REPORT ON DATA VISUALIZATION

SUBMITTED BY

MICHAEL ADEWOYE
(22301115)

DIGITAL HEALTH
Masters of Global Public Health

Data visualization on Fertility rate in Nigeria

There is a great debate in Nigeria concerning the population of the country, official censors holds that the majority Muslim political North of the country is ever so slightly more populous than the mixed religious south. This has ensured that since independence, only candidates who have the support of the North ends up ruling the country.

I picked the fertility data on Nigeria because amongst other factors, fertility rate can be a useful tool to see population trends, where there is population decline, low fertility rates is usually one of the causes and vice versa.

To put this into perspective, I downloaded the fertility data for Nigeria from the health data website. While this data holds a lot of information, I chose to look at fertility rates and compare across states.

To visualize the data, I created a shiny app in R following the steps highlighted below:

1. Sourcing of data from Global Health Data Exchange
2. Installation of necessary library/packages mainly – "shiny", "ggplot2", "readxl", "dyplr" and "rsconnect".
3. Importation of my data into R using the readxl library
4. Cleaning of the imported data using commands within the "dyplr" library to remove repeat data, NA (not applicable) data, removing white spaces from location names to improve legibility and presentation within the app
5. Building of the shiny app UI interface
6. Plotting of my data of interest which in this case is fertility rate across locations within Nigeria, these locations are labeled as the 36 states of Nigeria. I opted for the geom point function of the "ggplot2" library to plot the scatter plot as this enabled me to plot sample size against location, the more the sample size, the more points.
7. My shiny app was rendered with a drop menu that allows for multiple selections of locations (States) and by merely glancing at the generated chat, it is easy to see the location with the most fertility rate and unsurprisingly they are found in the north of the country.
8. I created an account on shinyapps.io where I was assigned a URL that enabled me to publish my_shiny_app online.

Links

Shiny app: https://micdmj.shinyapps.io/Fertility_Nigeria/

Github: https://github.com/24W-DGPH/micdmjDigitalHealth

Conclusion

While the data points used cannot conclusively determine why the North of Nigeria is listed to be more populous than the south, the plotting of fertility rate against location and the comparison of locations shows that overall the states in the Northern region or political North of Nigeria, collectively has a higher fertility rate than the states in Nigeria's political south.

References

Nigeria Bureau of Statistics: https://nigeria.opendataforafrica.org/xlomyad/population-distribution-by-age-2006

Nigeria Open Data Portal: https://nigeria.opendataforafrica.org/bapijf/total-population

Global Burden of Disease Study 2021 (GBD 2021) Sources Tool | GHDx