



Determinants of Health Status of Female Undergraduates of a University in North Central Nigeria

R. L. Abubakar¹, J. F. James¹ and N. C. Eze^{2*}

¹*Department of Health Promotion and Environmental Health Education, University of Ilorin, Ilorin, Nigeria.*

²*Department of Public Health, Federal Ministry of Health Abuja, Nigeria.*

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Background: Health status is an individual's relative level of wellness and illness, taking into account the presence of biological or physiological dysfunction, symptoms, and functional impairment. Demographic factors are socio-economic characteristics of a population expressed as educational status, economic status, cultural and religious background, age, gender, marital status, occupation, birth and death rates and family size. Demographic factors seem to have influenced the health status of female undergraduates in University of Ilorin resulting in various health problems, which ultimately have its toll on their academic performance. This study therefore examined demographic factors as determinants of health status of female undergraduates of University of Ilorin.

Materials and Methods: Descriptive cross-sectional design was employed for this study. Multi-stage sampling techniques consisting of stratified, simple random, and systematic sampling techniques were used to select 200 respondents. At first, Faculties were selected by stratified sampling. Departments were selected by simple random sampling while students were selected by

*Corresponding author: E-mail: ezenelson24@gmail.com;

systematic random sampling technique. Self-administered semi-structured questionnaire validated by three experts in the Department of Health Promotion and Environmental Health Education was used for data collection. Data collected were analyzed using Statistical Package for Social Sciences (SPSS) version 20. Descriptive statistics were expressed as mean and standard deviation while frequency and percentage were expressed as proportion. Chi-square test was used to test the hypotheses at 0.05 significance level. Ethical approval was obtained from the Research and Ethics Committee (REC) of the University of Ilorin, Ilorin Nigeria.

Results: The mean age of respondents was 23.42±3.5 years. Socio-economic status, educational, cultural and religious background of parents were significant determinants of health status of female undergraduates.

Conclusion: Although, parents' socio-economic, educational, cultural and religious background were significant determinant factors of health status of female undergraduates in the study area, it is recommended that healthy lifestyle practices and programs be included in school curriculum so as to improve the health status of female undergraduates. Government should also invest in strategic thinking, planning and programming to address the determinants of health in the long term and the risk reduction programs aimed at reduction of disease burden among female students.

Keywords: Demographic factors; determinants; health status; female undergraduates.

1. INTRODUCTION

Health is the presence or absence of disease and the extent to which the condition affects the person's normal life (quality of life) [1]. Health as suggested goes beyond the mere avoidance of disease and extend to how one feels and functions physically, mentally and socially [2]. The WHO added to the initial definition that any measure of health must take into account "the extent to which an individuals or group is able to realize aspiration and satisfying needs and to change or cope with the environment [3]. Health is intrinsically tied to people's sense of well-being and therefore occupies a higher order of meaning in people's lives [4].

Health status is an individual's relative level of wellness and illness, taking into account the presence of biological or physiological dysfunction, symptoms, and functional impairment. Health perceptions (or perceived health status) are subjective ratings by the affected individual of his or her health status. Some people perceived themselves as healthy despite suffering from one or more chronic diseases, while others perceived themselves as ill when no objective evidence of disease can be found [5].

Demographic factors are individual characteristics such as location, gender, age, economic status, educational status, marital status, occupation, religion, birth rate, death rate and size of the family which have the capability to either influence positively or negatively on academic of undergraduate students [6]. Some

students are ready to learn irrespective of the difficulty they may pass through and while there are others who learn under conducive atmosphere [7].

These variables basically distinguished people according to their status [8]. They seem to have influenced the health status of female undergraduates in University of Ilorin resulting in various health problems, which ultimately have its toll on their academic performance. This study therefore examined demographic factors as determinants of health status of female undergraduates of the University.

2. MATERIALS AND METHODS

Descriptive cross-sectional design was employed for this study. Study population comprises all female undergraduates in the University.

A minimum sample size of 200 was calculated using Cochran's formula $n = Z^2pq/d^2$.

Multi-stage sampling techniques consisting of stratified, simple random and systematic sampling technique were used to select respondents. At first, Faculties were selected by stratified sampling. Departments were selected by simple random sampling while students were selected by systematic random sampling technique. A pretested semi-structured self-administered questionnaire validated by three expert in the Department of Health Promotion and Environmental Health Education was used for data collection. Likert rating scale of Strongly Agree (SA) Agree (A) Disagree (D) Strongly

Disagree (SD) questions were used for this study. Data were entered and analyzed using Statistical Package for Social Sciences (SPSS) version 20. Chi-squared test was used to determine association or differences between proportion of the variables and the statistical significance was determined by comparing the calculated Chi-squared value with the critical value. Descriptive statistics were expressed as mean and standard deviation while frequencies and proportions were tabulated accordingly.

3. RESULTS

Table 1 showed that the mean age of respondents was 23.42 ± 3.5 years. More respondents (24.5% each) between the ages of 22-26 years mostly from Faculty of Education and Engineering participated in the study.

Table 2 showed that the calculated Chi squared (χ^2) value was 280.9 while the critical value was 16.9 at degree of freedom of 9. Since the calculated Chi squared (χ^2) value (280.9) was greater than the critical value (16.9), the null hypothesis was rejected. Therefore, socio-economic status of parents significantly determined the health status of female undergraduate students.

Table 3 showed that the calculated Chi squared (χ^2) value was 204.8 while the critical value was 16.9 at degree of freedom of 9. Therefore, educational status of parents significantly determined the health status of female undergraduates.

Table 4 above showed that the calculated Chi squared (χ^2) was 164.3 while the critical value was 16.9 at degree of freedom of 9. Therefore, cultural background of parents significantly determined the health status of female undergraduates.

Table 5 below showed that the calculated Chi squared (χ^2) value was 287.6 while the critical value was 16.9 with degree of freedom of 9. Hence, religious background of parents significantly determined the health status of female undergraduates.

4. DISCUSSION

Demographic finding in this study showed that socio-economic status of parents significantly determined the health status of female undergraduates in the University. This result is in agreement with another study in America [9] which revealed that socio-economic status indicates one's access to collectively desired resources, be they material goods, money, power, friendship, networks, healthcare, leisure time, or educational opportunities. This finding is also supported by that in United Kingdom where the interplay of income status and social support have both direct and indirect effect on health [10]. It also reported that unhealthy dietary habit was the second strongest factor after reproductive health accounting for socio-economic differences in obesity among female undergraduates leading to high mortality and economic loss in the country.

Table 1. Distribution of respondents by faculties and socio-demographic profile (N=200)

| S/N | Faculty | Frequency | Percentage (%) |
|-----|--------------------------|-----------|----------------|
| 1 | Arts | 23 | 11.5 |
| 2 | Education | 49 | 24.5 |
| 3 | Physical Sciences | 47 | 23.5 |
| 4 | Engineering & Technology | 49 | 24.5 |
| 5 | Social Sciences | 32 | 16.0 |
| S/N | Level | | |
| 1 | 100L | 41 | 20.5 |
| 2 | 200L | 68 | 34.0 |
| 3 | 300L | 44 | 22.0 |
| 4 | 400L | 32 | 16.0 |
| 5 | 500L | 15 | 7.5 |
| S/N | Age range | | |
| 1 | 17-21 years | 41 | 20.5 |
| 2 | 22-26 years | 87 | 43.5 |
| 3 | 27-31 years | 62 | 31.0 |
| 4 | 32 years and above | 10 | 5.0 |

Mean age of respondents was 23.42 ± 3.5 years

Table 2. Chi squared analysis on socio-economic status as a determinant of health status

| S/N | Items | SA | A | D | SD | Row total | DF | CAL χ^2 | CRIT. value | REM |
|-----|---|----------------|---------------|---------------|---------------|-----------|----|--------------|-------------|-----------------------------------|
| 1 | Parent with low income cannot care for their children health needs, therefore endanger their health lives | 92 (46.0%) | 22 (11.0%) | 30 (15.0%) | 56 (28.0%) | 200 | | | | |
| 2 | Students with poor parents lack basic nutritious diet and thus have malnutrition problem | 103 (51.5%) | 52 (26.0%) | 22 (11.0%) | 23 (11.5%) | 200 | | | | |
| 3 | Students whose parents are low income earners lack financial support to attend hospitals when sick | 101 (50.5%) | 46 (23.0%) | 28 (14.0%) | 25 (12.5%) | 200 | 9 | 280.1 | 16.9 | H₀ Rejected |
| 4 | Parents low income status affects the health of their children by restricting their ability to pay for gymnasium for regular exercise | 90 (45.0%) | 60 (30.0%) | 28 (14.0%) | 22 (11.0%) | 200 | | | | |

Table 3. Chi squared analysis on educational status of parents as a determinant of health status

| S/N | Items | SA | A | D | SD | Row total | DF | CAL χ^2 | CRIT. value | REM |
|-----|---|---------------|---------------|---------------|---------------|-----------|----|--------------|-------------|-----------------------------------|
| 5 | Parents with higher education are more open to new ideas which will help modify their children health status by taking prompt action on their sickness or illness | 76 (38.0%) | 53 (26.5%) | 29 (14.5%) | 42 (21.0%) | 200 | | | | |
| 6 | Parents level of education influences both accessibility to information and ability to process new information about health | 99 (49.5%) | 46 (23.0%) | 39 (19.5%) | 16 (8.0%) | 200 | | | | |
| 7 | Obesity is more common among female undergraduates whose parent have low education than those with higher education status | 82 (41.0%) | 67 (33.5%) | 28 (14.0%) | 23 (11.5%) | 200 | 9 | 204.8 | 16.9 | H₀ Rejected |
| 8 | Students whose parent have low education are often physically inactive than those with higher education | 89 (44.5%) | 56 (28.0%) | 39 (19.5%) | 16 (8.0%) | 200 | | | | |

Table 4. Chi squared analysis on cultural background of parents as a determinant of health status

| S/N | Items | SA | A | D | SD | Row total | DF | CAL χ^2 | CRIT. value | REM |
|-----|---|----------------|---------------|---------------|---------------|-----------|----|--------------|-------------|-----------------------------------|
| 9 | Prohibition of foods like egg and meat to children for fear that they will become thieves is causing prevalence of kwashiorkor | 106 (53.0%) | 32 (16.0%) | 40 (20.0%) | 22 (11.0%) | 200 | | | | |
| 10 | Unhealthy and early marriage practices as a cultural practice could lead to vesico-vaginal Fistula | 93 (46.5%) | 52 (26.0%) | 36 (18.0%) | 19 (9.5%) | 200 | | | | |
| 11 | Scarification and tribal marks of female students often put stigma on them and they are seeing as outcast and thus keep them moody always which affect their health | 58 (29.0%) | 62 (31.0%) | 53 (26.5%) | 27 (13.5%) | 200 | 9 | 164.3 | 16.9 | H₀ Rejected |
| 12 | Female circumcision could lead to serious infection on students thus affecting their health status | 51 (25.5%) | 57 (28.3%) | 50 (25.0%) | 42 (21.0%) | 200 | | | | |

Table 5. Chi squared analysis on religious background of parents as a determinant of health status

| S/N | Items | SA | A | D | SD | Row total | DF | CAL χ^2 | CRIT. value | REM |
|-----|---|----------------|---------------|---------------|---------------|-----------|----|--------------|-------------|-----------------------------------|
| 13 | Islam view women participation in sports as anti-religious because the sportswear are smart looking could be offensive , thus make them live a sedentary life | 88 (44.0%) | 22 (11.0%) | 30 (15.0%) | 60 (30.0%) | 200 | | | | |
| 14 | Prohibition of eating of pork meat by some religious group despite its nutritional value denies them certain nutrient | 109 (54.5%) | 46 (23.0%) | 23 (11.5%) | 22 (11.0%) | 200 | | | | |
| 15 | Some religious teaching is against HIV counselling and testing because it is perceived as misleading to the society | 95 (47.5%) | 49 (24.5%) | 32 (16.0%) | 24 (12.0%) | 200 | 9 | 287.6 | 16.9 | H₀ Rejected |
| 16 | Sex education is prohibited in some religion because is seen as promoting promiscuity | 98 (49.0%) | 53 (26.5%) | 26 (13.0%) | 23 (11.5%) | 200 | | | | |

Educational status of parents was equally found to be a significant determinant of the health status of these female undergraduates. This corroborates the finding elsewhere in UK which showed that one's level of education influences both accessibility to information and the ability to process new information; thus individual with a higher level of education often better understand the nature of new technology and its risks. In general, individuals with a higher education are more open to new ideas, which help to modify their lifestyle and health status [11]. A similar study in Sweden also reported that obesity was more common among female undergraduate whose parents have low education than students with higher education. Also, healthful status differed considerably between the educational levels. Those parents with low education were more often physically inactive, heavy smokers, used more often alcohol and had unhealthy dietary attitudes than those with higher education. The study also shows that those with middle level education were however, more often heavy alcohol users, smoke and had unhealthy dietary attitudes (among men) than those with low education [12].

It was also found in this study that parental cultural background significantly determined the health status of female undergraduate students. This finding supported the assertion by WHO that the cultural practices of people not only affect their health but other aspects of life including social relationships, contribution to societal functioning and disease condition [3]. Other studies reported that the way of lives of people can determine their development over time as compared to global growth and societal development [13,14].

Parental religious background was also found to be a significant determinant of health status of female undergraduate students in this study. This finding is in contrast with that found in United States of America where religious variables such as affiliation and attendance correlated positively with alcohol abuse and good social support [15].

5. CONCLUSIONS

Although, parents' socio-economic, educational, cultural and religious background were significant determinant factors of health status of female undergraduates in the study area, it is recommended that healthy lifestyle practices and programs be included in school curriculum so as to improve the health status of female

undergraduates. Government should also invest in strategic thinking, planning and programming to address the determinants of health in the long term and the risk reduction programs aimed at reduction of disease burden among female students.

CONSENT

Consent was obtained from the respondents before data collection.

ETHICAL APPROVAL

Ethical approval was obtained from the Research and Ethics Committee (REC) of the University of Ilorin, Ilorin Nigeria.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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QUESTIONNAIRE ON DEMOGRAPHIC FACTORS AS A DETERMINANT OF HEALTH STATUS OF FEMALE UNDERGRADUATES OF UNIVERSITY OF ILORIN

Dear Respondent,

This questionnaire is designed to obtain information on the 'Demographic factors as a determinants of health status of female undergraduates of University of Ilorin'. You are therefore required to complete it appropriately. All information supplied will be kept confidential and used for the research purpose only. Thank you for your time.

Instruction: Please tick (√) where appropriate to you

I am willing to participate in the study ()

I am not willing to participate in the study ()

SECTION A: DEMOGRAPHIC INFORMATION

Instruction: please tick (√) where appropriate

1. **Faculty:** (a) Arts (); (b) Education (); (c) Physical Science ()
(d) Engr. & Tech (); (e) Social Science ()
2. **Level:** (a) 100 L (); (b) 200 L (); (c) 300 L (); (d) 400 L (); (e) 500 L ()
3. **Age Range:** (a) 17-19years old (); (b) 20-23 years old ();
(c) 24-27years old (); (d) 28 years old and above ()

SECTION B

Instruction: Please indicate the extent to which you agree with the following statements:

Key: Strongly Agreed-SA, Agreed-A, Disagreed-D, Strongly disagreed-SD.

| S/N | ITEM | SA | A | D | SD |
|----------|--|----|---|---|----|
| A | Socioeconomic status and health status | | | | |
| 1. | Parents with low income cannot care for their children health needs, therefore endanger their health lives. | | | | |
| 2. | Students with poor parent lack basic nutritious diets and thus have malnutrition problem | | | | |
| 3. | Students whose parents are low income earners lack financial support to attend hospital when sick | | | | |
| 4. | Parents low income status affects the health of their children by restricting their ability to pay for gymnasium for regular exercises. | | | | |
| B | Educational status and health status | | | | |
| 5. | Parents with higher education are more open to new ideas, which help to modify their children's health status by taking prompt action on their sickness or illness | | | | |
| 6. | Parents' level of education influence both accessibility to information and ability to process new information about health | | | | |
| 7. | Obesity is more common among female undergraduates whose their parents have low education than those with higher education status | | | | |
| 8. | Students whose parents have low education are often physically inactive than those with higher education. | | | | |

| S/N | ITEM | SA | A | D | SD |
|----------|--|----|---|---|----|
| C | Cultural background and health status | | | | |
| 9. | Prohibition of foods like egg and meat to children for fear that they will become thieves is causing prevalence of kwashiorkor | | | | |
| 10. | Unhealthy and early marriage practices as a cultural practice could lead to vesico-vaginal fistula (VVF) | | | | |
| 11. | Scarification and tribal marks on female students often put stigma on them as they are seeing as outcast and thus keep them moody always, which affect their health | | | | |
| 12. | Female circumcision could lead to serious infection on the students thus affecting their health status | | | | |
| D | Religious background and health status | | | | |
| 13. | Islam views women participation in sports as anti-religious because the sports wears that are smart looking could be offensive, thus make them live a sedentary life | | | | |
| 14. | Prohibition of eating of pork meat by some religious group despite its nutritional value denies them certain nutrients. | | | | |
| 15. | Some religious teaching is against HIV counseling and testing because it is perceived as misleading to the society. | | | | |
| 16. | Sex education is prohibited in some religion because it is seen as promoting promiscuity | | | | |

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