' skin disorder and level of knowledge was revealed before and after the 'Kilatis Kutis' strategy. This indicates that the strategy has been effective in enhancing the participants' skin condition and raising their knowledge on skin disorders.

**Keywords:** Dermatitis, Kilatis Kutis, Skin Care, Health Promotion, Senior High School.

### INTRODUCTION

Skin diseases, also known as dermatoses, are very common in many tropical countries among adolescents (Laniauskaite, Ozalinskaite, Strupaite, & Bylaite, 2015). The pattern of skin diseases in any community is influenced by genetic constitution, climate, socioeconomic status, occupation, education, hygiene, standards, customs, and quality of medical care. It causes harm in a number of ways and can have a profound effect on both the individual and the community. Morbidity is significant through disfigurement, disability, or symptoms such as intractable itch, as is the reduction in quality of life, even social isolation and economic burden. Death, though rare, can still be seen from metastatic skin cancer cases.

Many times, some dermatological manifestations may give some clue to the presence of benign or malignant systemic diseases in individuals. Despite the high frequency of certain skin diseases in developing countries, they have so far not been regarded as a significant health problem in the development of public health strategy. Indeed, some less common health problems in the same countries receive more attention.

Just like in other developing countries, skin diseases are not viewed as a serious public health concern in the Philippines. Nevertheless, the government, through the Department of Health (DOH), has set essential programs to prevent its occurrence especially those that are classified to be communicable or contagious. One of the strategies being employed by the DOH is 'Kilatis Kutis' strategy. It is a program of the DOH in line with its leprosy and skin diseases awareness campaign (Philippine Information Agency, 2010). In here, patients are to go to the health centers to determine the nature of their skin diseases, give them the appropriate treatment, and heighten their knowledge on skin diseases.

The occurrence of various skin diseases has been found to be one of the reasons for absenteeism among students, particularly in Congressional National High School. According to the students, their acquired skin disease halts them to attend classes regularly because its manifestations (e.g. itchiness and pain) either serve as a distraction for them to focus on their lesson or prevent them to perform their activities of daily living (ADLs). Also, the external manifestations of the skin diseases in them affects their self-esteem since, according to them, these have been an avenue for them to be bullied or the center of mockery among their peers.

Quick Response Code



Journal homepage:

<http://www.easpublisher.com/easjpid/>

Article History

Received: 10.01.2019

Accepted: 25.01.2019

Published: 15.02.2019

Copyright © 2019: This is an open-access article distributed under the terms of the Creative Commons Attribution license which permits unrestricted use, distribution, and reproduction in any medium for non commercial use (NonCommercial, or CC-BY-NC) provided the original author and source are credited.

In this study, a partnership between the CNHS Health Services and the Department of Health was initiated to address the prevailing skin disorders among the students of Congressional National High School by utilizing the '*Kilatis Kutis*' strategy. It is hoped that through this endeavor, a healthier cohort of learners would be upheld within the school community.

#### Statement of the Problem

This study sought to answer the following questions:

1. What is the profile of the research participants in terms of:
  - age;
  - sex;
  - family monthly income;
  - type of residence; and
  - practice of personal hygiene?
2. What are the skin disorders present among the research participants?
3. How knowledgeable are the research participants about the different skin disorders present among them in terms of its:
  - nature;
  - treatment; and
  - prevention?
4. Is *Kilatis Kutis* effective in addressing the prevalence of skin disorders among the research participants in terms of instituting:
  - preventive care and
  - curative care?

## METHODOLOGY

### Research Design

This study employed descriptive-correlational research design through the survey and interview methods. As such, data were gathered from the identified participants through the use of a prepared set of data sheet and questionnaires. The prepared questionnaires contained questions that were all instrumental in addressing the research problems.

### Locale of the Study

The study was conducted in Congressional National High School in the city of Dasmariñas, Cavite.

### Participants of the Study

The participants of the study were the junior and senior high school students of Congressional National High School in the Academic Year 2016-2017.

### Research Instrument

A prepared questionnaire was used in the study. It was composed of various questions that were

categorized into three sections: profile of the participants, physical assessment form, and their awareness towards skin disorders.

In the first part of the questionnaire, the participants' profile was asked specifically, their age, sex, family monthly income, type of residence, and practice of personal hygiene.

The second part of the questionnaire assessed the participants' integumentary system to diagnose their skin disorder. This part was based from the Department of Health approved assessment protocol for skin diseases.

The participants' knowledge on their acquired skin disorder was determined in this part. The questions in here focused on their knowledge on the nature, treatment, and prevention of their acquired skin disorder.

### Sampling Design

Purposive sampling was used in the study. Through this method, the researcher selects and studies the target population with regard to certain characteristics such as age, sex, or economic status (Venzon, 2004). In the context of this research, all students with skin disorders that needed medical treatment and intervention were chosen to be part of the study.

A preliminary screening was conducted to select the research participants. Through the aid of the physical education teachers, all students in the school were asked to answer a score sheet that would let them describe the seriousness of the skin disorder they were actually experiencing. All students whose score were interpreted to be 'serious' and 'highly serious' were qualified to be part of the study.

### Operationalization of the Variables

For the demographic profile of the participants, categorization or clustering was done for their age, sex, monthly income, type of residence, and practice of personal hygiene. This was as follows:

Age: adolescent if 12-18 years old; young adult if 19-30 years old; and middle aged adult if 31-65 years old;

Sex: male and female;

Monthly Income: poor (less than PhP7,890), low income (between PhP 7,890 to PhP 15,780), low middle income (between PhP 15,780 to PhP 31,560), middle class (between PhP 31,560 to PhP 78,900 per month), upper middle income (between PhP78,900 to PhP 118,350 per month), upper income (between PhP 118,350 to PhP 157,800), and rich (at least PhP 157,800);

Type of Residence: Rural, Urban, Urban Slum;

Practice of Personal Hygiene: The participants were asked how many among the following practices have they practiced regularly in the last seven days: taking a bath at least once a day, handwashing with soap at least three times a day, non-sharing of towels, clothing, or footwear with anybody, and use of skin moisturizers. Categorization of responses was done as follows: highly satisfactory (all activities were done), satisfactory (utmost three activities were done), moderately satisfactory (utmost two activities were done), and unsatisfactory (utmost one of the activities were done).

The participants' knowledge on their acquired skin disorder was determined by asking them to answer 15 questions about the nature, treatment, and prevention of their acquired skin disease. The findings herein was obtained by getting the percentage of the participants who answered each question correctly. The percentage obtained was further categorized into 'high awareness' if the percentage range was 75 percent and above; 'average awareness' if the percentage range was 51-74 percent; and 'low awareness' if the percentage range was 50 percent and below.

The effectiveness of the *Kilatis Kutis* strategy was determined based on the two aspects of care: curative and preventive. The curative aspect was evaluated by assessing the outcome of the two months continuous treatment of their skin disease using the same score sheet in the preliminary screening of the participants. On the other hand, the preventive aspect was evaluated by asking the participants to answer the same questionnaire used in assessing their knowledge on the nature, treatment, and prevention of common skin diseases. The result of the evaluation for the curative and preventive aspects was compared to the score they gathered in the preliminary screening and knowledge assessment on skin diseases, respectively.

#### **Data Gathering Procedure**

Before the actual conduct of the study, permission from the Office of the Principal was sought. As soon as the permission for the conduct of the study was granted, an informed consent was secured from all of the students in the high school. Before any participant gave his or her informed consent, it was ensured that they had clear and explicit information on all the aspects of the study – the procedure to be followed and the reasons, the exact nature of the participants' role; the risks and benefits involved; psychological stress and embarrassment; and the way in which the data would be handled and reported.

Upon having secured the participants' informed consent, the assistance of the physical education teachers was sought to facilitate the initial screening of those who will be chosen to participate in

the study. In here, all of the students who signified their consent were asked to answer a questionnaire that would enable them to rate the seriousness of skin disorder that they were experiencing. As soon as all of the questionnaires have been retrieved, these were immediately analyzed to come up to the official list of participants. Only those who were experiencing 'serious' to 'very serious' skin disorders were chosen as the official participants of the study.

The students who qualified in the initial screening were then subjected to medical consultation following the "*Kilatis Kutis*" strategy conducted by trained healthcare providers from the Department of Health to diagnose and assess their knowledge on their skin disorder. Likewise, due medical treatment and health education was done to treat their skin condition.

The result of the medical intervention and health promotion scheme was evaluated after two months of continuous treatment and constant follow up to the participants. Data were gathered by assessing the outcome of the two months continuous treatment of their skin disease using the same score sheet in the preliminary screening of the participants and asking the participants to answer the same questionnaire used in assessing their knowledge on the nature, treatment, and prevention of common skin diseases. The result of the evaluation for the curative and preventive aspects was compared to the score they gathered in the preliminary screening and knowledge assessment on skin diseases, respectively.

#### **Statistical Analysis**

Descriptive statistics such as frequency, mean, and percentage was used to describe the distribution of the respondents according to their profile and responses. Furthermore, suitable kinds of tables and figures were used to ensure clarity and intelligibility in the presentation of the findings.

In determining the effectiveness of the '*Kilatis Kutis*' strategy rendered for the participants, t-test was used. It was used to determine if there was a significant difference on the skin condition and knowledge on skin diseases of the participants before and after the intervention.

### **RESULTS AND DISCUSSION**

#### **Participants' Demographic Profile**

The participants' demographic profile was obtained in the first part of the data gathering. This was done to aid in answering the other research questions and, at the same time, provide some information to describe the sample used in the study. Such profile includes the participants' age, sex, monthly family income, type of residence, and practice of personal hygiene. The findings herein were summarized in Table-1.

As per school records, there was a total of 3,599 high school students enrolled in Congressional National High School, 3,053 of which were junior high school students while the remaining 546 were students in the senior high school level. Upon conducting a preliminary screening to identify the students with a ‘serious’ to ‘very serious’ skin disorder, 225 students were selected to be the participants of the study.

**Table-1. Profile of the participants**

| CHARACTERISTIC                      | FREQUENCY<br>n = 225 | PERCENT |
|-------------------------------------|----------------------|---------|
| <b>Age</b>                          |                      |         |
| 13                                  | 44                   | 18      |
| 14                                  | 80                   | 36      |
| 15                                  | 50                   | 23      |
| 16                                  | 31                   | 15      |
| 17                                  | 10                   | 4       |
| 18                                  | 7                    | 3       |
| 19                                  | 3                    | 1       |
| <b>Sex</b>                          |                      |         |
| Male                                | 109                  | 48      |
| Female                              | 116                  | 52      |
| <b>Family Monthly Income</b>        |                      |         |
| Less than PhP7,890                  | 79                   | 35      |
| Between PhP7,890 to PhP15,780       | 43                   | 19      |
| Between PhP15,780 to PhP31,560      | 94                   | 41      |
| Between PhP31,560 to PhP 78,900     | 9                    | 5       |
| <b>Type of Residence</b>            |                      |         |
| Rural                               | 32                   | 14      |
| Urban                               | 96                   | 42      |
| Urban Slum                          | 97                   | 44      |
| <b>Practice of Personal Hygiene</b> |                      |         |
| Satisfactory                        | 40                   | 18      |
| Moderately Satisfactory             | 109                  | 49      |
| Unsatisfactory                      | 76                   | 33      |

**Age.** Table-1 shows that the age of the participants ranges from 13 to 19 years old. Most of them are 14 years old while the least are 19 years old. Considering the present educational system in the Philippines, where most children start going to school at five years old, it can be inferred that most of the participants are of the ideal age in their current grade level.

The age group of the participants indicate that they are in the adolescent stage. Being in the adolescent stage implies that they are in the process of resolving the crisis between identity and self-diffusion, based on Erikson’s Psychosocial Theory. That is, an individual tries to explore his or her personality, capacities, and abilities to finally decide what he or she would pursue in his or her later age (Crain, 2000). According to Kellough and Kellough (2008), significant increases in height, weight, and internal organ size as well as changes in skeletal and muscular systems happen at this stage of life. Puberty likewise commences at this stage. Puberty, a phase of physiological change triggered by the release of hormones, begins in early adolescence (Manning & Bucher, 2012). The onset of puberty is an intense developmental period with hormones signaling the development of primary sex characteristics (genitalia) and secondary sex characteristics (e.g., breast development in girls; facial hair in boys). Girls tend to mature one to two years earlier than boys (Caissy, 2002). The increased adrenal hormone production affects skeletal growth, hair production, and skin changes (Dahl, 2004). These highly visible changes and disparate rates of maturity cause many young adolescents to feel uncomfortable about differences in their physical development (Simmons & Blyth, 2008).

**Sex.** Results of this research show that there are more females (52%) than males (48%) who participated in the study. The small difference between the number of males and females, however, is an indication that having a skin disorder is a common condition that is experienced by both sexes.

**Family monthly income.** The Philippine Statistics Authority, as cited by Albert *et al.*, (2015), classified Filipino families into classes according to their monthly family income upon conducting a family income and expenditure survey (FIES). Based from that classification results, this research shows that almost half (41%) came from a low middle income family class (income ranges from PhP15,780 to PhP31,560) while five percent of them are from a high middle income family class (income ranges from PhP31,560 to PhP 78,900). It cannot be disregarded, however, that a large group of the research participants fall in the poor (35%) and low income (41%) classes of Filipino families.

**Type of Residence**

A little less than half of the participants (44%) live in urban slum areas while the least (14%) live in the rural type of residences.

Such a result concurs with the fact that the school is located in an urban area and the result that the majority of the participants came from either poor or

low income earning families. According to Aghnihotri (2014), poor and low income earners can be commonly found living in slum urban areas because of the low costs of housing and living therein.

**Practice of Personal Hygiene.**

Further analysis of the profile of the participants reveals that almost half of the participants moderately practice proper personal hygiene. It can be noted, as well, that one third of the participants have poor personal hygienic practices.

According to betterhealth.gov.au (2014), one of the most effective ways we have to protect ourselves and others from illness is good personal hygiene. This statement is supported by the study of Talukdar and Baruah (2015) wherein they reported that most of the skin diseases they identified were found to be in their participants who practice poor personal hygiene.

**Skin Disorders Present among the Participants**

Trained healthcare practitioners assessed each patient to diagnose what kind of skin disorder they had. As shown in Table 2, each identified disorder was categorized as either infectious or non-infectious diseases. The distribution of the participants to each disease was likewise depicted.

**Table-2. Pattern of Skin Disorder among the Participants**

| Pattern of Skin Disorder                | Frequency (n=225) | Percentage |
|---|-------------------|------------|
| <b>Infectious Dermatoses (n=143)</b>    |                   |            |
| Tinea                                   | 50                | 22         |
| Scabies                                 | 52                | 23         |
| Folliculitis                            | 17                | 8          |
| Boils                                   | 8                 | 3          |
| Pediculosis                             | 16                | 7          |
| <b>Non-infectious Dermatoses (n=82)</b> |                   |            |
| Acne                                    | 60                | 26         |
| Eczema                                  | 13                | 6          |
| Dermatitis                              | 4                 | 2          |
| Insect Bite                             | 1                 | 1          |
| Urticaria                               | 4                 | 2          |

As what has been shown in Table-2, more than half of the participants have infectious skin disorders while there are still a great number of them who have non-infectious dermatoses. The leading infectious skin disorder experienced by the participants is scabies (23%), followed by tinea (22%), while the least is boils (3%). On the other hand, acne is diagnosed among the majority of the participants (60%) in terms of non-infectious skin disorder while the least (1%) is insect bite.

It can be discerned in the findings that the participants' type of residence and practice of personal hygiene have an impact on the kind of skin disorder the majority of them have. Infectious skin disorders, including scabies and tinea, are commonly observed among people residing in slum areas (Vlok, 2016). This is because overcrowding in slum areas make people lose their motivation to keep a beautiful and healthful environment thus; making their standard of hygiene poor. Because of one's constant exposure to people milling around the overcrowded space and the poor hygienic practices therein, transmission of various kinds of infection is more likely to occur as compared to those living in rural and urban areas.

Acne, on the other hand, as the top non-infectious skin disorder observed among the participants, can be attributed to the participants' age. According to the Child Development Institute (2015), acne is one of the most common problems in adolescent teens. This condition usually begins with the onset of puberty wherein androgens also called male sex hormones are produced in high number leading to sebaceous glands becoming over active which results in sebum being produced in high proportions. Sebum, which is nothing but oil, is produced by sebaceous glands which travel to the skin surface through hair follicles. The skin cells, however, block the follicles which results in oil also being blocked. When these hair follicles are blocked, it results in the development of skin bacteria known as Propionibacterium Acnes within the follicles which in turn results in swelling of the skin called acne.

**Level of Knowledge**

In order to determine the level of awareness of the participants on the skin disorders, they were asked to answer a set of questions focusing on the nature of skin disorder, treatment of skin disorder, and prevention on the occurrence of the skin disorder. Table 3 summarizes the findings on this part of the study.

**Table-3. Participants’ level of knowledge on skin disorders**

| KNOWLEDGE AREA                                    | Percentage of Correct Responses (%) | Interpretation            |
|---|-------------------------------------|---------------------------|
| Nature of Skin Disorder                           | 47.56                               | with low knowledge        |
| Treatment of Skin Disorder                        | 40.5                                | with low knowledge        |
| Prevention on the Occurrence of the Skin Disorder | 57.8                                | with average knowledge    |
| <b>MEAN PERCENTAGE SCORE</b>                      | <b>48.62</b>                        | <b>WITH LOW KNOWLEDGE</b> |

Scale: 75% and above - ‘high knowledge’  
 51-74% - ‘average knowledge’  
 50% and below - ‘low knowledge’

The percentage of participants who had correct answer on each knowledge area on skin disorders is shown in the table above. Based from the findings, the participants have average knowledge on preventing the occurrence of skin disorders, as shown by the mean percentage score of 57.8. Meanwhile, it can be seen on the table that the participants have low knowledge on the nature and treatment of their skin disorders. The foregoing findings reveal that the participants generally

have low knowledge on the skin disorder that they are currently experiencing.

The participants’ low knowledge on their skin disorder revolves on the myths and misconceptions pertaining to it. Validating their responses in an interview reveals that the presence of skin disorders among them are due to the wrong treatment and practices which they have been doing as advised by their elders and false doctors. Also, it is fascinating to note that some of the participants attribute their skin disorders to the wrath of some supernatural beings such as those that they call as *nuno* (old man at the mound), *duwende* (elf), and *maligno* (evil creature). Such suggests that their misconceptions be corrected.

**Effectiveness of the *Kilatis Kutis* Strategy**

The effectiveness of the “*Kilatis Kutis*” strategy was done by assessing the outcome of the two months continuous treatment of the participants’ skin disorder using the same score sheet in the preliminary screening and asking the participants to answer the same questionnaire used in assessing their knowledge on the nature, treatment, and prevention of common skin diseases. The result of the evaluation for the curative and preventive aspects (the post-test) was compared to the score they gathered in the preliminary screening and knowledge assessment on skin diseases, respectively (the pre-test). Statistical comparison of the results was done by subjecting the data to t-test

**Table -4. Difference on the participants’ skin condition and knowledge on skin diseases before and after the “*Kilatis Kutis*” strategy**

| PARAMETER                     | PRE-TEST |                | POST-TEST |                | p-value*                 |
|-------------------------------|----------|----------------|-----------|----------------|--------------------------|
|                               | Mean     | Interpretation | Mean      | Interpretation |                          |
| Severity of the Skin Disorder | 8.35     | Very Serious   | 5.43      | Serious        | $7.45 \times 10^{-9}$ ** |
| Knowledge on Skin Diseases    | 48.62    | Low Knowledge  | 69.87     | High Knowledge | $1.12 \times 10^{-7}$ ** |

\*df = 224

\*\*significant at 0.05 level

Table -4 shows that the mean score of 5.43 (interpreted as ‘serious’) was achieved by the participants upon evaluating the outcome of the medical treatment prescribed to treat their skin condition. Comparing it to the mean value of 8.35 (interpreted as ‘very serious’), the result implies that the participants’ skin condition is improved after the two-month period of treatment. Such finding is apparently support by the p-value ( $7.45 \times 10^{-9}$ ), which reveals that there is a very

big significant difference on the mean scores in the pre-test and post-test.

With regard to the participants’ level of knowledge on skin diseases, the overall mean of 69.87 is yielded, which indicates that their knowledge on skin diseases become higher after the “*Kilatis Kutis*” campaign. Such inference arises after comparing the said mean to the mean score in the pre-test (49.5,

interpreted as 'low knowledge'). Additionally, statistical comparison of these means yields the p-value of  $1.12 \times 10^{-7}$ , an indication that the difference between the means in the pre-test and post-test are highly significant with each other.

### CONCLUSION

Based from the results obtained in the study, the following conclusions were formulated: Most of the participants are 14 years old, female, and belonging to high middle income earning families. Majority of them live in urban slum areas practicing moderately satisfactory personal hygiene. Majority of the participants have infectious skin disorders having scabies with the most number of frequency. Acne is found to be experienced by the majority of the majority of the participants with non-infectious dermatosis. The participants generally have low knowledge on skin disorders, particularly on its nature and treatment. The 'Kilatis Kutis' strategy conducted was found to be effective in curing the skin disorders of the participants and raising their knowledge on the said disorders.

### ACKNOWLEDGEMENT

The author would like to thank every individual who, in one way or another, extended their help and assistance which lead to the completion of this research.

### REFERENCES

1. Albert, J. R., R. Gaspar, and M. J. Raymundo (2015). Who are the middle class?. Retrieved on 21 September 2017 from <http://www.rappler.com/thought-leaders/98624-who-are-middle-class>
2. Agnihotri, P. (2014). Poverty amidst prosperity: a survey of slum areas. *New Delhi: M. D. Publications.*
3. Crain, W. (2000). Theories of development: concepts and application. Prentice-Hall, Inc. New Jersey, USA. pp. 271-294.
4. Caissy, G. A. (2002). *Early adolescents: Understanding the 10 to 15 year olds* (2nd ed.). Boston, MA: Da Capo Press.
5. Child Development Institute. (2015). Acne in adolescents. Retrieved from <https://childdevelopmentinfo.com/child-teen-health/diseases-conditions/acne-in-adolescents/> on 21 September 2017.
6. R. E. (2004). Adolescent brain development: A period of vulnerabilities and opportunities. Keynote address. In R. E. Dahl & L. P. Spear (Eds.), *Annals of The New York Academy of Sciences: Vol. 1021. Adolescent brain development: Period of vulnerabilities and opportunities* (pp. 1-22). New York, NY: The New York Academy of Sciences.
7. Kellough, R. D., & Kellough, N. G. (2008). *Teaching young adolescents: Methods and resources for middle grades teaching* (5th ed.). Upper Saddle River, NJ: Pearson Merrill Prentice Hall.
8. Laniauskaitė, I., Ožalinskaitė, A., Strupaitė, R., & Bylaitė, M. (2011). Skin cancer knowledge, attitude and behavior towards sun exposure among young adults in Lithuania. *Our Dermatology Online*, 2(4), 189-195.
9. Manning, M. L., & Bucher, K. T. (2012). *Teaching in the middle school* (4th ed.). Upper Saddle River, NJ: Pearson.
10. Personal Hygiene. (2014). Retrieved from <https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/personal-hygiene> on 21 September 2017.
11. Philippine Information Agency. (2010). DOH sustains advocacy towards leprosy-free Philippines. Retrieved from <http://archives.pia.gov.ph/?m=12&sec=reader&rp=6&fi=p100206.htm&no=54&date> on 22 September 2017
12. Simmons, R., & Blyth, D. (2008). Moving into adolescence: The impact of pubertal change and the school context. New York, NY: Aldine Transaction.
13. Talukdar K, Baruah R. Prevalence of Skin Infection and Personal Hygiene Practices Amongst Primary.