Background information

Nigeria

Nigeria is the most populous nation in Africa with an estimated population of over 130 million. The country is located in West Africa. It has abundant natural and mineral resources. However, petroleum has been the mainstay of foreign exchange in the Nigeria. It is the fourth largest producer of oil and one of the most ethnically diverse populations in the world, with more than 380 distinct ethnic groups. It is often called the giant of Africa.

Wesley School for the Deaf, Lagos, Nigeria

The Wesley School for the deaf was named after the founding father of the Methodist Church. The education for the hearing-impaired started in Lagos State in 1956. It is the only government-owned Primary school for the hearing-impaired in Lagos State. Graduates from the primary school can go to a secondary school for the hearing-impaired and those who cannot cope learn vocational skills.

Mainstream Primary School: Onitolo Primary School

This is a Public Primary School that was founded in 1958. It is a day school with 245 pupils. It has 120 boys and 125 girls. It has primary 1-6. The entry level into primary one is five years.

Methods

• Comparative, Quantitative, and Analytic Study
• The total population of 141 that fitted into the inclusion criteria was studied.
• Inclusion Criteria for the hearing-impaired
• Any Pupil that is deaf and is between 6-21 years as at last birthday.
• Exclusion Criteria for the hearing-impaired
• Any Pupil that is not between 6-21 years as at last birthday.
• Any pupil that has other disabilities affecting any of the other senses.
• Inclusion Criteria for the non-hearing-impaired
• Any pupil that is between 6-21 years old as at last birthday.
• Ethical issues
• Permission to proceed on data collection was granted via the Lagos University Teaching Hospital Ethical Committee.
• Data Collection
• Onitolo Primary School was selected by simple random sampling from a comprehensive list of all the primary schools in Sunrider Local Government, Lagos State (because the two schools are from Sunrider Local Government).

Instrument of data collection

This consisted of an open-ended questionnaire and a set of matrices divided into five sets (A,B,C,D,E) of 12 items each. Each test item consisted of a pattern of a part had been removed. The subject would try and fit the missing design from the choices given. This test increased with difficulty as one approached the last item. This test is verbal in nature and has no time limits. The test was done in the classroom and the sits were spaced to avoid the students helping one another. In the Wesley School, the teachers were able to instruct their pupils through sign language. The tests were scored between 1-60. Sixty was the highest obtainable score and zero was the lowest obtainable score.

Data analysis and interpretation

Data was analysed using EPI INFO Version 6. Raw data was coded and input into a computer by the Principal investigator. Errors in the data entry were then cleared. Tests of associations were done by a biostatistician. The non-response was not included in the data analysis. Kruskal-Wallis was used to test for association for data that was not normally distributed. Variables that were found to be statistically related to performance in the bivariate analysis of all the variables were included in the multiple regression analysis. These selected variables were 0.05 and below for t-test. Statistical association using Chi-square was used to test for associations between categorical variables. Correlation Coefficient was used to examine linear relationship between selected independent variables.

Multiple linear regression analysis was used to examine which variables were significant predictors of performance taking possible confounders into consideration. Bivariate analysis was not done on data because it is not a continuous variable but it was included in the multiple regression analysis because there was a statistically significant difference in the mean scores between the sexes.

Results

Table 1: Number of respondents in each school

<table>
<thead>
<tr>
<th>School</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wesley</td>
<td>141</td>
<td>96.7</td>
</tr>
<tr>
<td>Onitolo</td>
<td>16</td>
<td>53.3</td>
</tr>
<tr>
<td>Total</td>
<td>157</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Recommendations

1.) There should be an advocacy for increased educational opportunities for children with hearing-impairments at all levels of education, to be able to achieve the same levels of education as children that do not have hearing-impairment in mainstream schools.
2.) Special teachers should be provided in secondary schools for all subjects.
3.) Parents, especially females should be taught at every contact they have with the health personnel, the importance of immunization against communicable diseases and on the effects of abuse of drugs containing amino acids that are nephrotoxic and orthotoxic.
4.) Early diagnosis should be made of hearing-impaired children especially when it is congenital so that the parents and children can quickly learn non-verbal means of communication and other language skills.
5.) The highest score on the Matrices was from the Wesley School for the Deaf. This exceptional child should be encouraged for further educational opportunities.

Conclusion

There is no difference between the cognitive function of the hearing-impaired and the non-hearing-impaired. The highest mean score were from respondents from primary six classes in the two primary schools.

Using linear regression, sex and class (in primary school) were found to be determinants of performance on the Modified Matrices. It was also noted that the age the child became deaf was not a determinant of performance on the Modified Matrices even though children who were deaf by their first year of life had higher mean scores. Children of skilled parents scored highest on the Modified Matrices.