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2. The LJN has the tripartite mission of:
 - (a) Promoting a culture of excellence in Nursing Research.
 - (b) Encouraging the exchange of profound and innovative ideas capable of generating creative practice in nursing research practise.
 - (c) Disseminating information on nursing related development that are not usually easily available to academics and practitioners.
3. The Journal will accordingly encourage the publication of the following categories of papers.
 - (a) Research papers that move away from orthodoxy and which really break new grounds in terms of methodology and findings.
 - (b) Essays and issues papers that contribute to reorienting received ideas, values and practices.
 - (c) Documents emanating from national and international conferences, as well as from largescale research work that emerging trends and thinking in nursing related development.
4. LJN is published biannually in any area of nursing interest or relevant to needs of academics and practitioners.

In this edition, nineteen (19) manuscripts scale through the eye of the needle of the Editor-in Chief. The title of the papers in this edition are: Assessment of client satisfaction with contraceptive services in public health care facilities in Zamfara State, Nigeria; Sociocultural and economic determinants of open defecation practices in Kano State, Nigeria; effect of simulation based training on midwives' skills in managing retained placenta with umbilical vein oxytocin injection in health facilities, Osun State, Nigeria; Nurses Level Of Preparedness In Management Of Patient With Viral Hemorrhagic Fever In Emergency Ward In University Of Ilorin Teaching Hospital, **Nigeria**; Nursing Education: A Sine Qua Non For Addressing The Healthcare Demands Of The 21st Century; Influence Of Nursing Training On Their Competency In Selecting Wound Dressing Materials At A Secondary Health Facility In Ilorin, Kwara State, Nigeria; Prevalence And Outcome Of Malaria Infection Among Children Below 11 Years In A Tertiary Healthcare Facility In Benin City From 2018-2020; Factors Influencing Prevalence Of Gender Based Violence Among Men And Women In Bagudo LGA Kebbi State, Nigeria; Knowledge Of Health Implications Of Rape And Associated Factors Among Male Undergraduates In Ahmadu Bello University Zaria, Nigeria; Quackery In Nursing, The Causes, Effects And Control Measures: The Nigeria Experience; Knowledge, attitude and practice of injection safety among nurses in Nigeria: a case study of University of Ilorin Teaching Hospital Ilorin, Kwara State, Nigeria; Awareness Of Computer Vision Syndrome Among Staff Of Information Communication And Technology Unit Of University Of Benin Teaching Hospital, Benin City, Edo State, Nigeria; Utilization Of Personal Protective Equipment Against Organic Dusts Among Poultry Farmers In Ona-Ara Local Government Area, Ibadan, Nigeria; Predictors Of Surgical Site Infection Amongst Post Operative Patients In Federal Medical Centre Lokoja, Nigeria; Evaluation Of The Involvement Of Nurses In Policies And Policy Formulation In Nigeria; Determinants of Stress and Coping Mechanisms among Nurses in Aminu Kano Teaching Hospital, Kano State, Nigeria; Influence Of Nursing Training On Their Competency In Selecting Wound Dressing Materials At A Secondary Health Facility In Ilorin, Kwara State, Nigeria; Adaptation To Stress And Academic Performance Of Students In Nursing Institutions In Oyo State, Nigeria; Medication Adherence And Quality Of Life Of Hypertensive Patients Attending Selected Hospitals In Port Harcourt, Rivers State, Nigeria; Perspectives Of Youth On The Legalization Of Abortion In North Central Nigeria.

EDITORIAL DESK

Welcome to LAUTECH Journal of Nursing!

LAUTECH Journal of Nursing focus on but not limited to research findings in the different areas of Nursing: Nursing Care, Nursing Education, Medical Surgical Nursing, Maternal and Child Health Nursing, Community Public Health Nursing, and Psychiatric/Mental Nursing. This journal is published to promote quality scholarly writing and hence instigating and generating vibrant discourse in the different areas of nursing. Apart from providing an outlet for publications of research findings, it offers opportunities for professionals and students to disseminate their views or position on topical issues and emerging theories within the scope of the journal. The Journal is peer reviewed by seasoned scholar. Eighty authors have contributed in one way or the other to the thirteenth edition of the journal.

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U.S. General Accounting Office. Feb., 1997, Telemedicine: federal strategy is needed to guide investments. Publication No. GAO/NSAID/HEHS-97-67. Retrieved Sept. 15,2000, from http://www.access.gpo.gov/su_docs/aces160.shtml?/gao/index.html.

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SOCIO-CULTURAL AND ECONOMIC DETERMINANTS OF OPEN DEFECATION PRACTICES IN KANO STATE, NIGERIA.

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ABSTRACT

Approximately one billion individuals around the world continue to engage in open defecation, with an additional 1.4 billion relying on unimproved toilet facilities. In Nigeria, up to 105 million people lack access to safe and improved toilet facilities; of these, nearly 40 million practice open defecation. The aim of the study was to assess the socio-cultural and economic determinants of open defecation practices in Kano State, Nigeria. The study was conducted using a descriptive cross-sectional design. A total of 423 head of households participated in the study within six LGAs and Twelve communities in Kano State. The Interviewer Administered Questionnaire was developed by the researcher in line with the study objectives after reviewing various relevant literatures. The data was analyzed using SPSS version 25.0 presented in tables, frequencies and percentages including inferential statistics. The demographic characteristics of respondents shows that majority are within the ages of 16–25 years (30%), male (79.9%), with the family size of 6–10 (37.2%) and no formal education. (68.3%). Also majority of the respondents are unemployed (42.4%), married (83.5%), Hausa/Fulani (80.6%), with \leq 30,000/Month (68.6%) and are Moslems by religion (99.1%), living in rural areas (53.7%) but does not practice open defecation (53%). This study noted that the cultural determinants of open defecation include Household head's education level ($\bar{\chi}=2.81$), taboos against enclosed defecation ($\bar{\chi}=2.94$), beliefs about the harmlessness of children's faeces ($\bar{\chi}=2.73$), OD is a continuation of ancestral practices ($\bar{\chi}=2.92$), restrictions on girls' toilet use during menstruation ($\bar{\chi}=2.95$) social modeling of outdoor defecation by respected community members ($\bar{\chi}=2.98$). This study further indicates that the Socio-Economic determinant of open defecation among residents in Kano State are

lack of money and manpower for toilet construction ($\bar{\chi}=2.93$), availability of sanitation tools and water ($\bar{\chi}=3.10$), Availability of water in the toilet ($\bar{\chi}=3.44$), Extent of financial difficulties ($\bar{\chi}=3.14$), Level of capabilities to purchase personal latrines ($\bar{\chi}=2.77$) and Self-rated ability to build latrines ($\bar{\chi}=2.50$). Lastly, this study indicates that other determinants of open defecation include Lack of social capacity (community support) ($\bar{\chi}=3.13$), Access to media ($\bar{\chi}=3.23$), Degree of public toilets hygiene ($\bar{\chi}=3.49$), Level of education the community ($\bar{\chi}=3.15$), Level of public latrine safety ($\bar{\chi}=3.71$) and Level of public latrine safety and convenience ($\bar{\chi}=3.91$) It was therefore, recommended that public health nurses, Kano State Government, community leaders and community members have an important role such as mass campaign, review of all outdated policies on OD and cultural reorientation toward open defecation practices.

Keywords: Socio-cultural; Economic; Determinants; Open Defecation; Practices.

INTRODUCTION

Open defecation is strongly associated with incidence of diarrheal disease, prevalence of helminthic infection and stunting, especially in children less than five years of age. Globally, almost 1 billion people practice open defecation (OD), having no toilet at home; the majority are rural dwellers in less-developed countries (WHO/UNICEF, 2014). Nigeria is home to a significant number of open defecators and has experienced the largest increase in the number of open defecators of any country during the past 15 years, increasing from 23 million in 1990 to 39 million in 2012 (WHO/UNICEF, 2014). Of the one billion people that practice OD worldwide,

about 49 million are Nigerians. It was estimated that around 68 million Nigerians would be added between now and 2025 if concerted efforts were not made to address the problem (Olajuyigbe, 2016; Musbau, 2014).

Nigeria was ranked 4th among countries with the highest percentages of OD as of 2014. In 2019, a Water Sanitation and Hygiene (WASH) survey conducted by the United Nations Children's Fund (UNICEF) showed the prevalence of OD in Nigeria. This survey ranked Nigeria as the African country with the highest number of people practicing OD and second globally after India (Adedigba, 2019). Anecdotal reports by WASH indicated that Kano State contributes a significant proportion of open defecators in Nigeria (Adedigba, 2019). The United Nations reported that about 82% of the 1 billion people practicing OD worldwide lived in just 10 countries: India, Indonesia, Pakistan, Nigeria, Ethiopia, Sudan, Niger, Nepal, China, and Mozambique (UN, 2014). In sub-Saharan Africa, an estimated 215 million people practice OD (John, 2017). The majority of OD practices, defined in national health surveys as defecating in fields, forests, bushes, bodies of water, or other open spaces, occur in rural areas of low-income countries. Although the proportion of people practicing OD in sub-Saharan Africa declined by 23.5 million from 1990 to 2010, the total number increased by 33 million over the same period due to population growth (WHO/UNICEF, 2014). In 2010, OD was practiced by 8% of the urban population and 35% of the rural population in sub-Saharan Africa (WHO/UNICEF, 2014).

Various factors impact the practicality and acceptability of sanitation systems, including cost, affordability, and community characteristics. There is a correlation between latrine ownership, open defecation (OD), and household socioeconomic status. Owners of improved latrines tend to be wealthier, more educated, and have higher literacy rates compared to those with unimproved latrines or those who practice OD. Typically, low-income

groups spend no more than 2–5% of their income on excreta disposal (Abubakar, 2018; Essuman, 2015). Financial constraints present two main challenges: they prevent homeowners from building household toilets and hinder individuals from affording public toilet fees. Consequently, households that cannot afford public toilet fees or construct toilet facilities often resort to OD (Essuman, 2015).

Water Aid (2011) identified negative attitudes, such as carelessness, disregard for traditional authority, and community norms, as drivers of OD, indicating that law enforcement is ineffective. In disadvantaged communities, latrine adoption follows three behavioral patterns: preference, intention, and choice, with choice being influenced by individual financial circumstances. Social norms, which govern individual behavior within a society, also play a significant role in OD. These norms include behavioral standards upheld by the community and existing traditions and cultural practices. Family members, peers, and community members who practice OD perpetuate this behavior, which is often deeply rooted in cultural traditions from childhood. O'Connell (2014) observed that in Peru, OD is considered "the most natural thing" and described it as a traditional, habitual part of daily routine, with these social norms being strongly upheld by practitioners. In Uganda during the late 1940s, people avoided using latrines, fearing that their fixed location would make excreta accessible to sorcerers for malicious purposes and that contact with one's own feces could cause "spiritual contamination." Consequently, random defecation in the bush was considered safer. This study examines the socio-cultural and economic determinants of open defecation practices in Kano State, Nigeria.

Objectives of the study

1. To identify the socio-cultural determinants of open defecation practices in Kano State, Nigeria

2. To determine the socio-economic determinants of open defecation practices in Kano State, Nigeria
3. To identify other non-specific determinants of open defecation practices in Kano State, Nigeria.

METHODOLOGY

Research Design and Instrument: Descriptive cross-sectional design was used to determine the cultural and economic factors influencing the practice of open defecation.

Setting: The research team conducted this study across three senatorial zones of Kano State in Northwestern Nigeria. Kano State occupies a geographical position between 13° North and 11° North latitude, and between 8° West and 10° East longitude. A total land area

of 20,760 square kilometers comprises Kano State, which has a 2021 projected population of 15,076,892 according to the official 2006 National Population Census figures. Four states border Kano State: Katsina State to the northwest, Jigawa State to the northeast, Bauchi State to the southeast, and Kaduna State to the southwest. Kano State sits in Northern Nigeria, within the Sahelian geographic region south of the Sahara (Ilifye, 2017). The Nigerian government established Kano State on May 27, 1967, during the country's transition to a 12-state structure. The state's administrative structure includes 44 Local Government Areas (LGAs), which form twenty-four federal constituencies and three senatorial zones. These zones consist of Kano Central with 15 LGAs, Kano North with 14 LGAs, and Kano South with 15 LGAs (Citypopulation, 2021). The city of Kano functions as the state capital.

Table 1: Showing the population of LGA selected at random for the study

S/No	LGA	Population
1.	Kano Municipal	516,400
2.	Garun Malam	165,000
3.	Gwarzo	255,400
4.	Tofa	137,200
5.	Rano	206, 200
6.	Bebeji	266,900

(Citypopulation, 2021)

Sample Size Determination: The sample size for the study was determined by using a single population proportion formula used in household surveys (Tessema, 2017):

$$n = Z^2(1 - \alpha/2) \times (P(1 - P))/d^2$$

Where: n= minimum sample size
 Z= Normal Standard Deviation = 1.96 at 95% C.I
 $\alpha = (1-p) = 1 - 0.50 = 0.50$
 p= prevalence rate = 0.50 (Tessema, 2017)
 d= degree of error = 0.05
 $n = \frac{0.50 \times 0.50 \times (1.96)^2}{(0.05)^2}$
 n= 385

By considering the desired precision of (d²) 5%, a 95% (Z_{1-∞/2}) with normal distribution of 1.96 and P of 0.5, the final sample size was **423** including 10% non-response rate.

Sampling Technique: A multistage sampling technique was used in the study where:

Stage One: Selection of LGAs from the senatorial zones

The research team selected two LGAs from each senatorial zone through simple random sampling (Paper-Basket method). These selections included one rural and one urban/semi-urban LGA from each zone. The selection process began by grouping all rural LGAs separately from urban/semi-urban LGAs in each senatorial district. Random

selection then occurred from these grouped categories.

Stage Two: Selection of Wards from the selected LGAs

The research team divided each selected LGA into its constituent political wards. Paper-basket sampling method yielded one random political ward from each participating LGA for the study. Population size of each LGA determined the proportional distribution of 423 questionnaires.

Stage Three: Selection of Settlements or Villages from the selected Wards

Two settlements or villages were randomly selected using paper-basket method from each selected ward to participate in the study, making a total of twelve (12) settlements or villages.

Stage Four: Selection of Households from the selected Settlements or villages

The research team used systematic sampling technique to select households, utilizing house number lists as the sampling frame. Adult members from each selected household provided responses to the Interviewer Administered Questionnaire (IAQ) for quantitative data collection. The sampling protocol required selection of the next household when adult members were absent during data collection visits.

Instrument: An Interviewer Administered Questionnaire was developed by the researcher in line with the study objectives after reviewing various relevant literatures. The questionnaire was divided into four (4) sections: Section A focused on socio-demographic characteristics of the study participants with eleven items (11); section B comprises of items on the socio-cultural determinants of OD; section C comprises of items on the socio-economic determinants of OD and section D comprises of items on other non-specific determinants of OD. The cultural determinants of open defecation among residents in Kano State is assessed using a 4 grade likert scale. An Aggregate Mean Score of 2.67 was used in making decision/remarks.

Data Analysis: The interviewer administered questionnaires were reviewed for completeness prior to coding. It was

considered complete when it was at least 85% responded, else it was rejected. However, because it was interviewer administered, all the 423 questionnaires were retrieved, the data was then coded, sorted and cleaned for analysis using SPSS version 25. All statistical data were entered in the Statistical Package for Social Sciences (SPSS) version 23. Data were organized, tabulated and analysed using both descriptive statistics.

Ethical Considerations: Ethical clearance was obtained from operational research and ethical committee of Kano State Ministry of Health with number MOH/off/797/T.I/1132 and permission from the LGAs selected for the study was sought. An informed consent was obtained from each study participants after they had been given an explanation of the research, and what they were expected to do and informed that their participation is voluntary.

RESULT

A total of 423 respondents participated in the study. This analysis presents the socio-demographic characteristics of respondents, including age, sex/gender, family size, educational qualifications, occupation, marital status, ethnicity, and estimated family monthly income. Additional variables include religion, residential settings, and Local Government Area of residence.

Table 1 shows that respondents ranged from 16 to 90 years of age, with a mean age of 39.7 ± 15.3 years. The age group of 26-35 years represented 30% of respondents. Males constituted 79.9% of participants, and 37.2% of respondents reported family sizes of 6-10 persons. Data analysis revealed that 68.3% of respondents lacked formal education. The unemployment rate among respondents stood at 42.4%, and 68.6% reported monthly family incomes at or below 30,000 Naira, based on Nigerian minimum wage standards. Most respondents (83.5%) identified as married and belonged to the Hausa/Fulani ethnic group (80.6%). Rural residents comprised 53.7% of the sample population.

Table 1: The Socio-Demographic Characteristic (n=423)

Socio-Demographic Characteristics	N	%
Age (in Years):		
16-25	73	17.2
26-35	127	30.0
36-45	101	23.9
46-55	57	13.5
56 and above	65	15.4
Range:	16 – 90	
Mean ± SD:	39.7±15.3	
Sex:		
Male	338	79.9
Female	85	20.1
Family Size:		
1-5	130	30.7
6-10	157	37.2
11-15	78	18.4
16 and above	58	13.7
Mean ± SD	9.5±6.9	
Highest Educational Qualification:		
No formal education	289	68.3
Primary education	18	4.3
Secondary education	59	13.9
Tertiary education	57	13.5
Occupation:		
Public/Civil Servant	54	12.8
Farming	26	6.1
Business/Petty Trading	119	28.1
Artisans work	45	10.6
Unemployed	179	42.4
Marital status:		
Married	353	83.5
Single	16	3.8
Divorced	8	1.9
Widow	46	10.8
Ethnicity:		
Hausa/Fulani	341	80.6
Fulani	63	14.9
Others	19	4.5

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Estimated Family Monthly Income status:

-----	290	68.6
> 30,000 to 60,000/Month	106	25.1
> 60,000 to 90,000/Month	15	3.5
> 90,000/Month	12	2.8
Religion:		
Islam	419	99.1
Christianity	4	0.9
Residential Setting:		
Rural	227	53.7
Urban/Semi Urban	196	46.3
practiced open defecation		
Yes	199	47.0
No	224	53.0

Table 3 revealed that 40.2% which forms the majority agreed that open defecation was a normal practice in the community and 43.7% agreed that defecating at home is associated with evil spirit but majority of the respondents disagreed with all other determinants of open defecation such as Faeces should not be kept at home, Shared toilet is associated with evil spirit, defecating in an enclosed place is taboo and Children faeces is harmless. They also disagreed that OD is a continuation of ancestor's way of life; Defecating in public toilets leads to loss of magical powers and Girls should not defecate in the toilet during menstruation. This study reveals that the

cultural determinants of open defecation include Household head's education level ($\bar{\chi}=2.81$), taboos against enclosed defecation ($\bar{\chi}=2.94$), beliefs about the harmlessness of children's faeces ($\bar{\chi}=2.73$), OD is a continuation of ancestral practices ($\bar{\chi}=2.92$), restrictions on girls' toilet use during menstruation ($\bar{\chi}=2.95$) social modeling of outdoor defecation by respected community members ($\bar{\chi}=2.98$), while Absence of toilet facilities and water ($\bar{\chi}= 2.00$), Potential community desirability bias ($\bar{\chi}=2.33$). Shared toilet is associated with evil spirit ($\bar{\chi}=2.55$). Defecating in public toilets leads to loss of magical powers ($\chi=2.64$) are not.

Table 3: Cultural Determinants of Open Defecation (based on the respondents practicing OD)

Cultural Determinants of OD	Strongly Agreed		Agreed		Disagreed		Strongly Disagreed		Mean	± SD	Remarks
	N	%	n	%	N	%	n	%			
Household head's education level	63	31.7	80	40.2	49	24.6	7.0	3.5	2.81	± 0.84	Significant
Absence of toilet facilities and water	13	6.5	17	8.5	163	81.9	6.0	3.0	2.00	± 0.58	Not Significant
Potential community desirability bias	40	20.1	63	31.7	87	43.7	9.0	4.5	2.33	± 0.84	Not Significant
Shared toilet is associated with evil spirit	21	10.6	57	28.6	112	56.3	9.0	4.5	2.55	± 0.74	Not Significant
taboos against enclosed defecation	3.0	1.5	10	5.0	176	88.4	10	5.0	2.97	± 0.40	Significant
beliefs about the harmlessness of children's faeces	12	6.0	39	19.6	138	69.3	10	5.0	2.73	± 0.64	Significant
continuation of ancestral practices	7.0	3.5	9.0	4.5	175	87.9	8.0	4.0	2.92	± 0.47	Significant
Defecating in public toilets leads to loss of magical powers	21	10.6	40	20.1	128	64.3	10	5.0	2.64	± 0.73	Not Significant
restrictions on girls' toilet use during menstruation	6	3.0	8.0	4.0	174	87.4	11	5.5	2.95	± 0.46	Significant
social modeling of outdoor defecation by respected community members	2	1.0	10	5.0	176	88.4	11	5.5	2.98	± 0.38	Significant
Aggregate Mean Score:									2.67		

M: Mean SD: Standard Deviation Level of Sig 2.67

This section explored socioeconomic determinants of open defecation among Kano State residents. Key factors include financial capacity to build toilets, availability of water and sanitation tools, and financial constraints affecting latrine construction. The analysis also examines household priorities, comparing latrine construction against expenses such as mobile phones, bicycles, and school fees. Data analysis shows that 39.7% of respondents reported moderate financial and labor constraints in toilet construction. Similarly, 39.2% indicated moderate availability of sanitation tools. Water availability in toilets and general financial difficulties in latrine construction showed moderate levels at 46.2% and 40.7% respectively. Most respondents indicated that competing expenses such as mobile phones, school fees, and bicycles did

not take priority over latrine construction. However, self-rated ability to build latrines received mostly moderate ratings.

The study results reveal several key socioeconomic determinants of open defecation in Kano State. Primary factors include lack of money and manpower for toilet construction ($\bar{\chi}=3.44$), general financial difficulties ($\bar{\chi}=3.14$), availability of sanitation tools and water ($\bar{\chi}=3.10$). Secondary factors comprise extent of financial difficulties ($\bar{\chi}=2.93$), capacity to purchase personal latrines ($\bar{\chi}=2.77$), and self-rated ability to build latrines ($\bar{\chi}=2.50$). The study found that potential competing priorities such as school fees ($\bar{\chi}=1.67$), mobile phones ($\bar{\chi}=1.14$), and household bicycles ($\bar{\chi}=1.11$) had minimal impact on latrine construction decisions.

Table 4: Socio-Economic Determinants of Open Defecation (n =199)

Socio-Economic Determinants of OD	Not At all		Not much		A moderate Amount		Very much		An extreme Amount		Mean	±SD	Remarks
	n	%	n	%	n	%	n	%	n	%			
lack of money and manpower for toilet construction	19	9.5	43	21.6	79	39.7	49	24.6	9	4.5	2.93	±1.01	Significant
availability of sanitation tools and water	8	4.0	49	24.6	78	39.2	43	21.6	21	10.6	3.10	±1.02	Significant
Availability of water in the toilet	4	2.0	19	9.5	92	46.2	54	27.1	30	15.1	3.44	±0.92	Significant
Extent of financial difficulties	8	4.0	38	19.1	81	40.7	63	31.7	9	4.5	3.14	±0.91	Significant
capacity to purchase personal latrines	23	11.6	54	27.1	75	37.7	40	20.1	7	3.5	2.77	±1.01	Significant
Mobile phone is more important than latrines	180	90.5	12	6.0	6	3.0	1	0.5	0	0.0	1.14	±0.45	Not Significant
School fees is more important than latrines	132	66.3	14	7.0	41	20.6	10	5.0	2	1.0	1.67	±1.02	Not Significant
A bicycle for household is more important than latrines	182	91.5	13	6.5	4	2.0	0	0.0	0	0.0	1.11	±0.36	Not Significant
Self-rated ability to build latrines	56	28.1	38	19.1	59	29.6	41	20.6	5	2.5	2.50	±1.18	Significant
Aggregate Mean Score:											2.42		

M: Mean SD: Standard Deviation Level of Sig 2. 42

The analysis yielded an aggregate mean score of 3.01, which served as the baseline for evaluating variables. Data shows that 46.7% of respondents reported minimal difficulties in accessing latrines when needed. Most respondents indicated moderate ratings for public toilet convenience, social capacity, satisfaction with toilet durability, and cleanliness of public facilities. Public toilet hygiene, safety, and convenience received notably high ratings from most respondents. The data also reveals that 35.7% of respondents reported no feelings of shame or embarrassment. The study identified several significant determinants of open defecation

practices. The most influential factors include public latrine safety and convenience ($\bar{\chi}$ =3.91), level of public latrine safety ($\bar{\chi}$ =3.71), and degree of public toilets hygiene ($\bar{\chi}$ = 3.49). Additional important factors comprise access to media ($\bar{\chi}$ = 3.23), community education levels ($\bar{\chi}$ = 3.15), and lack of social capacity or community support ($\bar{\chi}$ = 3.13). Less significant determinants included the level of satisfaction with toilet durability ($\bar{\chi}$ = 2.71), feelings of shame and embarrassment ($\bar{\chi}$ =2.24), and difficulties in accessing latrines ($\bar{\chi}$ =2.00). These factors fell below the aggregate mean threshold, indicating their reduced impact on open defecation practices.

Table 5: Distribution of Respondents According to Other Determinants of Open Defecation (n=423)

Other Determinants of OD	Not At all		Not much		Moderate Amount		Very much		Extreme Amount		M	± S D	Remarks
	N	%	N	%	N	%	N	%	N	%			
Degree of difficulties to access latrines	55	27.6	9	46.3	47	23.6	4	2.0	0	0.0	2.0	0.7	Not Significant
Degree of Public toilets convenience	18	9.0	5	26.3	97	48.7	30	15.1	1	0.5	2.7	0.8	Not Significant
Lack of social capacity (community support)	7	3.5	2	12.4	10	53.8	59	29.6	2	1.0	3.1	0.7	Significant
Level of satisfaction with durability of toilets tools	26	13.1	7	35.7	75	37.7	25	12.6	2	1.0	2.5	0.9	Not Significant
Access to media	2	1.0	2	11.2	10	54.8	62	31.2	5	2.5	3.2	0.7	Significant
Degree of public toilets hygiene	4	2.0	1	7.0	69	34.7	10	52.8	7	3.5	3.4	0.7	Significant
Level of education the community	4	2.0	2	11.2	11	58.3	54	27.1	3	1.5	3.1	0±.71	Significant
Level of public latrine safety	4	2.0	1	5.5	45	22.6	11	58.7	22	11.1	3.7	±0.81	Significant
Level of public latrine safety and convenience	1	0.5	6	3.0	35	17.6	12	62.4	33	16.6	3.9	±0.71	Significant

Feeling of shame and embarrassment.	71	35.7	4.9	24.6	47	23.6	24	12.1	8	4.0	2.24	± 1.17	Not Significant
Aggregate Mean Score:												3.01	
M: Mean	SD: Standard Deviation		Level of Sig 3.01										

DISCUSSION

This study identifies the socio-cultural and economic determinants of open defecation practices in Kano State, Nigeria. The demographic profile reveals that most respondents share specific characteristics: they fall within the age range of 16-25 years, are male, have family sizes of 6-10 members, and lack formal education. The majority are unemployed, married, of Hausa/Fulani ethnicity, earn ≤ 30,000 monthly, practice Islam, and live in rural areas. Despite these characteristics, most respondents do not practice open defecation.

Cultural determinants of open defecation encompass several beliefs and practices: household head's education level, taboos against enclosed defecation, beliefs about the harmlessness of children's faeces, continuation of ancestral practices, restrictions on girls' toilet use during menstruation, and social modeling of outdoor defecation by respected community members. These findings align with O'Connell's (2014) research in Tanzania, which found that 40% of survey respondents considered open defecation normal in their community, with agreement reaching 80% in some areas. Similarly, in Bihar, 49% of open defecators expressed comfort with the practice.

The socio-economic determinants identified include: lack of money and manpower for toilet construction, availability of sanitation tools and water, extent of financial difficulties, capacity to purchase personal latrines, and self-rated ability to build latrines. These findings support Routray, Wolf-Peter, Sophie, & Thomas's (2015) research showing widespread difficulty among household heads in saving money for toilet construction. The study also aligns with O'Connell's (2014) observation that Tanzanian communities prioritize livestock

purchases over latrine construction. However, these findings contrast with Mukherjee, Robiarto, & Saputra's (2012) research in rural East Java, where open defecators often owned valuable assets like color TVs, motorbikes, and mobile phones that exceeded the cost of basic improved latrines available through installment credit.

This study indicates that other determinants of open defecation include Lack of social capacity (community support), Access to media, Degree of public toilets hygiene, Level of education the community, Level of public latrine safety and Level of public latrine safety and convenience. This study contradicts the findings of Wateraid, (2007) who indicates that households with access to latrines had increased from 5% to 46% with 6 out of the 13 communities in Jigawa and Benue States of Nigeria. This finding is contrary to O'Connell, (2014) who reported that respondents are ashamed of open defecation in Tanzania.

The majority of respondents considered open defecation (OD) a normal community practice, particularly in rural study areas where cultural traditions remain strong. This normalization stems from intergenerational practices, as family members, peers, and community members engage in OD as a behavior rooted in cultural tradition and learned from childhood. O'Connell (2014) describes OD as traditional, habitual, and part of daily routine, with these social norms strongly maintained by practitioners. This aligns with O'Connell's Tanzania study, where 40% of respondents considered OD normal in their communities, reaching 80% agreement in some areas. Similarly, in Bihar, 49% of open defecators acknowledged their habitual practice.

Two-fifths of respondents reported moderate financial and labor constraints in toilet

construction, contrasting with Routray, Wolf-Peter, Sophie, & Thomas's (2015) findings where 82.5% of household heads cited significant difficulty in saving money for construction, and 89.2% of non-adopters cited lack of money as their primary reason. Similarly, two-fifths reported moderate availability of sanitation tools, while 46.2% and 40.7% indicated moderate water availability and financial difficulties for latrine construction, respectively. These findings differ from O'Connell's (2014) Tanzanian study, where 43% of respondents prioritized livestock purchases and 50% preferred phone purchases over latrine construction.

Regarding latrine accessibility, slightly less than half of respondents reported minimal difficulties, supporting Wateraid's (2007) findings in Jigawa and Benue States, where household latrine access increased from 5% to 46%, with six communities achieving nearly complete sanitation coverage. Most respondents indicated moderate ratings for public toilet convenience, social capacity, cleanliness, and facility durability. Public toilet hygiene, safety, and convenience received high ratings. Notably, 35.7% of respondents reported no shame or embarrassment about OD, contrasting with O'Connell's (2014) findings in Tanzania, where 42% of open defecators felt ashamed due to collapsed latrines. In Kenya, 89% of households acknowledged community shame around lacking latrines, and 37% of latrine owners expressed shame when their facilities were unusable.

CONCLUSION AND RECOMMENDATIONS

Based on the study findings, multiple factors determine open defecation (OD) practices in Kano State. Cultural determinants include beliefs linking dirty lifestyles to wealth. Economic factors encompass inability to pay for public toilet use and lack of resources for toilet construction. Behavioral and attitudinal factors include habitual evening OD practices, arrogance, irresponsible behaviors, poor

sanitation attitudes, ill-health considerations, and ingrained habits.

Based on these findings and the contextualized framework, the study recommends:

- i) The Kano State government should establish adequate public latrines in strategic locations, particularly near markets, central mosques, industrial areas, and Tsangaya schools through public-private partnerships.
- ii) Federal, state, and local governments should provide adequate and sustainable funding to Local Government Area and State WASH departments.
- iii) Federal and state governments should implement substantial subsidies and incentives for household and community latrine construction.
- iv) Community leaders, working with Community Based Organizations (CBOs) and NGOs, should establish frameworks for social support, community mobilization, and participation in sanitation initiatives.
- v) CBOs and community leaders should focus on empowering households and communities, particularly middle-income to poorest households, to build, adopt, and manage their own latrines.

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