



PERCEPTION OF LASSA-FEVER AMONG CIVIL-SERVANTS IN NIGERIA: THE FACTORIAL IMPACT OF AGE, GENDER AND EDUCATIONAL-LEVEL

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Abstract: *The study investigated the perception of Lassa fever among civil servants in Awka Nigeria: The factorial impact of age, gender and educational level. The purpose of the study is to find the differences between gender, educational level, and age on the perception of Lassa fever among civil servants in Awka metropolis. The population of the study comprised of two hundred and two (202) civil servants drawn from across various ministries in Awka, Anambra state. Three research hypotheses were proposed. Self-designed questionnaire on Lassa fever was utilized for the study. The study made use of a 2x3x5 factorial design. This is based on the premise that three independent variables with one of the variables having two levels (Gender-male and female), another having three levels (Age-young, middle and aged) and the last having five levels (Educational level-FSLC, JSCE, SSCE, B.SC and PG).Based on the research design, 3-way analysis of variance was used for the study. Findings of the study indicates that gender ($f= 28.709, p < 0.5$), age ($f= 13.730, p < 0.5$) and educational level ($f= 26.045, p < 0.5$) have significant impact on the perception of Lassa fever by the civil servants in Awka. Based on the findings, the researchers recommends that government should create more awareness on perception of Lassa fever especially among the aged and people within the lower educational level. This will help to eradicate the incidence of Lassa fever in our society.*

Keywords: Perception, Lassa-fever, Civil-Servants, Nigeria, Age, Gender, Educational-Level

INTRODUCTION

Lassa fever is a severe viral disease that occurs in West Africa. It is a disease of the blood, liver and spleen. It is a viral haemorrhagic fever. Lassa fever

was discovered in the year 1969 when two missionary nurses died in Nigeria, West Africa. Though first discovered in the 1950s, the virus causing Lassa disease was not identified until 1969. The cause of the

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illness was found to be Lassa virus, named after the town in Nigeria where the first cases originated. The virus is a single-stranded RNA virus belonging to the virus family Arenaviridae (World Health Organization, WHO, 2016). It was also discovered in Guinea, Liberia, and Sierra Leone.

A growing Lassa fever outbreak in Nigeria has killed 101 people, as West Africa battles to contain a flare up of the virus, according to data from the nation's health authorities. Nigeria Centre for Disease (NCDC) statistics shows that the reported cases of the haemorrhagic disease both confirmed and suspected stood at 175 with a total of 101 deaths since August, 2012. "As at February 2016, 19 states (including Abuja) are currently following up contacts, or have suspected cases with laboratory results pending or laboratory confirmed cases (NCDC, 2016). Deaths from the virus were recorded in the nation's political capital, Abuja, Lagos, and 14 other states. The outbreak of Lassa fever was only announced in January, 2016 months after the first case of the disease happened in August 2012 with subsequent deaths reported in 10 states, including Abuja. In 2015, 12 people died in Nigeria out of 375 infected, while in 2012 there were 1,723 cases and 112 deaths, (NCDC, 2012).

In a study conducted by Zhao, S., Musa, S.S., Fu, H., He, D., Qin, J. (2020), they observed that the major Lassa fever epidemic in Nigeria usually occur between November and May during the dry season. A study in Guinea reported that high indoor populations of *M. natalensis* during the dry season than in wet season might have contributed to the higher outbreaks of LASV during the dry season. *M. natalensis* plays a significant role in the rodent

to human transmission of the LASVA, its high abundance in human dwelling has a direct impact on prevalence. Also, the high reproductive ability of *M. natalensis* is another contributing factor in the spread of LASVA as the rodents can recover its population within few months (26). Human activities such as bush burning which is usually carried out during the dry seasons in the forest and Guinea Savannah regions of Nigeria where rodents are hunted as meats is another factor favouring the higher prevalence of LASV during the dry season. This activity destroys the rodents' habitats and they by encouraging their movement from bushes to human dwelling in search of shelter and food (Abdullahi, Anka,,Ghamba, Onukegbe, Amadu, Salami, 2020).

Germ Theory of Disease

The germ theory of disease states that some diseases are caused by microorganisms. These small organisms, too small to see without magnification, invade humans, animals, and other living hosts. Their growth and reproduction within their hosts can cause a disease. "Germ" which may refer to not just a bacterium but to any type of microorganisms, especially one which causes disease, such as protist, fungus, virus, prion, or viroid (Hosby, 2014). Microorganisms that cause disease are called pathogens, and the diseases they cause are called infectious diseases. Even when a pathogen is the principal cause of a disease, environmental and hereditary factors often influence the severity of the disease, and whether a particular host individual becomes infected when exposed to the pathogen is a big concern to the epidemiologist.



Health Belief Model (HBM)

The health belief model is a psychological health behavior change model developed to explain and predict health-related behaviors, particularly in regard to the uptake of health services (Janz, & Marshall. 1984). The health belief model was developed in the 1950s by social psychologists at the U.S. Public Health Service (Rosenstock, 1974), and remains one of the best known and most widely used theories in

health behavior research (Carpenter, 2010). The health belief model suggests that people's beliefs about health problems, perceived benefits of action and barriers to action and self-efficacy explain engagement (or lack of engagement) in health-promoting behavior (Janz, & Marshall. 1984). A stimulus, or cue to action, must also be present in order to trigger the health-promoting behavior (Janz, & Marshall. 1984).

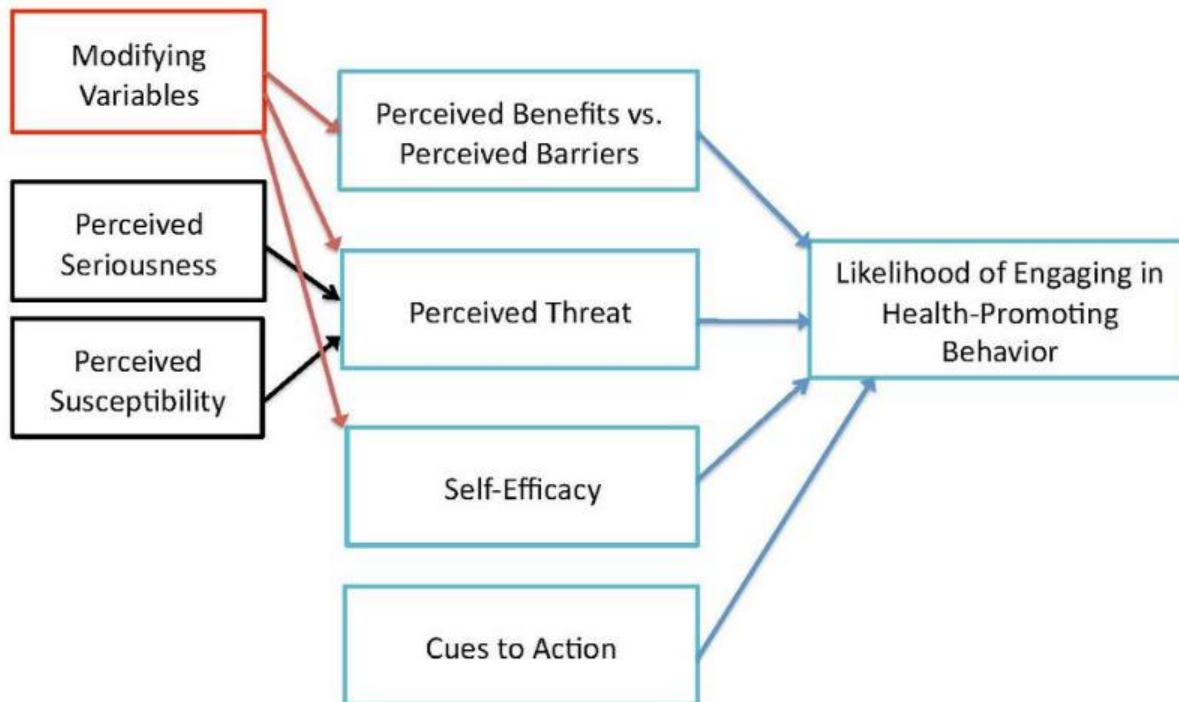


Fig. 1 The health belief model (Janz, & Marshall. 1984).

Theoretical constructs

The following constructs of the health belief model are proposed to vary between individuals and predict engagement in health-related behaviors (e.g., getting vaccinated, getting screened for asymptomatic diseases, and exercising) (Janz, & Marshall. 1984).



Perceived Severity

Perceived severity refers to the subjective assessment of the severity of a health problem and its potential consequences (Glanz, Barbara, Rimer; Viswanath 2008). The health belief model proposes that individuals who perceive a given health problem as serious are more likely to engage in behaviors to prevent the health problem from occurring (or reduce its severity). Perceived seriousness encompasses beliefs about the disease itself (e.g., whether it is life-threatening or may cause disability or pain) as well as broader impacts of the disease of functioning in work and social roles (Glanz, Barbara, Rimer; & Viswanath, 2008). For instance, an individual may perceive that influenza is not medically serious, but if he or she perceives that there would be serious financial consequences as a result of being absent from work for several days, then he or she may perceive influenza to be a particularly serious condition.

Perceived Susceptibility

Perceived susceptibility refers to subjective assessment of risk of developing a health problem (Rosenstock, 1974). The health belief model predicts that individuals who perceive that they are susceptible to a particular health problem will engage in behaviors to reduce their risk of developing the health problem (Rosenstock, 1974). Individuals with low perceived susceptibility may deny that they are at risk for contracting a particular illness (Rosenstock, 1974). Others may acknowledge the possibility that they could develop the illness, but believe it is unlikely (Rosenstock, 1974). Individuals who believe they are at low risk of developing an illness are more likely to engage in unhealthy, or risky, behaviors.

Individuals who perceive a high risk that they will be personally affected by a particular health problem are more likely to engage in behaviors to decrease their risk of developing the condition.

The combination of perceived seriousness and perceived susceptibility is referred to as perceived threat (Glanz, Barbara, Rimer, Viswanath, 2008). Perceived seriousness and perceived susceptibility to a given health condition depend on knowledge about the condition (Rosenstock, 1974). The health belief model predicts that higher perceived threat leads to higher likelihood of engagement in health-promoting behaviors.

The health belief model has gained substantial empirical support since its development in the 1950s (Janz, & Marshall. 1984). It remains one of the most widely used and well-tested models for explaining and predicting health-related behavior (Carpenter, 2010). A 1984 review of 18 prospective and 28 retrospective studies suggests that the evidence for each component of the health belief model is strong. The review reports that empirical support for the health belief model is particularly notable given the diverse populations, health conditions, and health-related behaviors examined and the various study designs and assessment strategies used to evaluate the model. A more recent meta-analysis found strong support for perceived benefits and perceived barriers predicting health-related behaviors, but weak evidence for the predictive power of perceived seriousness and perceived susceptibility (Carpenter, 2010). The authors of the meta-analysis suggest that examination of potential moderated and mediated relationships between components of the model is warranted (Carpenter, 2010).



Applications

The health belief model has been used to develop effective interventions to change health-related behaviors by targeting various aspects of the model's key constructs (Rosenstock, Strecher, Becker, 1988). Interventions based on the health belief model may aim to increase perceived susceptibility to and perceived seriousness of a health condition by providing education about prevalence and incidence of disease, individualized estimates of risk, and information about the consequences of disease (e.g., medical, financial, and social consequences) (Glanz, Barbara & Viswanath, Rimer, 2008).

Interventions may also aim to alter the cost-benefit analysis of engaging in a health-promoting behavior (i.e., increasing perceived benefits and decreasing perceived barriers) by providing information about the efficacy of various behaviors to reduce risk of disease, identifying common perceived barriers, providing incentives to engage in health-promoting behaviors, and engaging social support or other resources to encourage health-promoting behaviors. Furthermore, interventions based on the health belief model may provide cues to action to remind and encourage individuals to engage in health-promoting behaviors (Glanz, Barbara, Rimer & Viswanath 2008). Interventions may also aim to boost self-efficacy by providing training in specific health-promoting behaviors, particularly for complex lifestyle changes (e.g., changing diet or physical activity, adhering to a complicated medication regimen). Interventions can be aimed at the individual level (i.e., working one-on-one with individuals to increase engagement in health-related behaviors) or on the societal level (e.g.,

through legislation or changes to the physical environment) (Stretcher, & Irwin (1997).

THE CONCEPT OF CIVIL SERVICE

The Civil Service is the administrative bureaucracy which occupies an essential position in the political system of nations. Throughout the world, the contributions of Civil Service in promoting sustainable and equitable economic growth are receiving increasing attention. Efficient and effective management of the Civil Service are critical to sustainable socio-economic development of a nation. Thomas (1995), stated that the East Asian experience has underscored the critical contributions of the Civil Service in fostering rapid development.

Psychological Theories of Aging

As for other life stages, there do not seem to be many overarching theories of psychological aging, but emphasis in theoretical development is largely confined to a few substantive domains. A recent exception to this observation is the theory of selection, optimization and compensation (SOC) advocated by Baltes (1997, Baltes and Baltes 1990). This theory suggests that there are psychological gains and losses at every life stage, but in old age the losses far exceed the gains. Baltes suggests that evolutionary development remains incomplete for the very last stage of life, during which a societal supports no longer suffice to compensate for the decline in physiological infrastructure and losses in behavioral functionality (cf. Baltes and Smith 1999).

Empirical Review

Tobin, Asogun, Isah, Ugege & Ebhodaghe (2013), conducted a study to assess the knowledge and attitude



to Lassa fever among primary health care providers. Structured questionnaires were administered to consenting primary care workers in Private and Primary health centres in Ekpoma. Data analysis was carried out using SPSS version 15. One hundred and thirty five (135) health workers participated in the study. One hundred and thirty one (97.0%) respondents had previously heard of Lassa fever. Overall knowledge of Lassa fever was poor for 51 (38.9%), and fair for 54 (41.2%) and good for 260 (19.8%). Hand gloves were stated as the most useful personal protective gear when dealing with a patient with Lassa fever. Fifty six (42.7 %) felt their level of knowledge was sufficient for them to safely and effectively handle a patient, 126 (96.4%) expressed their desire to know more about Lassa fever. The primary health care worker in a rural area is the one most likely to be the first point of call for persons seeking orthodox medicine. It is therefore essential that he is adequately informed about the disease, its presentation and prevention.

Adebimpe, Adeyemi, Faremi, Ojo, Efuntoye (2015), conducted a study to assess knowledge and attitude towards rodent control in relation to Lassa fever in south western Nigeria. This descriptive cross-sectional study of Lassa fever and rodent control was carried out among 500 community members selected using a multistage sampling method. The research instrument was a self-administered semi-structured pre-tested questionnaire. Data were analyzed using SPSS software. 101 participants (20.2%) had heard about Lassa fever. Mean composite scores showed 19.4%, 14.1%, 17.0% and 13.9% of respondents to have good knowledge of occurrence, causes, disease transmission, as well as prevention and control of Lassa fever respectively. 215 participants (43.0%) lived in overcrowded rooms and

only 36 (9.1%) claimed to never have seen a rat in their houses. 206 respondents (41.2%) said they often saw rats crossing between houses. Some recommendations for rodent control were suggested. It was concluded that poor awareness and knowledge of Lassa fever together with poor housing facilities, characterized the communities studied. There is a need for relevant stakeholders to ensure better community health education and improved housing conditions in south western Nigeria, with an emphasis on slum areas.

Olayinka, Bridget, Faith, Aleleand, Peter (2015) conducted a study on the Awareness of Lassa fever in a rural community in southwest Nigeria. Lassa fever is an acute, virulent viral hemorrhagic illness with high morbidity and mortality rates. Its awareness remains low in sub urban or rural community. This study was carried out to assess the awareness of Lassa fever of a rural community in the south western part of Nigeria. A descriptive cross sectional study of 122 respondents prior to a sensitization seminar on Lassa fever was carried out at Ijebu– Owo, Owo in Ondo State. Interviewer guided questionnaire was used to collect information and analyzed with SPSS version 21. Descriptive statistics was done and frequencies and proportions were used to summarize variables of interest. Association between socio demographic characteristics and awareness were explored using chi square. Level of significance was set at 5%.The mean age of the respondents was 54.5 ± 19.2 years. Of the 122 respondents, 50.8% were males, three out of four (73.8%) were married, and 87.7% had secondary education and below. Those who had previously heard about Lassa fever were 17.2%. In all 7(46.7%) who had tertiary education had previously heard about Lassa fever compared to 14 (13.1%) respondents who had secondary education and below



($p=0.001$). The study showed that there was poor awareness of Lassa fever among members of the community. Thus efforts should be made to increase the awareness of the populace through health campaigns, and to reduce the spread of both the vector and the virus. Lassa fever surveillance in Nigeria is conducted through the Integrated Disease Surveillance and response (IDSR) platform. Information on Lassa fever flows from the health facilities, through the ward focal persons to the Local Government Area (LGA) Disease Surveillance and Notification Officers (DSNOs), to the State DSNOs, to the State Epidemiologist and then to the National Centre for Disease Control (NCDC). All states in Nigeria including FCT report through IDSR (Okoro, Bamigboye, Dan-Nwafor, Umeokonkwo, Illori, Yashe, Balogun, Nguku, Ihekweazu (2020). Currently, as of February 2021, there were in Nigeria 136 confirmed cases of Lassa fever and 959 suspected cases. In the first eight weeks of 2021, the number of death reached 31 (Varrella, 2021). In total for 2021, 8 States have recorded at least one confirmed case across 32 Local Government Areas- Of all confirmed cases, 85% are from Edo (49%), Ondo (25%) and Taraba (11%) (Lassa fever News Desk, 2021).

Statement of the Problem

The emergence of highly contagious Lassa virus in some states in Nigeria is a source of big worry. Lassa virus has been associated with nosocomial outbreaks with high mortality, hence early identification of infected individuals is important for prompt implementation of appropriate barrier preventive guidelines (Fischer-Hoch, Tomori, Nasidi, Perez-Oronoz, Fakile, Hutwagner, McComik, 1995; Mertens et al., (1973).

Lassa fever is a very big problem associated mostly with the poor and less privileged ones in the society who depends much on rat delicacy for their source of meat. The emergence of the virus has been a very big blow to those who make merchandise of the rat as well as those who buy it for food. Livelihood of hunters who set traps and hunt for such rats has suffered so much.

Consumption of certain foods like garri, beans, yams which can be rat infested could be a major source of concern. People find it difficult taking certain foods because of the phobia they have as a result of suspicion of rat infesting the food. Overnight drying of foods, which has to be left in the open, has been seriously affected due to phobia of rat infestation.

The aged and the young are more vulnerable to it because they are more susceptible to the virus. The young ones on most occasion go hunting for this rat and also awareness of the problems of Lassa may not get them as quickly as possible.

The study therefore set out to assess the Influence of age, gender and educational level on perception of Lassa fever among civil servants in Awka metropolis, Anambra State Nigeria.

Purpose of the Study

The purpose of this study is to bring to lime light the Influence of age, gender and educational level on perception of Lassa fever among civil servants in Awka Anambra State Nigeria. Specifically the aims of this study are to;

1. Find the differences between gender and the perception of Lassa fever among civil servants in Awka Anambra State.
2. Find the differences between educational levels on the perception of Lassa fever among civil servants in Awka Anambra State.



3. To find the impact of age on the perception of Lassa fever among civil servants in Awka Anambra State.

Operational Definition of Key Study Variables

Lassa fever

Lassa fever or Lassa hemorrhagic fever (LHF) is an acute viral hemorrhagic fever caused by the Lassa virus and first discovered in 1969 in the town of Lassa, in Borno State, Nigeria. Lassa virus is a member of the Arenaviridae virus family. Similar to Ebola, clinical cases of Lassa fever had been known for over a decade, but had not been connected with a viral pathogen.

Civil Service

The term civil service can refer to either a branch of governmental service in which individuals are employed (hired) on the basis of professional merit as proven by competitive examinations; or the body of employees in any government agency apart from the military, which is a separate extension of any national government.

Age

Age is the amount of time during which a person or animal has lived.

Perception

Perception is the organization, identification, and interpretation of sensory information in order to represent and understand the environment (Schacter, 2011).

Educational Level

Educational attainment is a term commonly used by statisticians to refer to the highest degree of education an individual has completed as defined by the US Census Bureau Glossary (*US Census Bureau glossary, 2006*).

Hypotheses of the Study

- Ho1 Gender has no significant effect on the perception of Lassa fever
- Ho2 Age has no significant effect on the perception of Lassa fever.
- Ho3 Educational level has no significant effect on the perception of Lassa fever

METHOD

Participants

Two hundred and two (202) respondents were drawn from civil servants in Awka Anambra state, Nigeria. The participants were drawn using convenient random sampling technique. This is a specific type non-probability sampling method that relies on data collection from the population that are conveniently available and willing to participate in the study. 54.4% of the respondents are males, while 45.4% of the respondents are females. Age distribution shows that 39.6% of the respondents fall within 23-32 years (young) age bracket, 35.7% (middle age) fall within 33-42 years, while 37% fall within 43-53 years. On educational level, respondents with First School Leaving Certificate FSLC are 5%, respondents with JSCE are 1.4%, SSCE are 27.7% B.Sc. has the highest percentage, which is 57.4% and finally, those having Post graduate degrees are 7.9%.

Instrument

A 48 item self-designed questionnaire developed by Abamara and Adiele (2016), through the focus group discussion (FGD), and the factor analysis was conducted on a sample population drawn from a similar population of civil servants in Imo State,



Nigeria Secretariat. The instrument on Lassa fever, called the Lassa Fever Inventory (LFI) was based on five point liker format. Hence, a least possible score of 48 and a highest possible score of 96 was obtained by any given respondent.

The reliabilities of the instrument were determined by using test retest reliability. The researchers ran a reliability statistics on 40 questionnaires and they obtained an alpha coefficient of 0.77 on the newly constructed questionnaire. The pilot study was conducted with 40 participants drawn from the staff of Ministry of Health, federal secretariat Port Harcourt in Rivers state Nigeria.

Procedure

One of the copies of the questionnaires was vetted and approved by test experts. During the process of introduction, the items of the questionnaire was shown to Head of Departments of various Ministries visited in Anambra State Secretariat Nigeria, and after a brief discussion, they approved the study and permitted the researchers to go round the various offices to administer the questionnaires to the staff.

In the various offices visited, the employees who were available were selected using convenient sampling techniques. Different ministries were

visited; like the ministry of sports, finance and economic planning, lands and urban development, women affairs and youth development among others. At the end, the employees were administered with the copies of the questionnaires which were responded to and returned to the researchers. Out of the 211 questionnaires administered, 202 were properly filled and returned, and they were used for the data analysis of this study, 3 copies of the questionnaires were not filled and 4 of the copies of the questionnaires were invalid.

Design/Statistics

The researcher conducted a survey study and adopted a 2x3x5 factorial design. This is based on the premise that three independent variables with one of the variables having two levels (Gender- male and female), another having three levels (Age-young, middle and aged) and the last having five levels (Educational level: First School Leaving Certificate (FSLC), Junior Secondary Certificate (JSCE), Senior Secondary Certificate (SSCE), Bachelor of Science/Bachelor of Arts B.SC/BA and Postgraduate Diploma (PGD). Based on the research design, 3-way analysis of variance was used as the statistical tool to analyze the data of the study.

Result

The results and analysis were presented in the order in which the hypothesis were tested

Table 1: Showing the mean and standard deviation on influence of age on perception of Lassa fever

Age	Mean	Std. Deviation	Number
23-32	2.3800	.43335	80
33-42	2.5036	.49665	52
43-53	2.6077	.76800	70



Total	2.4907	.59039	202
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Results indicate that there is significant difference between the young, the middle age and the aged on the perception of Lassa fever. The standard deviation for the young (23-32) = 0.43335, that of middle aged (33-42) = 0.49665 while that of the aged (43-53) = 0.76800. This shows that there is a distinct difference between how the young, the middle aged and the aged perceive Lassa fever

Table 2: Showing the mean and standard deviation on influence of gender on perception of Lassa fever

Gender	Mean	Std. Deviation	Number
Male	2.5924	.66116	110
Female	2.3692	.46783	92
Total	2.4907	.59039	202

Results indicate that there is significant difference between how males and females perceived of Lassa fever. Standard deviation for males =0.66116 while that of females =0.46783. This implies perception of Lassa fever varies with gender.

Table 3: Showing the mean and standard deviation on influence of education on perception of Lassa fever

Gender	Mean	Std. Deviation	Number
FSLC	2.7491	.40717	11
JSCE	2.5354	.66936	3
SSCE	2.2758	.36876	56
B.SC	2.6203	.67466	116
POST GRADUATE	2.1175	.11000	16
Total	2.4907	.59039	202

Result indicates that there is significant difference between the perceptions of civil servants among the various educational levels.



Table 4 table of Three-Way ANOVA on the effects of gender, age and educational level on the perception of Lassa fever

		ANOVA				
		Sum of Squares	Df	Mean Square	F	Sig.
Gender	Between Groups	42.553	2	1.289	28.709	.000
	Within Groups	7.546	168	.045		
	Total	50.099	201			
Age	Between Groups	109.065	3	3.305	13.730	.000
	Within Groups	40.439	168	.241		
	Total	149.505	201			
Education	Between Groups	127.234	5	3.856	26.045	.000
	Within Groups	24.870	168	.148		
	Total	152.104	201			

Result from the analysis conducted indicates that gender has significant effect on the perception of Lassa fever by civil servants ($f= 28.709$, $p < 0.5 = 0.000$). Therefore, the hypothesis, which states that gender has no significant effect on the perception of Lassa fever was rejected and the alternate hypotheses accepted which implies that gender has significant effect on the perception of Lassa fever among civil servants in Awka.

Findings from the analysis also indicates that Age has significant impact on the perception of Lassa fever by the civil servants ($f= 13.730$, $p < 0.5 = 0.000$). The hypothesis, which states that age, has no significant impact on the perception of Lassa fever by the civil servants was rejected and the alternate accepted.

Finally, educational levels has significant effect on the perception of Lassa fever among civil servants in Awka ($f= 26.045$, $p < 0.5 = 0.000$). The hypothesis, which states that educational level, has no significant effect on the perception of Lassa fever among civil servants in Awka was rejected and the alternate was accepted.

DISCUSION/CONCLUSION

Results indicate that gender has significant effect on the perception of Lassa fever by civil servants in Awka. Females show higher perception than the males in the study. This may be as a result of the roles they play in the homes which include housekeeping and cooking among others. This makes it possible for them to have a better perception of Lassa fever. This



finding is in consonance with that of the National Health Interview (2019).

However, age has significant impact on the perception of Lassa fever by civil servants. Respondents between the ages of 23-32 show better understanding of Lassa fever, and this group constitute mostly the young civil servants. This is followed closely by those within the middle age (33-42) and lastly the aged falling within age bracket of 43-53. This finding may be as a result of the fact that the youths hunt are more engaged in household and environmental activities. The young age bracket show better understanding owing to the fact that they are more likely to consume the rodents more than the other age brackets.

Those who survive into old age may also differ from those who did not live until old age in that they are a healthier group overall—a fact particularly pertinent for disadvantaged groups. Wight and his fellow researchers (2008) found that individuals ages 70 and older in disadvantaged neighborhoods are more likely to report having poorer health than those living in better-off neighborhoods. This relationship between health and neighborhood socioeconomic status is however, not as strongly associated with reported diagnoses of cardiovascular disease or with functional limitations. In an earlier study of neighborhood context, researchers also found that in high-education areas, older adults had better cognitive outcomes regardless of their own personal characteristics.

Similarly, using the U.S. National Health and Nutrition Examination Survey (NHANES), other researchers found that education and income differences are not as strongly related to higher health risks at older ages as at younger ages and that poverty is associated with biological risk factors at younger ages but not in old

age (Seeman, Miler-.Martinez, Merkin, Lachman, Tun, Karlamangla 2011). It may be that social influences on health diminishes the oldest age groups as biological changes that related to aging.

On the other hand, there is significant difference between the perceptions of Lassa fever among the various educational levels. Educational level has significant effect on the perception of Lassa fever among civil servants in Awka. This supports the findings by researchers at NIA centres for the demography and economics of aging do suggest, however, that educational attainment has an important role to play. In addition to the findings mentioned in this newsletter, research by Cutler and Lleras-Muney; in Schoeni & Wong (2005), indicated that individual health gains from education might well outweigh the financial benefits gotten from education.

On the other hand, findings of this study is not in line with that of Meich and Hauser (2001) who compared the effect of educational attainment on health at midlife with the effect of occupation-based measures. Using data from the Wisconsin Longitudinal Study, Meich and Hauser determined that although occupation may be an important mechanism linking education and health, its effect is not as important once education is taken into account. In addition, our findings coincides with the findings of the study using data from the Americans' Changing Lives Study (1986 through 2001/2002), Herd and her colleagues (2007) examined the effects of education and income on different stages of health problems. They found that education is a stronger predictor than income of whether an individual develops health problems such as functional limitations or



chronic conditions. Income, however, has a stronger effect than education on whether the condition had worsened.

Based on the findings of the study and the hypotheses tested, the researcher concluded that, gender, age, and educational level has significant effect on the perception of Lassa fever among civil servants in Awka Anambra State Nigeria.

Recommendation

Since it has been observed that gender, age and educational level have a significant link with the perception of Lassa fever among civil servants in Awka Anambra State Nigeria. The researchers recommends that government should create more awareness on perception of Lassa fever especially among the aged and people within the lower educational level. This will help to eliminate the incidence of Lassa fever in our society. The researchers therefore suggests an increased population size in future study to include both public servants and the general public.

Limitation of the Study

The researcher encountered quite a number of limitations during the course of the study, among which are:

1. Unwillingness to respond to the questionnaire by some of the participants selected for the study.
2. The limited number of samples for study will limit spatial generalization to other States in South East Nigeria.

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