Sanitation Practices and Its Implications on The Health of Market Women in Uyo Local Government Area of Akwa Ibom State: An Analysis.

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Abstract- This research investigates the sanitation practices and its implications on the health of market women in Uyo Local Government Area of Akwa Ibom State, Nigeria. A sample population of 200 respondents from three different markets, namely Akpanandem, Etuk, and Anua markets, was investigated. Findings revealed alarming gaps in sanitation infrastructure and practices within these markets. Only 30% of respondents in Akpanandem reported access to clean water within the marketplace, while access to proper toilet facilities was reported by 45% in Akpanandem and 10% in Etuk market. Majority of respondents admitted to defecating inside their shops in plastic bags, posing significant health risks, particularly in food-selling establishments. Moreover, all respondents engaged in open waste disposal practices. Poor awareness and adherence to hand hygiene guidelines were evident, with only 30% in Akpanandem and 15% in Etuk reporting washing hands with soap and clean water before handling food. Notably, 50% of respondents reported experiencing diarrhea in the past three months, indicating the direct impact of inadequate sanitation practices on the health of these market women. This work found, among other things, alarming deficits in sanitation infrastructure and unhealthy sanitation practices within these markets. This research recommends, the need for collaborative efforts among stakeholders, including local authorities, market associations, and community leaders so as to enforce extant hygiene laws, regulations, policies, programmes and actions by the government and its agencies in market settings.

Keywords: Sanitation Practices, Market Women, Health Implications, Hygiene Behaviors, Hygiene Practices.

I. INTRODUCTION

Background of the Study

Sanitation practices have become a national concern in Nigeria and the world over. The importance of sanitation practices to the maintenance of public health and prevention of the spread of diseases in any society cannot be overstressed. For instance, in Nigeria, access to proper sanitation facilities is generally poor, with serious implications for public health, productivity, and gross domestic products (GDP) falling below international acceptable standards. For example, market women, who sell a variety of edibles and organic food items, are the critical mass for meeting the basic needs of people in the urban and rural areas. Paradoxically, the health condition of the residents and indeed the markets women is often negatively impacted due to the prevalence of poor sanitation practices. This untoward sanitation practices, is aggravated by the challenges of dearth of access to clean water, inadequate waste collection and disposal system as well as lack of basic hygiene measures with associated spread of various diseases among market women, in particular.

Uyo is the capital city of Akwa Ibom State and has an estimated population of 1,393,000 in 2024. Indeed, there are many markets in Uyo with Anua, Akpanandem and Etuk Markets being the busiest markets in Uyo. Incidentally, there are no studies that address sanitation practice and health implications among market women in Uyo metropolis. Therefore, this work seeks to examine sanitation practices and how they negatively impact the health of market women in the sampled markets areas. The research focuses on market women because on the scale of 100 traders in organic food stuffs such as fruits, vegetables and sea foods, women constitute about 95 per cent. In this case, women are more vulnerable to diseases associated with rubbish often generated and indiscriminately disposed in market places.

Statement of the Problem

The research observes that there is limited and empirical gap in knowledge of the existent and extant laws that is, the Akwa Ibom State Environmental Protection and Waste Management Agency Law

CAP47 2000 (as amended) and its schedules, regulations, policy, programmes and actions of the state government by market women, about the need to observe personal hygiene practices, which include: hand washing; use of sanitary facilities, and effective disposal of solid waste or rubbish within the market places. Besides, the current sanitation practices or solid waste management system within the markets under review is very appalling and raises public health concerns.

Also, the poor hygiene practices in these markets are further exacerbated by improper waste collection and disposal strategies. The present solid waste collection and disposal practices in the markets under reference, are that the state agencies charged with the responsibility of formulating policies towards ensuring that solid waste is dutifully collected from the public waste receptacles have been found wanting in the discharge of their responsibilities with attendant overflow of these public waste receptacles. More-so, the market women are not provided with differentiated waste collection bags with which they could segregate waste into those bags for ease of evacuation and disposal by the licensed private waste collectors. This situation has led to indiscriminate disposal of perished and rotten fruits, vegetables and sea foods within these markets under review.

In all of this, there is an acute lack of sanitation facilities such as toilets, hand washing stations and sizeable waste disposal bins within the markets' areas. Paradoxically, the few waste disposal bins provided within these markets are often not regularly evacuated by the licensed waste collectors for some inexplicable reasons. Yet, instances abound where food vendors popularly called "Mama put" freely hawk food and the food is bought and consumed by people in these markets, regardless of the unsanitary environment and the associated health implications.

Significance of the Study
This research will provide valuable insights for policymakers and relevant stakeholders regarding the urgent need to pay more attention to sanitation issues within marketplaces in Uyo. It will also spur the state agencies in charge of solid waste management to enforce policies, guidelines, and interventions that are aimed at promoting improved sanitation practices, within the markets in question.

This study will contribute towards increasing of awareness about the importance of proper sanitation *vis-a-vis* the existing legal frameworks towards preventing the transmission of diseases.

Scope
The study focuses on sanitation practices and their implications on health of market women in selected markets in Uyo, Nigeria. The study is a wakeup call on market women, market authorities and relevant stakeholders.

Limitations
The research is limited by funding and dearth of access to relevant data and studies in Uyo city, on sanitation practices.

Specific Objectives
To assess the current sanitation practices within the randomly selected market places in Uyo L.G.A.

To identify the current sanitation practices and challenges faced by market women in Uyo.

To make recommendations so as to re-invigorate and enhance the present sanitation practices within marketplaces in Uyo.

II.   LITERATURE REVIEW

Marketplaces often face challenges in providing adequate sanitation facilities and infrastructure. A study carried out by Nwunuji et al. (2015) observed the general existence of poor access to clean water, lack of proper toilets, and inadequate waste management systems in Nigerian markets. He averred that this situation contributes largely to the prevalence of food contamination, risk of water borne and food borne diseases within the market places.

Poor sanitation practices have significant health implications for market women. A study by Ibeh et al. (2016) found that market women who lacked access to clean water and proper toilet facilities had an increased risk of contracting diarrheal diseases. The study also noted a higher prevalence of gastrointestinal infections

among market women compared to the general population.

Another study carried out by Opara et al. (2018) found a strong association between inadequate sanitation practices and the occurrence of urinary tract infections (UTIs) among market women. Insufficient hand hygiene practices, such as poor hand washing facilities or lack of hand hygiene awareness, were identified as significant contributors to the transmission of infectious diseases.

Market women's knowledge and awareness regarding the importance of sanitation practices also impact their health outcomes. A study by Ugbogu et al. (2017) reported low awareness among market women regarding proper waste disposal methods and hand hygiene practices. The study emphasized the need for health education programs to improve knowledge and promote behavior change.

Several studies have highlighted the positive impact of improved sanitation practices on the health of market women. Okwori et al. (2019) conducted an intervention study in Jos, Nigeria, which demonstrated that providing clean water, constructing improved toilet facilities, and promoting hand hygiene practices significantly reduced the incidence of diarrheal diseases among market women.

The studies conducted by Nwunuji et al. (2015) and Okwori et al. (2019) have revealed a lack of proper sanitation infrastructure such as clean water supply, adequate toilet facilities, and waste management systems within marketplaces. These challenges significantly impact the hygiene of market women, exposing them to various health risks. Insufficient access to clean water compromises their ability to maintain personal hygiene, leading to increased vulnerability to waterborne diseases.

Ibeh et al. (2016) and Opara et al. (2018) highlighted the adverse health consequences of poor sanitation practices among market women. Both studies reported a high prevalence of diarrheal diseases and urinary tract infections (UTIs) among market women due to inadequate access to clean water and poor hand hygiene practices. These results emphasize the urgent need to address these issues to improve the health outcomes of market women.

One key factor contributing to the poor sanitation practices among market women in Uyo is the low level of awareness and knowledge. Ugbogu et al. (2017) found that market women had limited knowledge about proper waste disposal methods and hand hygiene practices. This lack of awareness hinders their ability to adopt better sanitation practices. Therefore, health education programs targeting market women, market authorities, and the wider community are crucial in improving knowledge and promoting behavior change.

The intervention study conducted by Okwori et al. (2019) demonstrated the positive impact of improved sanitation practices on the health of market women. This study implemented interventions such as providing clean water, constructing improved toilet facilities, and promoting hand hygiene practices. The results showed a significant reduction in the incidence of diarrheal diseases among market women, highlighting the effectiveness of such interventions.

To address the sanitation challenges faced by market women in Uyo, certain recommendations can be drawn from the literature. Firstly, there is a need for adequate provision of clean water, proper toilet facilities, and waste management systems in marketplaces (Nwunuji et al., 2015). These infrastructure improvements are essential for ensuring the hygiene and health of market women.

Secondly, continued efforts in health education and awareness programs are vital (Ugbogu et al., 2017). These programs should focus on promoting proper waste disposal methods, hand hygiene practices, and the importance of maintaining personal hygiene in marketplaces.

Lastly, collaboration among stakeholders including market authorities, local government, and relevant organizations is essential for addressing the sanitation challenges (Okwori et al., 2019). This collaboration can help mobilize resources, share responsibilities, and implement sustainable solutions to improve sanitation practices in marketplaces.

In conclusion, the findings from previous studies indicate that poor sanitation practices within marketplaces have significant implications for the health of market women. The lack of access to clean water, inadequate toilet facilities, and poor hand hygiene practices contribute to the prevalence of diseases among market women. To address these challenges, interventions focusing on infrastructure improvement, health education, and collaboration among stakeholders are necessary. By implementing these recommendations, the sanitation practices and health outcomes of market women in these sampled markets and other markets will significantly improve.

III.   METHODOLOGY

Study Design:
The study was conducted in Akpanandem market, Etuk street market, and Anua market, located in Uyo city, Akwa Ibom state. These markets were selected due to their representativeness and accessibility.

Sampling Strategy:
The targeted population were women actively engaged in selling goods and services at the selected markets. A sample size calculation was performed to determine the minimum number of participants required for adequate statistical power. Participants were selected randomly within each market to ensure representation across different section and stalls.

Data Collection:
A structured questionnaire was developed and administered to collect data on socio-demographic characteristics, sanitation practices, hygiene knowledge, and self-reported health issues. The questionnaire was pretested and modified where necessary.

Interviews were conducted with the sample population to gather insights into existing sanitation policies, challenges, and initiatives within each market. Sanitation conditions in the marketplaces was also assessed through direct observations. This will include evaluating the availability and cleanliness of sanitation facilities if any, waste management practices, and overall hygiene conditions of the market place.

Demographic information such as age, gender and occupation as well as sanitation practices such as personal hygiene, waste disposal, food handling, cleanliness of the market were also assessed.

Table 1: Age distribution among the sampled population.

S/N	Age Range	Akpanandem Market	Etuk Market	Anua Market	Total
1	20–29	18	9	8	35
2	30–39	32	17	15	64
3	40–49	29	15	14	58
4	50–59	14	7	7	28
5	60–69	7	2	6	15
	Total	100	50	50	200

Data Analysis:
Descriptive statistics was used to summarize the characteristics of the sampled population. This includes measures such as mean, mode, standard deviation, variance and frequency distributions for categorical variables.

Ethical Considerations:
The participants were provided with information about the study objectives and procedures, and their voluntary participation was obtained before recruitment. All data collected was kept confidential, and participants' identities were kept anonymous during data analysis and reporting.

IV.   FINDINGS AND RESULTS

This research conducted in Akpanandem, Etuk and Anua markets aimed to investigate the sanitation practices among women in these markets and their impact on the health of these market women. The sample size consisted of 100 women from Akpanandem market, 50 women from Etuk market, and 50 women from Anua market. The age distribution of the participants was as follows: 35 women aged 20-29, 64 women aged 30-39, 58 women aged 40-49, 28

women aged 50-59, and 15 women aged 60-69. The mean age of the participants was calculated to be 41years, with the most common age being 35. The standard deviation of the age distribution was 11.47 and the variance was 131.56.

From the questionnaire results, a significant proportion of the market women in Uyo faced challenges in accessing proper sanitation facilities. Only 30% of the respondents from Akpanandem market reported having access to clean water within the marketplace, while 45% from same Akpanandem market and 10% from Etuk market reported having access to proper toilet facilities.

Hand hygiene practices were also a concern among market women with 30% of the respondents from Akpanandem market and 15% from Etuk market reported washing their hands with soap and clean water before handling food, indicating overall poor awareness and adherence to hand hygiene guidelines. The majority of respondents admitted to defecating inside their shops in plastic bags or buckets, posing significant health risks, especially the food and vegetable vendors.

The findings also revealed a significant impact of inadequate sanitation practices on the health of market women. Among the overall respondents, 50% reported experiencing diarrhea in the past three months.

With the help of the demographic information obtained from the market women, we were able to calculate the mean age and most occurring age of the 200 women that were sampled for the survey.

Table 2: Frequency distribution of the collected data

Class	Class Limit	Class Center (X)	Frequency (F)	FX
1	20–29	24.5	35	857.5
2	30–39	34.5	64	2,208
3	40–49	44.5	58	2,581
4	50–59	54.5	28	1,526
5	60–69	64.5	15	967.5
	Total		200	8,140

mean age, $\dot{x} = \dfrac{\Sigma FX}{\Sigma F}$

$= \dfrac{8,140}{200}$

$= 40.7$

Therefore, the mean age of the sample distribution is approximately 41 years.

On the other hand, the most occurring age (mode) of the distribution can also be calculated using the formulae below:

Mode $= Lm + \left\{\dfrac{\Delta 1}{\Delta 1 + \Delta 2}\right\} w$

where $\Delta 1 =$ difference between frequency of the modal class and the class before it.

$\Delta 2 =$ difference between the frequency of the modal class and the class boundary above it.

$w =$ the class width.

$= 29.5 + \left\{\dfrac{6}{6 + 29}\right\}10$

$= 29.5 + 1.714$

$= 31.21$

We can therefore conclude that the most occurring age in the distribution is approximately 35years.

The standard deviation and the variance can also be calculated using the formulae:

$S = \sqrt{\dfrac{\Sigma F/x - \dot{x}/^2}{\Sigma F}}$

Table 3: Standard deviation of the collected data

Class	Class Limit	Class Center (X)	Frequency (F)	FX	$\|X - \bar{X}\|$	$(X - \bar{X})^2$	$F(X - \bar{X})^2$
1	20 – 29	24.5	35	857.5	16.2	262.44	9,185.4
2	30 – 39	34.5	64	2,208	6.2	38.44	2,460.16

3	40 – 49	44.5	58	2,581	3.8	14.44	837.52
4	50 – 59	54.5	28	1,526	13.8	190.44	5,332.32
5	60 – 69	64.5	15	967.5	23.8	566.44	8,496.6
	Total		200	8,140			26,312

Standard deviation, $S = \sqrt{\Sigma F / x - \dot{x}/^2}$
ΣF

$$= \sqrt{26,312}$$
$$200$$
$$= \sqrt{131.56}$$
$$= 11.4699 \approx 11.47$$

Variance $= S^2 = 11.4699^2 = 131.56$

The figure 1 and 2 below is a pictorial representation with the help of a bar chart and a pie chart showing the frequency distribution of the study sample.
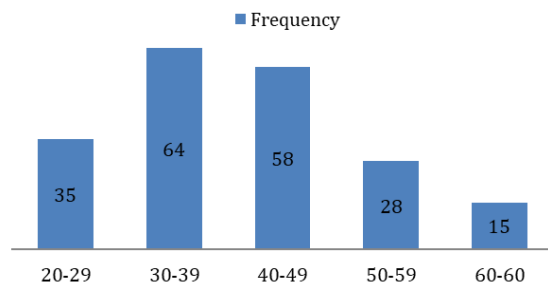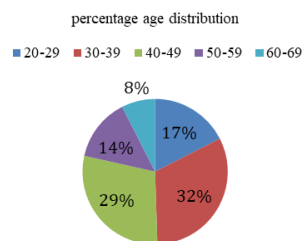

Fig 1: Bar chart showing frequency age distribution.

Fig 2: Pie chart showing percentage age distribution

V.   DISCUSSION

Findings from this study revealed a diverse age distribution among the women sampled for the research, with a significant proportion falling within 30-49 age range. This demographic trend suggests that women in their prime working and childbearing years are actively engaged in market activities, which could influence their sanitation practices and subsequently impact their health.

The mean age of 41 indicates that the sampled population was relatively mature, which may reflect their experience and knowledge regarding sanitation practices. However, the most common age of 31 suggests a concentration of women in their early thirties, who may be particularly influential in shaping hygiene behaviors within their communities.

The standard deviation of 11.47 reflects the degree of variability in the age distribution, indicating that while the mean age provides a central tendency, there is considerable dispersion among the respondents' ages. This variability could be attributed to factors such as socio-economic status, cultural norms, and individual preferences, all of which may influence sanitation practices differently across age groups and market locations.

VI.   CONCLUSION

Based on the findings, it can be concluded that there is a diverse age distribution among women in the sampled markets, with a concentration of individuals in their thirties and forties. This demographic information suggests that interventions aimed at improving sanitation practices should target women within this age range, as they represent a significant portion of the market-going population.

The prevalence of women aged 30-49 underscores the importance of understanding their specific needs, preferences and challenges regarding sanitation and health. By tailoring interventions to address these demographic characteristics, stakeholders can develop more effective strategies for promoting hygiene behaviors and mitigating health risks in market settings.

VII.   INFERENCE

The findings infer that age plays a significant role in shaping sanitation practices among women in market

environments. Younger women may have different priorities and preferences compared to older women, influencing their attitudes and behaviors towards hygiene. Understanding these age-related dynamics is crucial for designing targeted interventions that resonate with the diverse needs and preferences of market-going women across different age groups.

VIII. RECOMMENDATIONS

Develop targeted hygiene promotion campaigns tailored to the specific needs and preferences of women aged 30-49, who represent a significant portion of the market-going population.

Implement community-based initiatives that empower women to take ownership of sanitation practices within the market and communities, leveraging influential women within the mid-thirties age group as role models and advocates.

Provide accessible and affordable hygiene products and facilities within market settings, catering to the diverse needs of women across different age groups and market locations.

Collaborate with local authorities, market associations, and community leaders to enforce hygiene regulations and standards, ensuring the sustainability of sanitation interventions in the long term.

Implement health education programs that specifically target market women, market authorities, and the wider community. These programs should focus on raising awareness about proper sanitation practices, including hand hygiene, waste management, and the importance of personal hygiene.

Conduct further research to explore the underlying factors driving age-related differences in sanitation practices and health outcomes among women in market environments, informing the development of evidence-based interventions and policies.

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