

Demographic determinants of pharmaceutical product use information utilization: empirical evidence from Taraba State, Nigeria

Tanko Danjuma Ngati *

Department of Business Administration, Faculty of Management Sciences, Federal University, Wukari, Taraba State, Nigeria.

International Journal of Science and Research Archive, 2026, 19(03), 787-796

Publication history: Received on 11 May 2026; revised on 16 June 2026; accepted on 19 June 2026

Article DOI: <https://doi.org/10.30574/ijrsra.2026.19.3.1364>

Abstract

This study examines consumer attitudes towards pharmaceutical product use information (PUI), with focus on the role of demographic variables and product complexity as determinants of utilization. A cross-sectional survey drew 952 respondents from 1,381 daily customers across sixteen major pharmaceutical stores in Jalingo Local Government Area, Taraba State, Nigeria. Data were analysed using descriptive statistics, Chi-square tests, Binary Logistic Regression, and Ordinary Least Square (OLS) regression via SPSS 25. Findings show that 86 percent of consumers utilise pharmaceutical PUI. Consumers derive significant benefits from PUI, including improved medication adherence, dosage awareness, and identification of adverse reactions. Consumer perceptions towards PUI are overwhelmingly positive. Marital status ($p = 0.002$), educational qualification ($p = 0.010$), and social status ($p = 0.015$) significantly predict PUI utilisation, while sex, age, and income do not. Product complexity positively and significantly predicts PUI utilisation (Beta = 0.117, $p < 0.01$). The study contributes the first comprehensive Nigerian empirical evidence on pharmaceutical PUI utilisation determinants.

Keywords: Consumer Attitude; Product Use Information; Pharmaceutical Products; Demographic Variables; Product Complexity; Nigeria

1. Introduction

Pharmaceutical products are central to public health, and their safe and effective use depends fundamentally on the utilisation of product use information (PUI). PUI, typically presented as a package insert or prescribing information leaflet, conveys guidance on dosage, contraindications, ingredients, and expected therapeutic outcomes (ISO, 2009). Despite this function, Gerbert (1988) established that only a third of users consult instructional documentation, and Bagram and Khan (2012) confirmed that over half of consumers rarely or never read PUI across product categories.

The problem assumes acute significance in Nigeria. Andrew (2017) reports that at least 70 percent of pharmaceutical products circulating in Nigeria are counterfeit, contributing to at least 100,000 deaths annually across Africa. The National Agency for Food and Drug Administration and Control (NAFDAC) has consequently mandated information leaflets in all pharmaceutical packaging as a safeguard for consumer safety (Joshua et al., 2013). Yet despite this regulatory imperative, empirical research on consumer attitudes towards pharmaceutical PUI in Nigeria remains very limited. International studies have examined PUI in German electrical appliance contexts (Bettina and Jorgen, 2004), UK food labelling (Food Standards Agency, 2010), and Malaysian pharmaceutical buying behaviour (Neelkanth and Anupam, 2016), but none has systematically investigated the joint role of sociodemographic variables and product complexity as predictors of pharmaceutical PUI utilisation within a Nigerian empirical framework.

* Corresponding author: Tanko Danjuma Ngati

This study addresses that gap. Its objectives are: to ascertain the extent of PUI utilisation among pharmaceutical consumers; to determine the benefits accrued from PUI; to examine consumer perceptions towards PUI; to investigate the influence of demographic variables on PUI utilisation; and to analyse the impact of product complexity on PUI utilisation. The paper is structured as follows: Section 2 presents the statement of the problem and literature review; Section 3 describes the methodology; Section 4 reports and discusses the findings; Section 5 concludes and offers recommendations.

2. Statement of the Problem and Literature Review

2.1. Statement of the Problem

Bettina and Jurgen (2004) investigated the influence of product use information on customer usage behaviour in Germany and concluded that it is very difficult to communicate instructional product information to customers. Across a broad range of products, most especially non-complex and widely used domestic appliances, instruction manuals are consistently found not to be read. Their study, however, was limited entirely to electrical appliances in a German context and did not extend to pharmaceutical products or developing country consumers.

Neelkanth (2016), studying consumer pharmaceutical buying behaviour towards prescription and non-prescription drugs in Malaysia, found that consumers prioritise personal medication preference and pricing over physician or pharmacist recommendation. Although this study engaged pharmaceutical products and consumer behaviour as variables, it was confined to prescription drug selection and buying behaviour, excluding consumer attitudes towards PUI as a substantive variable.

The Food Standards Agency (2010) studied public attitudes towards food labelling in the United Kingdom, finding that food labels are read by approximately half the population for safety, hygiene, and quality assurance purposes. The Food Safety Authority of Ireland (2009) similarly found that consumers are least likely to consult labels on everyday food products. Brad (1998) examined warning label effects in the United States, finding that consumers who perceive warning labels as restrictions on freedom may exhibit psychological reactance, making warnings counterproductive. These studies, however, addressed consumer attitudes only in the context of consumable goods in British and American settings, and were limited to product labels rather than pharmaceutical PUI.

While numerous studies address consumer attitude, private label products, and PUI in foreign contexts, no specific empirical research examines consumer attitudes towards pharmaceutical PUI in Nigeria. Several studies have investigated consumers' motivation, perception, and behaviour in food product contexts internationally (Beneke, 2008; Munusamy and Wong, 2008; Boutsouki et al., 2008; Thang et al., 2009), but none has examined the interplay of demographic variables and product complexity as predictors of pharmaceutical PUI utilisation within the Nigerian market. It is on this basis that this study examines consumer attitudes towards PUI attached to pharmaceutical products, with emphasis on the impact of demographic variables and product complexity on PUI usage.

2.2. Product Use Information

Product use information refers to a document provided alongside a product to convey specific guidance for correct and safe use (ISO, 2009). In the pharmaceutical context, PUI takes the form of a package insert, providing the patient and healthcare professional with information on the drug, its conditions of use, dosage, contraindications, and expected outcomes (Joshua et al., 2013). PUI also limits legal liability, serves as technical sales literature, and supports manufacturer credibility (IAM, 2018). Wongtaweeekij et al. (2022) demonstrated that patients receiving simplified patient information leaflets showed significantly better medication safety knowledge and treatment adherence than those receiving conventional package inserts, establishing the direct clinical utility of well-designed PUI. Al Jeraisy et al. (2023) found that while most patients utilise PUI, perceived complexity and poor readability significantly reduce their confidence in acting on its content.

2.3. Consumer Attitude

Attitude is a learned tendency to behave in a consistently favourable or unfavourable manner towards an object (Schiffman and Kanuk, 2008). Sumarwan (2004) describes attitude as an evaluative expression reflecting consumer confidence in a product's attributes and benefits. Three components constitute consumer attitude: the cognitive component, capturing beliefs and knowledge; the affective component, capturing emotional responses; and the conative component, capturing behavioural intentions (Sumarwan, 2004). Kades (2000) identifies four functional roles of attitudes, namely the knowledge, value-expressive, utilitarian, and ego-defensive functions, all of which operate in the context of pharmaceutical information engagement. Hawkins et al. (2004) characterise attitude as an enduring

organisation of motivational, emotional, perceptual, and cognitive processes with respect to some aspect of the consumer's environment.

2.4. Demographic Variables and PUI Utilisation

Gerbert (1988) established foundational evidence that gender influences instruction manual reading, with men less likely to consult manuals due to greater perceived technical self-efficacy, while education level positively predicted readership. Product complexity and novelty acted as mediating variables increasing manual consultation, and higher product price also raised engagement probability. Ola et al. (2022) found that education, occupation, and income significantly shaped health information seeking in Rivers State, Nigeria. Ayub et al. (2022) identified marital status as a significant predictor of healthcare seeking behaviour among Nigerian adults, with married individuals demonstrating greater health consciousness. Abimbola et al. (2018) found that socioeconomic status, education, and marital status were the strongest sociodemographic predictors of health information engagement among civil servants in Ibadan. Muhammad (2016) found a significant effect of education and residential area on packaging label engagement in Pakistan, while gender and income were not significant.

2.5. Product Complexity and PUI Utilisation

Bettina, Jurgen and Bruno (2004) identified four classes of factors influencing PUI utilisation: personality variables, socio-demographic variables, product features, and situational cues. Of these, product complexity was the strongest predictor of instruction manual use. The present study adopts two of these factor classes, namely socio-demographic variables and product features or complexity, as its core analytical framework. Furst and Scholl (2023) demonstrated in four experimental studies that product feature heterogeneity and interrelatedness independently shape consumer usability attitudes and purchase intentions, confirming that product complexity operates through multiple attitudinal pathways. In the pharmaceutical context, medications with complex active ingredient profiles, intricate dosage schedules, and extensive contraindication networks are especially likely to elevate consumer reliance on PUI as a risk reduction mechanism.

2.6. Theoretical Framework

The study is anchored in the Engel, Blackwell and Miniard (EBM) model of consumer decision-making, which organises influences on consumer behaviour into three broad categories: individual differences, environmental influences, and psychological processes (Hawkins et al., 2004). Individual differences encompass consumer resources, knowledge, attitudes, motivations, and personality. Environmental influences include culture, social class, personal influences, family, and situational factors. The EBM model is particularly appropriate for this study because it explicitly incorporates sociodemographic characteristics, including age, education, social status, income, and marital status, as moderators of information-seeking behaviour, and situational factors such as product complexity as environmental triggers for documentation engagement, providing coherent theoretical grounding for the study's empirical framework.

3. Methodology

A cross-sectional survey was adopted to collect primary data at a single point in time, enabling simultaneous comparison of multiple variables (Kothari, 2004). The study was conducted in Jalingo Local Government Area of Taraba State, Nigeria, the state capital characterised by a heterogeneous population and a significant concentration of pharmaceutical retail outlets. The target population comprised 1,381 daily average customers across sixteen major pharmaceutical stores. The sample size of 965 was determined using the Krejcie and Morgan (1970) formula at a 0.05 significance level. A total of 952 usable questionnaires were retrieved and analysed, a response rate of 98.7 percent. Purposive sampling identified the sixteen stores as the largest outlets, while systematic random sampling proportionally allocated respondents across stores. Data collection was conducted in 2021. Table 1 presents the population and sample distribution.

Table 1 Population Distribution and Sample Size Allocation (Source: Field Survey, 2021)

S/N	Pharmaceutical Store	Daily Customers	Sample
1	Lightpath Pharmacy	304	157
2	Elikem Pharmacy Ltd	281	151
3	Super Faith Pharmacy	87	69

4	More Pharmacy	123	90
5	FMC Pharmacy	89	70
6	Safety Belt Pharmacy	75	61
7	Just Medical Pharmacy	69	57
8	U.T Cchuks Pharmacy	82	66
9	Tiwatope Pharmacy	61	52
10	Grient Pharmacy	36	33
11	Best Health Pharmacy	42	38
12	Chuks Global Pharmacy	41	37
13	Chiefo Mega Pharmacy	38	34
14	Chi-Phiko Pharmacy	29	27
15	NJI Pharmacy	24	23
Total		1,381	965

The instrument was a structured Likert-scale questionnaire adapted from the Pharmaceutical Product Use Information questionnaire model constructed by Vries and Henning and Gordon D. Schiff (2016). Five sections were included. Section 1 captured six demographic variables, adapted from standard consumer behaviour survey protocols (Kothari, 2004). Section 2 captured PUI utilisation as a binary Yes or No outcome, adapted from Bettina, Jurgen and Bruno (2004). Section 3 assessed seven benefit items adapted from Schiff (2016). Section 4 measured four consumer perception items adapted from Bettina and Jurgen (2004) and Gerbert (1988). Section 5 assessed six product complexity items adapted from Bettina, Jurgen and Bruno (2004). Table 2 summarises the constructs and their sources.

Table 2 Summary of Research Constructs and Adaptation Sources

Section	Construct	Items	Adapted From
1	Demographic Variables	6	Kothari (2004); Standard consumer behaviour survey design
2	PUI Utilisation (Binary)	1	Bettina, Jurgen and Bruno (2004); Vries, Henning and Schiff (2016)
3	Benefits of PUI	7	Gordon D. Schiff (2016)
4	Consumer Perceptions towards PUI	4	Bettina and Jurgen (2004); Gerbert (1988)
5	Product Complexity	6	Bettina, Jurgen and Bruno (2004)

Content validity was established through expert review by the research supervisor and two independent academics in consumer behaviour and pharmaceutical management. Reliability was assessed using Cronbach's alpha; all subscales exceeded the 0.70 threshold recommended by Sekaran (2003): Benefits of PUI = 0.855; Consumer Perceptions = 0.830; Product Complexity = 0.839; Overall = 0.841. Data were analysed using SPSS 25. Descriptive statistics characterised the sample and the demographic profile of respondents is presented below. Chi-square goodness of fit tests assessed whether benefit and perception response distributions were concentrated in positive categories. Binary Logistic Regression examined demographic predictors of PUI utilisation, specified as $k = B_0 + B_1X_1 + \dots + B_nX_n + e$, where k is the binary utilisation outcome and X_1 to X_n are demographic predictors. OLS regression assessed the effect of product complexity on PUI utilisation, with homoscedasticity confirmed through scatter plot analysis.

Table 3 presents the demographic profile of the 952 respondents. The sample was 52.3 percent male and 47.7 percent female, and predominantly single (53.8 percent). Age was largely concentrated in the 18 to 39 bracket (85.1 percent). The modal educational qualification was HND or BSc (41.7 percent), with 54.1 percent holding OND or below. A majority (81.5 percent) earned below N100,000 monthly, and the middle class was the largest social status group (37.0 percent).

Table 3 Demographic Profile of Respondents (n = 952). Source: SPSS Output, 2021

Variable	Category	Frequency	Percentage (%)
Sex	Male	498	52.3
	Female	454	47.7
Marital Status	Married	440	46.2
	Single	512	53.8
Age	18-29 Years	403	42.3
	30-39 Years	407	42.8
	40-49 Years	112	11.8
	50 Years & Above	30	3.2
Educational Qualification	SSCE	194	20.4
	OND/ND	321	33.7
	HND/BSc	397	41.7
	MSc	33	3.5
	PhD	7	0.7
Income	N30,000 & Below	238	25.0
	N30,001 - N100,000	538	56.5
	N100,001 - N200,000	144	15.1
	N200,001 - N500,000	18	1.9
	Above N500,000	14	1.5
Social Status	Elite	47	4.9
	Upper Middle Class	162	17.0
	Middle Class	352	37.0
	Working Class	290	30.5
	Lower Class	101	10.6

4. Results and Discussion

4.1. PUI Utilisation

Of the 952 respondents, 86.0 percent (n = 819) reported utilising PUI attached to pharmaceutical products, while 14.0 percent (n = 133) did not (Table 4). This rate substantially exceeds the one-third utilisation observed by Gerbert (1988) for electrical product manuals and the approximately half rate for UK food labels (Food Standards Agency, 2010), reflecting the heightened perceived health stakes associated with pharmaceutical misuse. Null Hypothesis H1, that pharmaceutical consumers do not read PUI, is rejected.

Table 4 PUI Utilisation (n = 952). Source: SPSS Output, 2021

Response	Frequency	Percentage (%)
Yes, utilise PUI	819	86.0
No, do not utilise PUI	133	14.0
Total	952	100.0

4.2. Benefits Accrued from PUI

All seven benefit constructs, adapted from Schiff (2016), yielded chi-square values significant at the 0.001 level, confirming that responses were systematically concentrated in the agree and strongly agree categories (Table 5). Principal Component Analysis extracted two components explaining 48.5 percent of total variance. Ingredient information disclosure recorded the highest factor loading (0.689), followed by dosage consciousness (0.523). Notably, 641 respondents (67.3 percent) strongly agreed that PUI improved their understanding of medication regimens. Null Hypothesis H2, that consumers do not accrue benefits from PUI, is rejected.

Table 5 Chi-Square Results and Factor Loadings, PUI Benefits (n = 952). Source: SPSS Output, 2021

Benefit Construct (Adapted: Schiff, 2016)	Chi-Square	df	p-value	Loading
Better understanding of medication regimens	1554.019	4	0.000	0.464
Reduction of mismatches and side effects	1115.227	4	0.000	0.471
Identification of therapeutic alternatives	1160.637	4	0.000	0.414
Identification of medical issues and outcomes	1127.464	4	0.000	0.390
Detailed information on drug ingredients (highest)	1418.328	5	0.000	0.689
Dosage consciousness and reduction of drug abuse	1122.989	4	0.000	0.523
Allergy and adverse reaction guidance	922.107	4	0.000	0.441

4.3. Consumer Perceptions towards PUI

Consumer perceptions were predominantly positive across all four constructs adapted from Bettina and Jurgen (2004) and Gerbert (1988). As shown in Table 6, 64.9 percent disagreed or strongly disagreed that they could manage pharmaceutical products without a guide, and 65.0 percent rejected the notion that no life-threatening consequences follow from ignoring PUI. Significantly, 74.0 percent rejected the claim that PUI is a waste of time due to complex terminology, directly challenging the complexity barrier identified by Gerbert (1988). All four chi-square results were significant at $p = 0.000$. Null Hypothesis H3, that consumers hold negative perceptions towards PUI, is rejected.

Table 6 Consumer Perceptions towards PUI (n = 952). SD=Strongly Disagree, D=Disagree, U=Uncertain, A=Agree, SA=Strongly Agree. Source: SPSS Output, 2021

Perception Item (Adapted: Bettina & Jurgen, 2004; Gerbert, 1988)	SD%	D%	U%	A%	SA%	Chi-Sq	p
Can use pharmaceutical products without a guide	20.9	43.9	12.0	12.1	11.1	370.384	0.000
Pharmaceutical prescriptions are general knowledge	36.2	18.9	16.6	19.7	8.5	194.502	0.000
No life-threatening effect if PUI ignored	24.1	41.0	18.9	8.7	7.4	354.355	0.000
PUI terminology makes it a waste of time	44.8	29.6	8.8	10.4	6.3	530.721	0.000

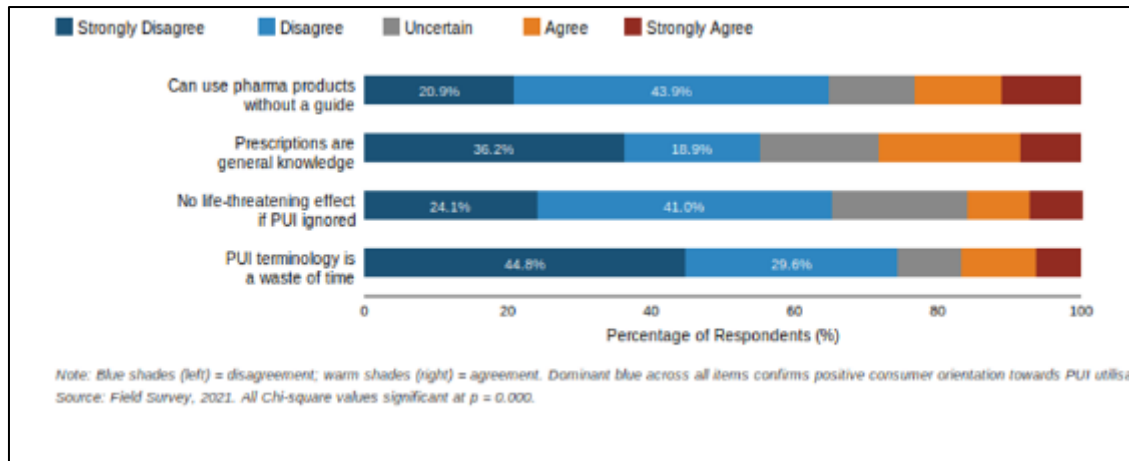


Figure 1 Consumer Perceptions towards PUI — Response Distribution (%). Source: Field Survey, 2021

4.4. Demographic Predictors of PUI Utilisation

The Hosmer and Lemeshow test yielded chi-square = 24.608 ($p = 0.002$), confirming overall model significance. Table 7 presents the individual Binary Logistic Regression coefficients. Sex was not a significant predictor ($p = 0.104$), contrasting with Gerbert (1988), possibly reflecting gender convergence in health consciousness in urban Nigerian settings. Marital status was the strongest predictor ($B = 0.729$, $\text{Exp}(B) = 2.073$, $p = 0.002$), with being married raising the probability of PUI utilisation by 72.9 percent, consistent with Ayub et al. (2022). Age was non-significant ($p = 0.635$). Educational qualification was significant ($p = 0.010$, $\text{Exp}(B) = 0.871$) but inversely related: higher education was associated with a 13.8 percent reduction in PUI utilisation, reflecting the self-efficacy overconfidence effect noted by Gerbert (1988). Income was non-significant ($p = 0.658$), consistent with Muhammad (2016). Social status was a significant positive predictor ($B = 0.225$, $\text{Exp}(B) = 1.252$, $p = 0.015$), with higher status raising utilisation probability by 22.5 percent, consistent with Abimbola et al. (2018). Null Hypothesis H4 is partially rejected: marital status, education, and social status are significant predictors; sex, age, and income are not.

Table 7 Binary Logistic Regression, Demographic Predictors of PUI Utilisation ($n = 952$) Hosmer-Lemeshow: Chi-Square = 24.608, $df = 8$, $p = 0.002$; * $p < 0.05$; ** $p < 0.01$. Source: SPSS Output, 2021

Variable	B	S.E.	Wald	p	Exp(B)	Decision
Sex	0.319	0.196	2.651	0.104	0.727	Not Significant
Marital Status	0.729	0.239	9.288	0.002**	2.073	Significant
Age	0.077	0.162	0.225	0.635	0.926	Not Significant
Educational Qualification	0.138	0.128	1.166	0.010*	0.871	Significant
Income	0.060	0.135	0.196	0.658	1.062	Not Significant
Social Status	0.225	0.093	5.881	0.015*	1.252	Significant

4.5. Product Complexity and PUI Utilisation

OLS regression confirmed that product complexity, operationalised through the six-item construct adapted from Bettina et al. (2004), is a significant positive predictor of PUI utilisation (Beta = 0.117, $t = 3.617$, $p = 0.000$), with $R^2 = 0.014$ and the ANOVA confirming model significance ($F = 13.080$, $p = 0.000$). Although the explained variance is modest, the statistical significance is robust. As pharmaceutical product complexity increases, encompassing terminological difficulty, complex active ingredients, hazard of misuse, and perceived insufficient user competence, consumers systematically increase their reliance on PUI as a risk management mechanism. This confirms Bettina et al. (2004) and supports the EBM model's prediction that situational complexity elevates information search behaviour. Null Hypothesis H5 is rejected.

Table 8 OLS Regression, Product Complexity and PUI Utilisation (n = 952). ** p<0.01. Source: SPSS Output, 2021

Predictor	R	R ²	Adj. R ²	Beta	t	p
Product Complexity	0.117	0.014	0.013	0.117	3.617	0.000**

4.6. Hypothesis Testing Summary

Table 9 Summary of Hypothesis Testing Results

Hypothesis	Test	Key Result	Decision
H1: Consumers do not read pharmaceutical PUI	Descriptive frequency	86% utilisation rate	Rejected
H2: Consumers do not accrue benefits from PUI	Chi-square (Schiff, 2016 constructs)	All 7 items p = 0.000	Rejected
H3: Consumers hold negative perceptions towards PUI	Chi-square (Bettina et al., 2004; Gerbert, 1988)	All 4 items p = 0.000	Rejected
H4: Demographics unlikely to influence PUI utilisation	Binary Logistic Regression	Marital status, education, social status p < 0.05	Partially Rejected
H5: Product complexity does not increase PUI utilisation	OLS Regression (Bettina et al., 2004)	Beta = 0.117, p = 0.000	Rejected

5. Conclusion and Recommendations

5.1. Summary of Findings

This study provides the first comprehensive empirical investigation of consumer attitudes towards pharmaceutical PUI in Nigeria, drawing on 952 consumers across sixteen pharmaceutical stores in Jalingo, Taraba State. Five findings are established. First, 86 percent of consumers utilise pharmaceutical PUI, substantially exceeding rates reported for other product categories in the literature. Second, PUI utilisation yields significant benefits across all seven constructs adapted from Schiff (2016), with ingredient information and dosage guidance as the most valued outcomes. Third, consumer perceptions towards PUI are uniformly positive across the four constructs adapted from Bettina and Jurgen (2004) and Gerbert (1988). Fourth, of six demographic predictors, marital status, educational qualification, and social status significantly predict PUI utilisation, while sex, age, and income do not. Fifth, product complexity is a significant positive predictor of PUI engagement, consistent with Bettina et al. (2004) and the EBM theoretical framework.

5.2. Recommendations

Five targeted recommendations are advanced. First, since single individuals demonstrate significantly lower PUI utilisation, NAFDAC and pharmaceutical manufacturers should direct public health campaigns to single adult consumers through community pharmacies, radio, and social media. Second, the counterintuitive inverse relationship between education and PUI utilisation points to self-efficacy driven disengagement among educated consumers. Pharmacist-led counselling protocols and QR-linked digital PUI formats should be deployed to counteract this. Third, lower social class consumers are systematically underserved in pharmaceutical information engagement, warranting targeted PUI literacy components within community health programmes. Fourth, manufacturers of complex pharmaceutical formulations should invest in readability-optimised PUI designed to maximise informational value at precisely the point where consumer complexity-driven engagement is highest. Fifth, medical practitioners and pharmacists should incorporate PUI review into all dispensing consultations as standard practice.

5.3. Limitations and Future Research

The study is geographically restricted to Jalingo LGA, limiting generalisability to other Nigerian states and rural populations. Cross-sectional design precludes causal inference, and self-reported utilisation may be subject to social desirability bias. Future research should extend to other geopolitical zones of Nigeria, employ longitudinal and mixed-method designs, and examine the role of digital and QR-linked PUI formats in the Nigerian pharmaceutical information environment.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest is associated with this work.

Statement of ethical approval

The study did not involve any clinical trial or experimental intervention on human subjects; it was a survey-based study, and ethical approval was obtained from the relevant institutional review committee prior to data collection.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author, Tanko Danjuma Ngati, upon reasonable request. Contact: ishiekwenelib@gmail.com

References

- [1] Abimbola, S., Olanipekun, T., Igbokwe, U., Negin, J., Jan, S., Martiniuk, A., Ihebuzor, N., and Aina, M. (2018). How decentralisation influences the retention of primary health care workers in rural Nigeria. *Global Health Action*, 7(1), 1-10. <https://doi.org/10.3402/gha.v7.25939>
- [2] Al Jeraisy, M., Alshammari, H., Albassam, M., Al Aamer, K., and Abolfotouh, M. A. (2023). Utility of patient information leaflet and perceived impact of its use on medication adherence. *BMC Public Health*, 23(1), 1-10. <https://doi.org/10.1186/s12889-023-15346-y>
- [3] Andrew, O. (2017). Over 70% of pharmaceutical products circulating in Nigeria are fake. *Daily Post Nigeria*. Retrieved from <https://dailypost.ng/2017/11/08/70-pharmaceutical-products-circulating-nigeria-fake-global-leader/>
- [4] Ayub, A. O., Iliya, R. S., and Abubakar, U. (2022). Health seeking behaviours of the aged population in Nigeria. *Lead City Journal of the Social Sciences*, 7(1), 1-14. Retrieved from <https://leadcityuniversity.edu.ng/journal/lcjss>
- [5] Bagram, M. M. M., and Khan, S. (2012). Attaining customer loyalty: The role of consumer attitude and consumer behavior. *International Review of Management and Business Research*, 1(1), 1-8. Retrieved from <https://www.irmbrjournal.com>
- [6] Beneke, J. (2008). Consumer perceptions of private label brands within the retail grocery sector of South Africa. *Journal of Business Management*, 4(2), 203-220. <https://doi.org/10.5897/AJBM>
- [7] Bettina, S. W., Jurgen, S., and Bruno, R. (2004). Consumers' use of written product information. *Ergonomics*, 47(11), 1180-1194. <https://doi.org/10.1080/00140130410001695951>
- [8] Boutsouki, C., Zotos, Y., and Masouti, Z. (2008). Consumer behavior towards own label: Monitoring the Greek experience. *Agricultural Economics Review*, 9(1), 1-14. Retrieved from <https://ageconsearch.umn.edu>
- [9] Brad, J. B. (1998). Effects of warning and information labels on consumption of full-fat, reduced-fat, and no-fat products. *Journal of Applied Psychology*, 83(1), 97-107. <https://doi.org/10.1037/0021-9010.83.1.97>
- [10] Food Safety Authority of Ireland. (2009). A research study into consumers' attitudes to food labelling. FSAI. Retrieved from <https://www.fsai.ie>
- [11] Food Standards Agency. (2010). A research study into consumers' attitudes to food labelling. FSA. Retrieved from <https://www.food.gov.uk>
- [12] Furst, A., and Scholl, M. (2023). How product complexity affects consumer adoption of new products: The role of feature heterogeneity and interrelatedness. *Journal of the Academy of Marketing Science*, 51(4), 870-895. <https://doi.org/10.1007/s11747-023-00933-7>
- [13] Gerbert, D. (1988). *Gebrauchsanweisungen als Marketing-Instrument*. Wiesbaden: Forkel. [Instruction manuals as a marketing instrument — original German-language monograph widely cited in consumer information literature.]

- [14] Hawkins, D. I., Best, R. J., and Coney, K. A. (2004). *Consumer behaviour: Building market strategy* (9th ed.). McGraw-Hill/Irwin. ISBN: 978-0072417593
- [15] IAM. (2018). Benefit from a good user manual. Technical Writing Resource. Retrieved from <http://technicalwriting.eu/benefit-from-a-good-user-manual/>
- [16] ISO. (2009). Instructions for use of products by consumers (ISO/IEC Guide 37, 2nd ed.). International Organisation for Standardisation. Retrieved from <https://www.iso.org/standard/37309.html>
- [17] Joshua, I. O., Katherine, O. O., and Titus, A. I. (2013). A survey on the provision of package inserts in pediatric oral formulations by pharmaceutical manufacturers in Nigeria. *Journal of Basic and Clinical Pharmacy*, 4(1), 1-6. <https://doi.org/10.4103/0976-0105.108913>
- [18] Kades, F. R., Grewal, R., and Mehta, R. (2000). The role of the social-identity function of attitudes in consumer innovativeness and opinion leadership. *Journal of Economic Psychology*, 21(3), 233-252. [https://doi.org/10.1016/S0167-4870\(00\)00005-4](https://doi.org/10.1016/S0167-4870(00)00005-4)
- [19] Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2nd ed.). New Age International. ISBN: 978-8122415223
- [20] Kotler, P. (2005). *Marketing management* (13th ed.). Prentice Hall. ISBN: 978-0136009986
- [21] Krejcie, R. V., and Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607-610. <https://doi.org/10.1177/001316447003000308>
- [22] Muhammad, F. S. (2016). Effect of packaging elements on consumer buying behavior: A comparative study of Cadbury Dairy Milk and Cadbury Perk. *International Journal of Scientific and Research Publications*, 6(2), 1-8. Retrieved from <https://www.ijsrp.org>
- [23] Munusamy, J., and Wong, C. H. (2008). Relationship between marketing mix strategy and consumer motive. *UNITAR E-Journal*, 4(2), 1-11. Retrieved from <https://www.unitar.edu.my>
- [24] Neelkanth, M. P., Sachan, A. K., Kumari, P., and Dubey, P. (2016). Study of consumer's pharmaceutical buying behavior towards prescription and non-prescription drugs. *Journals of Medical and Health Research*, 2(8), 1-9. Retrieved from <https://www.journalofmedical.org>
- [25] Ola, B., Olofinbiyi, B., and Amao, T. (2022). Demographic determinants of health care-seeking behaviour among women in Khana LGA, Rivers State, Nigeria. *International Journal of Recent Research*, 9(1), 1-12. <https://doi.org/10.52403/IJRR.20220137>
- [26] Oweibia, E., Oshioke, N., Pourraz, F., and Balogun, M. (2024). Assessment of medication access and distribution in Nigeria: Challenges and opportunities. *International Journal of Healthcare Management*, 17(3), 468-482. <https://doi.org/10.1080/20479700.2023.2198186>
- [27] Schiff, G. D. (2016). Computerized prescribing: Building the electronic infrastructure for better medication usage. *JAMA*, 279(13), 1024-1029. <https://doi.org/10.1001/jama.279.13.1024>
- [28] Schiffman, L. G., and Kanuk, L. L. (2008). *Consumer behaviour* (7th ed.). Prentice Hall International. ISBN: 978-0132224185
- [29] Sekaran, U. (2003). *Research methods for business: A skill-building approach* (4th ed.). John Wiley and Sons. ISBN: 978-0471380665
- [30] Solomon, M. R. (2006). *Consumer behaviour: A European perspective* (3rd ed.). Prentice Hall. ISBN: 978-0273687353
- [31] Sumarwan, U. (2004). *Perilaku konsumen*. Bogor: Ghalia Indonesia. ISBN: 979-450-430-7
- [32] Thang, P., Mizerski, K., Sadeque, S., and Mizerki, R. (2009). The effect of product familiarity in perceptions and preferences of private label and national brands. *ANZMAC 2009 Conference Proceedings*, 1-6. Retrieved from <https://anzmac.org>
- [33] Ting, C. Y., Ismail, M. B., Ting, H., Bahri, S. B., and Sidek, A. B. (2019). Consumer behaviour towards pharmaceutical products: A model development. *International Journal of Pharmaceutical and Healthcare Marketing*, 13(2), 229-248. <https://doi.org/10.1108/IJPHM-01-2018-0006>
- [34] Wongtaweepkij, K., Krska, J., Pongpunna, S., Pongwecharak, J., and Jarernsiripornkul, N. (2022). Thai patients' drug safety knowledge and perceptions relating to different forms of written medicine information: A comparative study. *Patient Preference and Adherence*, 16, 1141-1152. <https://doi.org/10.2147/PPA.S361447>