



GENDER TRANSPORT POVERTY AND QUALITY OF LIFE IN THE NIGER DELTA REGION, NIGERIA

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Abstract

The four concepts that define the phenomenon known as transport poverty are mobility poverty, transport affordability, accessibility poverty, and exposure to externalities. Individuals who have difficulty moving due to a lack of transportation services or infrastructure, an individual or group's inability to meet the cost of transportation, a household without a motorized vehicle, and difficulty reaching certain significant activities such as healthcare services are all exposed to transport poverty. The purpose of this paper is to better comprehend women's mobility in the Niger-Delta region as well as the concept of transportation poverty and its influence on their lives. The study used a survey approach to obtain data on user experiences with transportation, such as affordability, accessibility, transportation infrastructure, and public transportation performance. A total of 600 household heads were chosen as respondents using a systematic random sample procedure that randomly picked one (1) house from every four (4) houses in the research population. The Chi-square cross-tabulation and the Pearson product-moment correlation coefficient were used to analyze the data. Overall, 53% of women and 47% of men were between the ages of 19 and 63, with an average age of 40. The results revealed that the demographic variables of gender, educational qualification, occupation status, and monthly income ($P < 0.0001$) were significant, with monthly travel cost at the 0.01 level of significance. Monthly revenue and the amount spent on transportation fares are weakly correlated ($r = 0.153$, $P < 0.01$), according to the tested hypothesis. Many homes with increasing numbers of individuals from low socioeconomic strata did not benefit from the transportation infrastructure supplied. This study emphasizes the importance of a long-term development strategy that is gender-based rather than gender-biased in order to increase the socioeconomic well-being of the population through transportation infrastructure development policies.

Keywords: Gender. Transport poverty; Well-being; Means of transportation; Niger Delta; Quality of life

1. Introduction

Individuals who are unable to move due to a lack of transportation services or infrastructure; individuals or groups who are unable to cover transportation costs; households without a motorized vehicle all constitute an important issue of discussion in transport geography. Furthermore, the difficulty of reaching certain important activities, such as healthcare services, exposes the





population to transport poverty (see Lucas et al. 2016; Lucas, 2018; Iqbal et al. 2020). Because transportation poverty has never been adequately described in academic or policy literature, it is difficult to develop a succinct description of what it means (Lucas et al., 2016).

The phrase "transport poverty" has been used in different contexts. Transport poverty in a developed country refers to situations in which a disproportionate amount of household income is spent on transportation costs to access basic services, commute to work, and participate in social activities (Mattioli et al., 2017). Transport poverty, in the context of a developing country, refers to travel difficulties caused by poor quality transportation infrastructure, severe congestion, and a variety of other transport externalities (Odufuwa et al., 2008). The country in which we conduct our research has made various efforts to speed development, yet a country is not rated as developed solely on the basis of its economic success and rapid growth. Quality of life (QL) and people's well-being are also important considerations (Idris et al., 2016). As a result, poor quality of life and unsafe modes of transportation represent a significant threat to people's well-being and mental health. Given Nigeria's extreme transportation shortage, private vehicle ownership remains very low, public transit has become increasingly popular, and transportation externalities have become endemic (Odufuwa et al., 2008).

The increasing rate of transportation inadequacies in Nigeria can contribute to transport poverty, and the Niger Delta region is no exception due to its natural constraints. Poor road construction leads to substandard roads, and there are few buses and vehicles. There are no railways, forcing private bus and car operators to operate low-quality transport services and infrastructure. A good transportation system, according to Ehiorobo and Audu (2007), should ensure that people, commodities, and services move quickly, conveniently, safely, and cost-effectively. It is exacerbated in the Niger Delta region by both great and poor transportation systems. Due to poor road conditions, connecting is difficult. Accessibility poverty, transportation affordability, and exposure to transportation externalities are all unavoidable.





However, it is contested that weak transportation services and infrastructure fail to accommodate the residents of the Niger Delta region. Women would be marginalized more than men by particular transportation services and infrastructure. For example, men, for example, have more leeway to employ alternate forms of transportation such as motorcycles to get to their destinations fast, which are traditionally and socially discouraged for women. It is hypothesized that there is a considerable discrepancy in transport poverty between men and women in the Niger Delta region. However, empirical research on the effects of gender transport poverty in the Niger Delta region is lacking. Little is known about women's mobility experiences and how they impact their health and well-being. In light of the foregoing, this research sought to comprehend women's mobility experiences in the Niger Delta region in terms of transport poverty and its impact on their lives.

The study employs the transport poverty conceptual framework created by Lucas et al. (2016), which emphasizes four characteristics that constitute transport poverty: mobility poverty, transportation affordability, accessibility poverty, and exposure to externalities. Mobility poverty, according to Lucas et al. (2016), refers to a systematic lack of mobility/transportation options, whereas transport affordability refers to a lack of means to finance transportation options. In contrast, accessibility poverty is an extension of mobility poverty in that it considers whether people can easily get to critical activity centers in a fair amount of time. Exposure to transportation externalities refers to being exposed to the negative effects of a transportation system.

In terms of how transportation influences health, the relationship between transportation and health cannot be overemphasized. Access to numerous facilities that can benefit health is made possible by transportation (see Mackett and Thoreau, 2015). The effects of transportation poverty on health show that those who lack mobility/transportation options have a relationship with those who lack the resources to afford transportation options to get to facilities that can improve their health, such as recreational facilities, medical facilities, and so on. Access is more comfortable for individuals with a higher income, which is offered by good employment access with a high wage. These are available to people who are able to obtain education and training (Mackett and Thoreau, 2015).





We employ the term "transport poverty" in this study because limitations to mobility, transportation, and access to activity centers are likely to harm an individual's or group's health and well-being. Poor transportation linkages, according to Cooper et al. (2019), prevent people from getting the services and support they require. The Office of National Statistics (2014) investigated commuting and personal well-being and discovered that shorter travel times promote well-being, whereas commutes lasting 60 to 90 minutes decrease well-being. On the issue of transportation barriers to healthcare utilization, Appiah et al. (2020) discover that females are more likely than males to encounter transportation difficulties. Poverty is a relatively new term, having emerged as a result of gender transportation. It has not been widely utilized in Nigeria, particularly in the Niger Delta region, where economic, traditional, and societal reasons limit women's mobility. The primary goals of this study were to investigate women's mobility experiences in the Niger Delta region and assess their impact on their quality of life.

2. Methodology

2.1 Survey instrument and data structure

We analyze women's mobility experiences in the Niger Delta region with the concept of transport poverty and its impact on their lives from an extensive survey that involved field observation and administration of questionnaires. The survey was conducted in two metropolitan capital cities in the Niger Delta region. In Nigeria, cities categorized as metropolises are characterized by having more than one Local Government Areas.

2.2 Study area

The study area, which is part of Nigeria's Niger Delta region, consists of Yenagoa & Port Harcourt's metropolitan capital cities in Bayelsa and Rivers states, respectively, in the South-southern geo-political zone of the country (Fig.1). The two cities occupy a total landmass area of 1807km² and accommodate a combined population of 1,358,189 people; Yenagoa is geographically located between latitude 5⁰ 02" N and longitude 6⁰ 20" E. In contrast, Port Harcourt is situated geographically on latitude 4⁰ 47' 21" N and longitude 6⁰ 59' 54" E, according to 2006 census figures. With a 2.9 % growth rate, the estimated projected population of the two cities in



2020 is 3.10 million people. The researchers chose the cities because it is the heart of the Niger Delta region, and in recent times has witnessed the influx of people.

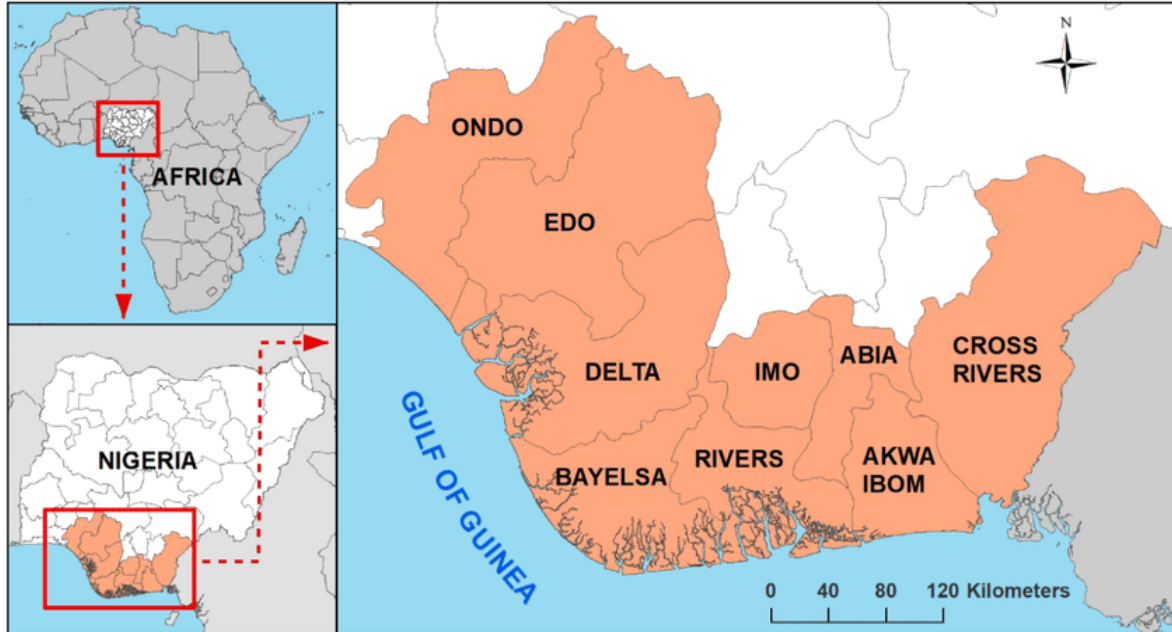


Fig. 1: Niger Delta region showing Bayelsa and River state
Source. Ebhuoma et al. (2020)

2.3 Data collection

A questionnaire survey of 600 heads of household was used to collect data. Purposive sampling (Etikan and Babatope, 2019) was used to sample 600 households using a non-probability sampling technique. The sample's distribution is 300 head of households in Yenagoa (50.00%) and 300 head of households in Port Harcourt (50.00%). For this study, household means a group of people living in a given apartment sharing the same catering facilities, often called a family. The questionnaire was administered by hand straight to the respondents (an adult) in each household to fill and return in both the selected cities' core and periphery. An adult was chosen because he or she has the responsibility of providing for himself or herself and those around him or her, so, therefore, he or she is involved in daily commuting. Only those who agreed to be interviewed were considered; therefore, a period of 3 months (December 2019 – February 2020) were utilized for the administration and recovery of this questionnaire. The questionnaire uses open and closed-ended, multiple-choice and Likert scale questions. The questions are about mobility/transportation



options, individual resources to afford transportation options, distance and time taken to get to vital activity centre, and the adverse effects from transport system to measure transport poverty from a gender perspective.

2.4 Analysis methods

The questionnaire was delivered in 600 copies to two cities in the Niger Delta region. It is important to highlight that the study used all copies of the distributed questionnaire that were retrieved. The data was analyzed on a bivariate level, with chi-square cross-tabulation and Pearson product-moment correlation coefficients employed to assess whether there was a conceivable link between two variables and whether they were statistically significant or not. The Likert scale items of Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly Disagree (1) were analyzed using the mean and standard deviation. The mean plays a big role in the analysis. From 1 to 1.8, it means strongly disagree. It means to disagree between 1.81 and 2.60. It signifies neutral between 2.61 and 3.40, agree between 3.41 and 4.20, and strongly agree between 4.21 and 5. The respondents' quality of life was assessed based on their monthly income and the amount they spent on transportation. The study was based on the 600 (100%) copies of the questionnaire that were obtained.

3. Results

3.1 Socio-Demographic Variables of the Respondents

Table 1. shows the socio-demographic characteristics of the respondents. The table reveals that respondents were between 19 and 63 years, with an average age of 40. Gender distribution was 47% male and 53% female respondents for the whole sample, with the lowest male respondents in Yenagoa (36%). Average income in Yenagoa and Port Harcourt cities is 24.7% and 25.2 %, respectively, below the legal minimum wage in Nigeria; also, in Port Harcourt, it is 25.2% below the majority (35%) civil service. The average education level in the two sample cities is secondary, with a higher prominence of 51% for tertiary education. Regarding monthly transport costs, 43% of the respondents spend Between N5000 (roughly equivalent to USD 12) and N10000 (roughly





equivalent to USD 24) for transportation monthly, while 15.7% spend below N5000 (roughly equivalent to USD12) monthly (see Table 1).

Table 1.
Characteristics of the of respondents (n=600)

Variable (%)	Category	Frequency	percentage
Gender	Female	316	53
	Male	284	47
Age	< 30	72	16
	30-39	218	36
	40-49	160	27
	50-59	102	17
	60 and above	23	4
Education	No formal education	81	13.5
	Primary	100	16.7
	Secondary	116	19.3
	Tertiary	303	50.5
Occupation	Civil service	212	35.3
	Farming	86	14.3
	Trading	169	28.2
	Artisan	133	22.2
Monthly income	Below N30,000	150	25.0
	N30,001- N60,000	83	13.8
	N60,001-N90,000	117	19.5
	N90,001-N130,000	122	20.3
	Above N130,000	128	21.3
Monthly Transport cost	Below N5,000	94	15.7
	N5,001 - N10,000	261	43.5
	Above N10,000	245	40.8
	Total	600	100





As shown in Table 2, Gender, educational qualification, occupation status, and monthly income of the demographic variables were significant with monthly transport cost by respondents while driving status and age were not significant.

Table 2. Socio-demographic variable correlates with monthly transport cost (N=600)

Demographic variables		Monthly transport cost			χ^2	DF	P-Value
		Below N5000	N5001- N10000	Above N10000			
Gender	Female	50	163	103	21.132	2	0.000
	Male	44	98	142			
Age	19-29	10	42	43	7.045	8	0.532
	30-39	36	94	88			
	40-49	23	71	66			
	50-59	18	47	39			
	60 and above	7	7	9			
Educational qualification	No formal education	20	45	16	35.946	6	0.000
	Primary	24	39	37			
	Secondary	12	62	42			
	Tertiary	38	115	150			
Occupation Status	Civil service	26	81	105	16.838	6	0.010
	Farming	9	46	31			
	Trading	35	78	56			
	Artisan	24	56	53			
Number of Household vehicle	0	64	154	138	7.933	6	0.243
	1	26	100	95			
	2	4	7	10			
	3	0	0	2			
Driving status	Can Drive	48	109	113	2.627	2	0.269
	Cannot drive	46	152	132			





Monthly income	Below N30000	21	91	38	39.811	8	0.000
	N30000- N60000	16	38	29			
	N60001- N90000	16	53	48			
	N90001- N130000	21	44	57			
	Above N130000	20	35	73			



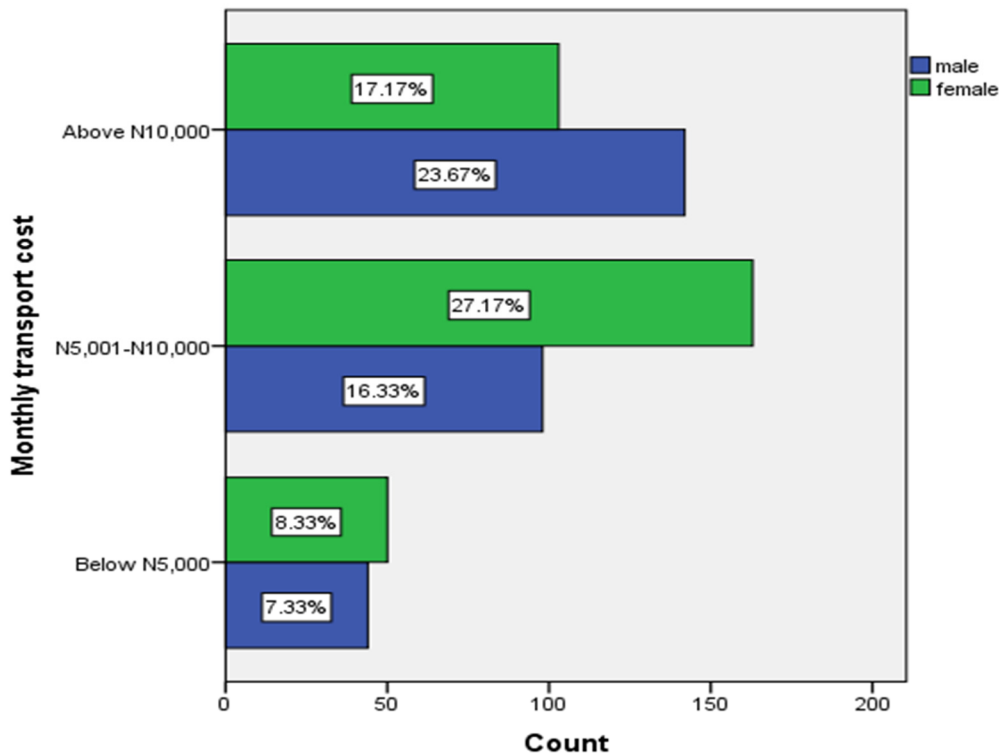


Fig. 2. Average monthly transport cost among females and males.

3.2 Patterns of user experience with transport affordability, accessibility, and public transport performance

The diverse user experience patterns with transportation affordability, accessibility, and public transportation performance are shown in Table 3-5 and Fig.4-6. Table 3 shows the respondents' household characteristics. According to average monthly family income data, more than a quarter of the population earns less than the 30,000 Naira minimum wage (roughly equivalent to USD72). Household size is an important metric in urban economics. According to data on household size in the research region, the majority of households (75%) had between 4 and 6 people. Approximately 59 percent of all households do not have access to a vehicle. The survey results found that respondents' average monthly transportation costs differed by gender, with women spending 52.7 percent more on transportation than males (47.3 percent) (Fig.2).



Table 3. Household characteristics

Household Income/month (Naira)	Frequency	Percentage
< 30,000	150	25.0
30,000-60,000	83	13.8
60,001-90,000	117	19.5
90,001-130,000	122	20.3
>130,000	128	21.3
Number of household vehicle		
0	356	59.3
1	221	36.8
2	21	3.5
>3	2	0.3
Household size		
1=3 persons	62	10.4
4=6 persons	448	74.6
More than 7 persons	90	15.1

The difference in transport cost may partly be explained by the high level of patronage of public transport to key activities centre by women compared to men. Two dimensions of quality of life: income and transport cost. A high number of respondents (25%) claimed to have an average monthly income of N30,000 (roughly equivalent to USD72), but only 15.7% were spending below N5,000 (roughly equivalent to USD12) monthly for transportation cost. This could either be due to the high cost of transportation or long distance of travel time, and the implication is that respondents on N30,000 (roughly equivalent to USD72) monthly income spend more than 10% of their monthly income on transport costs monthly. The survey results showed that the gendered use of transport mode to key activities centre was revealed by the survey results, with women being more dependent on taxi and bus to transport to work. About 61% of the total male respondents were dependent on the personal car instead of only 39% of women (Fig.3). Fig.4 revealed that women are dependent more on buses (55%) and tri-cycle (53%) (popularly known as "Keke" in Nigeria) for their means of transport to the hospital. The means of transportation to the market (Fig.5) revealed that women were more dependent on tricycle (Keke) (63%) and taxi (57%)





respectively. The reason for this modal difference may partly be explained by the low level of car ownership by women respondents (Fig.6), which may result in the patronage of public transport.

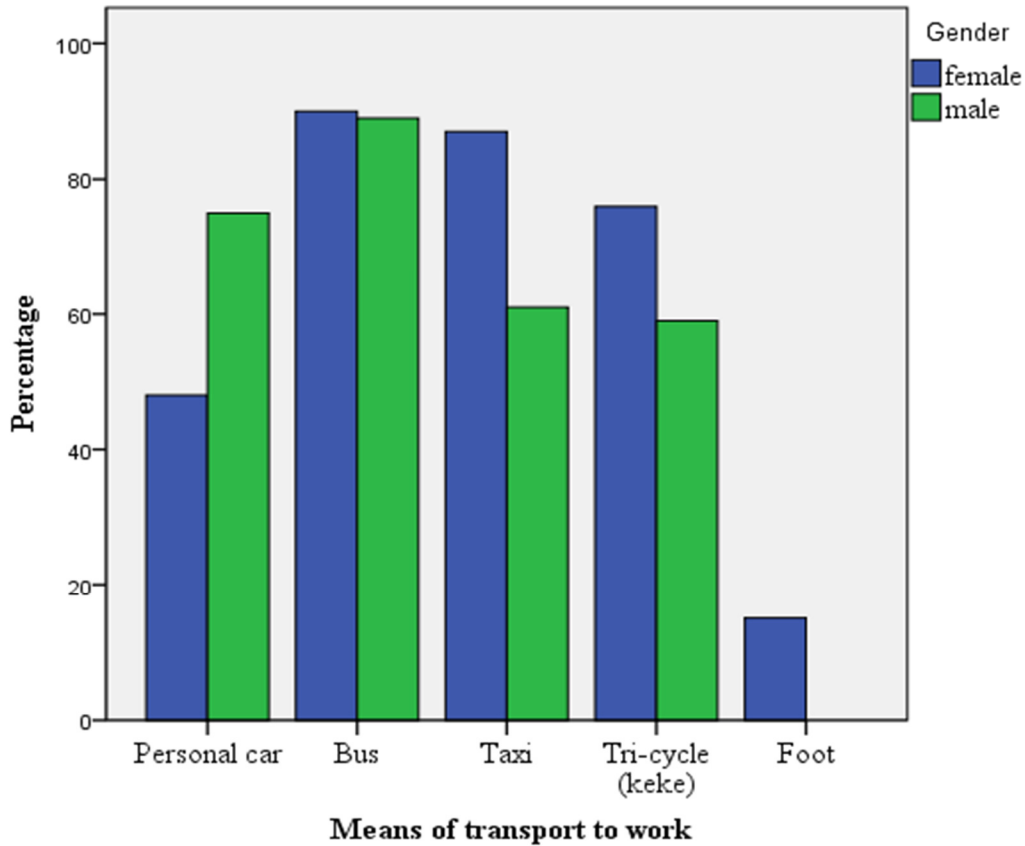


Fig.3. Distribution of means of transport to work among gender



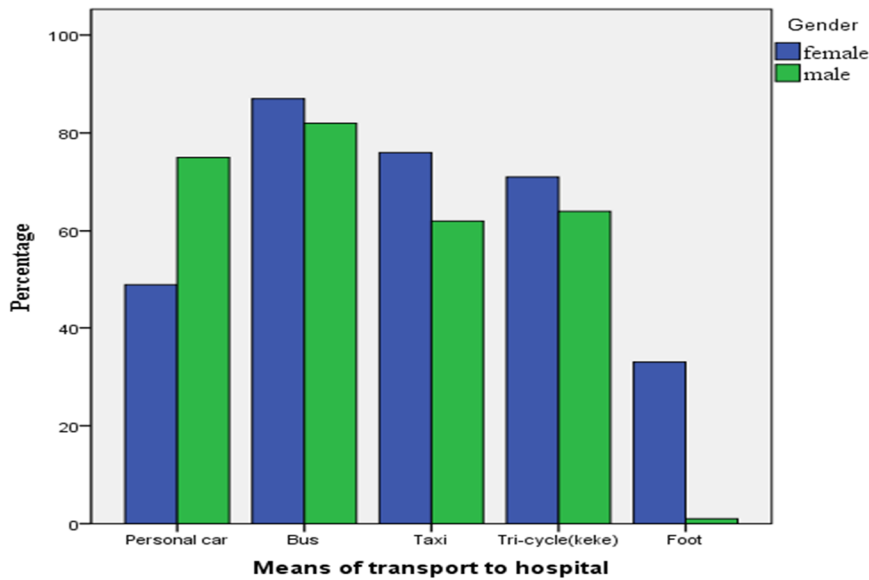


Fig.4. Distribution of means of transport to hospital among gender

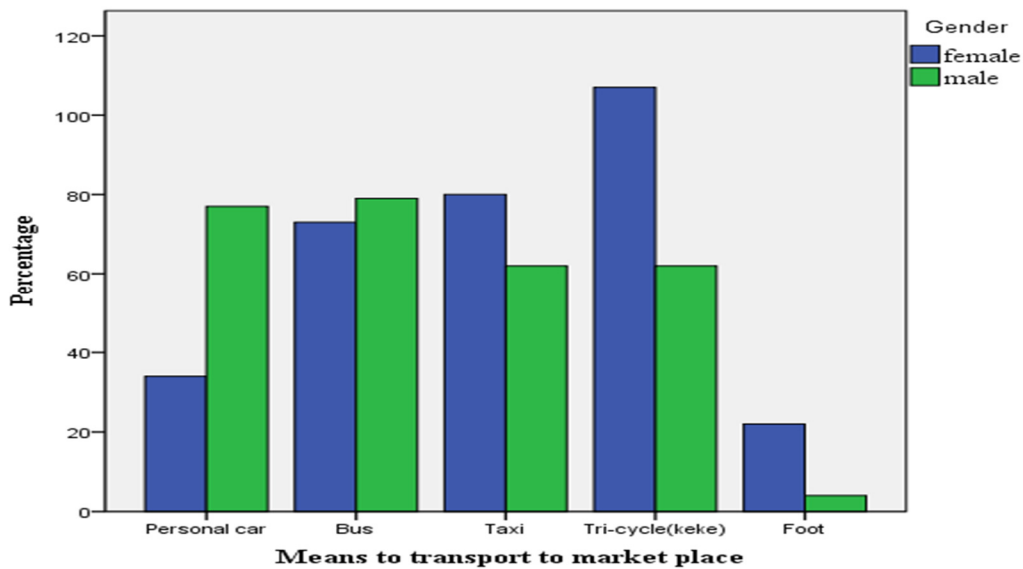


Fig.5. Distributions of means of transport to market place among gender

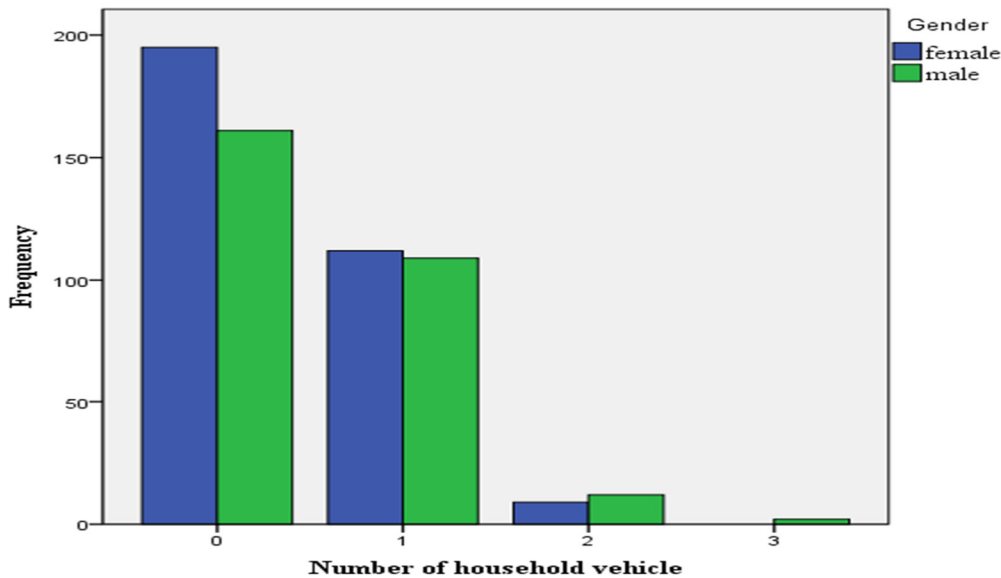


Fig.6. Distribution of owner of vehicles by gender

Table 4 shows the distance from residence to workplaces of women and men in Yenagoa and Port Harcourt. In Yenagoa city, more of the sampled women than men work less than 2km distance (76.9% women; 23.1% men) from their residence; 2 – 4km distance (58.6% women; 41.4% Men) from their home and greater than 4km distance (40.4% women; 59.6%) from their residence. In Port Harcourt, more women than men work less than 2km (64.4% women; 35.6% men) from their home; 2 -4km distance (47.2% women; 52.8% men) and greater than 4km distance, men are found to be more (19.0% women; 81.0% men) from their residence.

Table 4. Distance from residence to workplace of Women and Men in Yenagoa and Port Harcourt (%)

Location	Distance	Men	Women	Total
Yenagoa	Less than 2km	23.1	76.9	100.0
	2-4km	41.4	58.6	100.0
	Greater than 4km	59.6	40.4	100.0

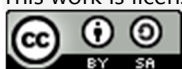


	Total		36.1	63.9	100.0
Port Harcourt		Less than 2km	35.6	64.4	100.0
		2-4km	52.8	47.2	100.0
		Greater than 4km	81.0	19.0	100.0
	Total		58.5	41.5	100.0
All two locations		Less than 2km	47.6	52.4	100.0
		2-4km	46.2	53.8	100.0
		Greater than 4km	48.7	51.3	100.0
	Total		47.3	52.7	100.0

The survey also inquired about the amount of time the respondents spend on their daily journey to work and time spend during an emergency to get to an appropriate health facility. Gender-based differences were identified from the data. Most female respondents (60%) from Yenagoa city spend less than 30 minutes of travel time to work instead of men (40%). In Port Harcourt, most male respondents (70.4%) spending less than 30minutes of travel time to work. The gender-based difference can be attributed to the traffic situation in Port Harcourt as most men preferred to look for accommodation closer to their homes to avoid spending more travel time.

Table 5.
Descriptive Statistics on harmful travel conditions

	N	Minimum	Maximum	Mean	Std. Deviation
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Public transport is convenient	600	1	4	1.79	.899
I do not feel safe on public transport	600	1	5	4.05	.970
Public transport is too crowded	600	1	5	4.29	.858
Public transport is unsafe at night	600	1	5	4.44	.862
Valid N (listwise)	600				

Table 5 the first statement; the mean is 1.79. hence, it means that the majority of the respondents strongly disagree that public transport is convenient. Accordingly, the majority of the respondent do not feel safe with public transport. In the third statement about the crowd associated with public transport, most respondents confirm that public transport is too crowded. The majority of the respondents strongly agree that public transport is unsafe at night, as seen in table 5.

3.3 Test of hypothesis

It was hypothesized that more money spends on transportation will lead to a decrease in transport affordability. To determine any significant relationship between the amount, spend on transportation monthly and monthly income of respondents, a Pearson product-moment correlation analysis was conducted. The analysis concluded that there is a significantly weak and positive relationship ($r=0.153$, $p<0.01$), which means a direct relationship between monthly income and amount spent on transport fare. This result shows that respondents with high and low income spend more on transport fare which lead to transport poverty.

4. DISCUSSION AND CONCLUSIONS

The goal of this research is to better understand how women in the Niger Delta region deal with transportation poverty and how it affects their lives. Previous research has found that women face increased home tasks, harassment, and fewer leisure travel possibilities as a result of their gender (Iqbal et al., 2020). This study's findings also reveal similar trends of women being at a disadvantage in terms of gender transportation poverty. The findings show that women are at a disadvantage in terms of their well-being. The data illustrates the concept of transportation poverty





using the transport poverty conceptual framework, which emphasizes affordability poverty, mobility poverty, accessibility poverty, and transportation externalities.

When a person is unable to pay the cost of travel, they are said to be in "affordability poverty." Gender differences in mode of transportation to work, the market, and the hospital, with women relying more on buses, taxis, and tricycles, demonstrated the gender-cost relationship. According to Lucas (2012), this sort of poverty occurs when a person is unable to afford the cost of travel. Much research has revealed Nigerians' dissatisfaction with urban transportation (Adeniji, 2000; Ogunsanya, 2003; and Odufuwa, 2007). Mobility poverty comprises, among other things, a lack of or insufficient transportation modes and services (Iqbal2020). Because traveling is dependent on network characteristics, the model, and levels of use, trip length was calculated using a transport network (McQuaid and Chen,2012). The gender disparity in travel time to various destinations and modes of transportation employed in this study demonstrates that the Niger Delta transportation infrastructure is in a deplorable state and this has an impact on the time it takes to get to the hospital in terms of emergence.

Inadequate public transportation coverage in the Niger Delta region has a negative impact on accessibility and quality of life. Both men (46%) and women (55%) expressed displeasure with public transportation, and none of them believed it to be dependable since it interferes with their ability to obtain healthcare and other critical services. Women dislike taking public transportation, especially when travelling to the hospital, but they have little choice. Externalities in transportation are hazardous travel conditions that put a person in an unsafe, dangerous, and unhealthy situation (Lucas, 2012). Research in Nigeria, for example, found a major inadequacy in transportation quality; transportation infrastructure design has a considerable impact on motorist driving behavior (Odufuwa et al. 2008). Women (66 percent) are afraid of being robbed and harassed while using public transportation at night.

Finally, utilizing the conceptual framework of transport poverty, this study has presented an overview of gender transport poverty and its impacts on quality of life in Niger Delta cities. The





survey results provided insight into the background of Nigeria's Niger Delta region, demonstrating that men were more financially and physically able to afford transportation choices than women. Women spend more time commuting but do not benefit from improved transportation. To close the gap in transportation options that are gender-based and not biased against women, government-supplied women-only buses should be provided by the government.

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