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DETERMINATION OF THE LEVEL OF SATISFACTION WITH COMMUNITY PHARMACY-BASED SCREENING FOR CHRONIC DISEASES IN NIGERIA

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ABSTRACT

Background: Community pharmacies are increasingly recognized as highly accessible first points of contact for primary healthcare. They play an important role in chronic disease screening. **Objectives**: To determine participant's satisfaction with pharmacist-led chronic disease screening services in eight community pharmacies in Benin City, Edo State. **Methods**: A descriptive cross-sectional study was conducted in eight community pharmacies following pharmacist's-led screening services for hypertension and diabetes. A structured questionnaire was used as the instrument for data collection. Descriptive data analysis was conducted. **Results**: Participants reported a high mean satisfaction score of 14.16 ± 1.238 for the facility assessment and 22.94 ± 1.835 for satisfaction with the screening services. The total mean satisfaction score was 37.07 ± 2.465. Most [321(85.4%)] of the study participants were satisfied with the comprehensive community pharmacy screening experience. Overall, 325 (86.4%) agreed that it was worth paying for 321 (85.4%) agreed that it should be offered in all community pharmacies. **Conclusion**: The study reported high level of patient satisfaction, confidence in pharmacist-led screening service and willingness to pay. This highlights the need to diversify pharmacy practice beyond traditional dispensing and support the formal integration of pharmacist-led screening services for chronic diseases into the national primary healthcare framework.

KEYWORDS: Community Pharmacy, Patient Satisfaction, Chronic Disease Screening.

INTRODUCTION

The global healthcare landscape is rapidly changing. There is a major epidemiological shift where non-communicable diseases (NCDs) such as diabetes and cardiovascular disorders are overtaking infectious diseases as the primary cause of mortality.[1] In Nigeria, the burden of hypertension and diabetes is substantial. A nationally representative World Health Organization survey involving a large number of adults across the six geopolitical zones reported an age-standardized hypertension prevalence of 38.1%, with the South-East having the highest percentage of about half and 20.9% in the North-Central zone.[2] Physician density has been estimated at approximately 3.9 doctors per 10,000 people. The shortage is worsened by the continued emigration of trained health professionals. A 15-year cohort study of Nigerian-trained doctors and dentists found that almost half had emigrated within 15 years of graduation, with migration increasing sharply after 2016.[3] This emigration has led to few available doctors in hospital, longer waiting time and booking of appointment. Also it has led to higher number of death rate, discouragement of patient going to the hospital when they have a slight inconvenience and managing themselves until the illness weigh them down before going to the hospital. In most low- and middle-income countries, community pharmacies are the first point of call made by patients and therefore offer a valuable

opportunity for early chronic disease detection. This role has become more important as conventional primary healthcare facilities struggle to meet the growing demand created by the increasing burden of chronic diseases. In some settings, primary healthcare services have poor facilities, short operating time; prolong patient waiting time, brief consultations, and inconsistent standards of care.[4] Community pharmacies, which are widely distributed and usually accessible without appointments, can provide an additional point of access for basic screening and chronic disease care.[5,6] Although community pharmacies are becoming increasingly involved in chronic disease screening, few Nigerian studies have examined patient satisfaction with these services or the specific factors that influence it.[7] Without such evidence, community pharmacy owners, professional bodies, and policymakers may have little basis for improving service standards or supporting the expansion of pharmacy-based screening programs.[8] There is therefore a need for local evidence on how patients perceive chronic disease screening in Nigerian community pharmacies which this study aims to investigate. This study sought to determine the level of satisfaction regarding the community pharmacy facility where the screening was done. To know the level of satisfaction with the clinical screening services provided and determine the willingness of participants to use or recommend pharmacy-based screening services.

METHODS

Study Design and Setting: This study employed a prospective, quantitative, and cross-sectional design. The research was conducted across eight purposively selected community pharmacies situated in diverse socio-geographical settings (urban and suburban) within Benin City, Edo State, Nigeria. To ensure equitable geographic representation, two community pharmacies were selected from each of the following four Local Government Areas (LGAs): Egor, Oredo, Ovia, and Ikpoba-Okha in Benin city, Edo state, Nigeria from April to August 2026. The screening protocols implemented in these settings was adapted from validated community pharmacy screening frameworks.

Study Population/ Sample Size Determination: The study population comprised individuals accessing community pharmacies located in the four local government areas of Edo state for screening service that had been advertised through word of mouth and posters. Four hundred and forty five participants were screened. A minimum sample size of 40 participants per pharmacy who partook of the screening programme was used in the study to assess their satisfaction.

Description of the Screening Programme

Prior to field implementation, the eight participating community pharmacists and two designated research assistants underwent pre-screening training. This session covered the project protocol, patient demographic and history, anthropometric measure, use of Point-of-Care Testing (POCT) devices (glucometers and digital sphygmomanometers), infection prevention measures. Some participants with an blood pressure of >140/90 mmHg and or fasting blood glucose of 120mg/dl qualified for further laboratory investigation for HbA1c and or Lipid profile test.[9-11] Those that had abnormal values were referred to the participant's preferred healthcare centre or the closest government owned facility for further evaluation. For other participants with borderline values, they were given tailored education and counseling targeting lifestyle adjustment. The screening service was provided at no cost to all participants. Individuals who participated in the screening included were 18 years of age or older, those with no previous diagnosis of hypertension or diabetes, and those who were willing participate in the screening exercise.

Screening Service Satisfaction Assessment

After the complete screening was done, participant's satisfaction was evaluated using a structured, pretested questionnaire was adopted from previous studies.[5,12-14] The questionnaire contained questions with sections written in English. The questionnaire was in two sections. Section A provided socio-demographics of participants. Section B (Satisfaction with Screening Services Provided): This section evaluated direct experience of the screening using a 3-point Likert scale, scored as Satisfied (3 points), Neutral (2 points), and Unsatisfied (1 point). The assessment is strategically subdivided into two specific domains: Facility/Accessibility (5 items) a total score of 15 cut off of 12 represents good score. This includes rating the cleanliness and maintenance of the pharmacy, the comfort of the waiting area, the waiting time prior to screening, the ease of locating the pharmacy, and the adequacy of available parking space. Screening Services (8 items) given a total score of 24, a cut off of 18 represents good score. This evaluates the interpersonal clinical interaction and the overall value of the service. Variables measured include the pharmacist's politeness, and ability to clearly explain the screening process. It also measures satisfaction with the specific diagnostic tests conducted, the communication of the test results, and the health education provided. Furthermore, this domain captured the perception of service equity (whether the pharmacist provided equal services to all participants), their overall rating of the screening service. The total screening satisfaction score is 39, with ≥30 representing good score. A section of the questionnaire also captures participant's willingness to pay for the service in the future, and their recommendation on whether the service should be universally implemented across all pharmacies. Reliability test was done with Cronbach alpha was calculated to be 0.708 following a pretest conducted among 20 participants.

Ethical Approval: Ethical clearance for this study was obtained from the Research Ethics Committee of the Ministry of Health, Edo State with HA/737/25/B/12191039. The study strictly adhered to

the principles of voluntary participation. Informed consent (verbal or written) was secured from both the participating community pharmacists and all screened patients. To guarantee privacy and confidentiality, all collected data was securely stored, anonymized, and utilized exclusively for academic research purposes.

Data Analysis: Data was completed in Microsoft Excel, sorted and cleared and then exported to SPSS version 23. Descriptive statistics was conducted and presented as frequencies and percentages.

RESULTS

Three hundred and seventy-six participants were involved in this study. The study assessed participant responses across eight community pharmacies located in four Local Government Areas (LGAs). The mean age of participants was 41.44years and the participants age ranged were 18-84 years. Table 1 show that the majority of participants were female, comprising 58.7% of the sample. More than half of the participants [188 (55%)] were married, while a significant proportion of the participants were educated to post-secondary level [162(48.4%)].

Table 1: Participant's Socio-demographics Data (N=376).

Variable	Frequency (N)	Percentage (%)
Gender		
Male	142	37.8
Female	234	62.2
Marital Status		
Single	130	38
Married	188	55
Divorced	7	2
Widowed	17	5
Education		
No Formal	5	1.5
Primary	35	10.4
Secondary	133	39.7
Post-Secondary	162	48.4
Occupation		
Government employed	20	5.9
Private employed	75	22.3
Self-employed	177	52.5
Unemployed	65	19.3

Participants demonstrated high level of satisfaction with the physical pharmacy facilities in Table 2. An overwhelming majority [360(96.3%)] were satisfied that the pharmacies were clean and well-maintained. Similarly, [345 (92%)] found the waiting areas comfortable. The waiting time before screening was also deemed satisfactory by [317 (85%)] of participants. For the 5-item facility assessment, participants reported a high mean satisfaction score of 14.16 ± 1.238, with a range of 8 to 15. Three hundred and thirty (87.8%) participants were classified as satisfied (>12) with facility assessment and accessibility.

Table 2: Level of Satisfaction with Facility (Community Pharmacy).

Variable	Satisfied N(%)	Neutral N(%)	Unsatisfied N(%)
The pharmacy is clean and well maintained.	360(96.3)	13(3.5)	1(0.3)
The waiting area is comfortable	345(92)	28(7.5)	2(0.5)
The waiting time before screening is short	317(85)	56(14.9)	
The pharmacy is easy to locate is easy to locate	346(92.3)	28(7.4)	1(0.3)
There is enough parking space in the pharmacy	262(72.6)	80(22.1)	19(5.3)

Satisfaction with the 8-item screening services was also notably high, yielding a mean score of 22.94 ± 1.835, ranging from 18 to 24. When these domains were combined to assess the comprehensive 13-item patient experience, the total mean satisfaction score was 37.07 ± 2.465, with an overall corrected range of 26 to 39. Three hundred and thirty seven participants were satisfied (>18) with all facets of screening services provided. In Table 3, on a scale of 3, participant's satisfaction was highest with the politeness and friendliness of the pharmacists (Mean 2.96±0.210), the tests conducted (Mean 2.92±0.281) and clarity in explaining the screening processes (Mean 2.91± 0.298).

Table 3: Mean Score of Level of Satisfaction with Screening Services and Facility Assessment.

Variable	Mean	Standard Deviation
The pharmacists is polite and friendly throughout the screening	2.96	0.210
The pharmacists explains all screening clearly	2.91	0.298
The duration of screening is timely	2.85	0.358
Rate your perception with the tests concluded	2.92	0.281
Rate your perception with the results of the tests	2.67	0.571
Rate your perception with the education provided	2.94	0.236
Pharmacist provided equal services to all participants	2.92	0.268
Rate the overall screening service	2.95	0.225

Table 4 shows that most participants (>85%) rated the screening services in each pharmacy as satisfied with the highest being with CP (100%) followed by SA (96.2%) and DL (94%). In total, looking at the combined screening services and facility assessment, 321(85.4%) of all study participants were satisfied (≥30 score) with the comprehensive community pharmacy screening experience. Overall, [356 (94.7%)] of respondents rated the screening service as good, 325 (86.4%) agreed that it was worth paying for 321 (85.4%) agreed that it should be offered in all community pharmacies.

Table 4: Level of Satisfaction with Screening Services Provided in Relation to Community Pharmacy.

Community Pharmacy	Satisfied N (%)	Neutral/Unsatisfied N (%)
SA	51(96.2)	2(3.8)
YB	48(94.1)	3(5.9)
CP	49 (100)	0(0.0)
LD	47(94)	3(6)
WE	46(92)	4(8)
LF	40(85.1)	7(14.9)
NJ	51(80.9)	12(19.1)
SO	44(84.6)	8(15.4)

DISCUSSION

The primary objective of this study was to determine participant's satisfaction with chronic disease screening services across community pharmacies in Benin City.

The response regarding the facility of the community pharmacy shows how a physical setting of a pharmacy shapes a patient's experience, even before carrying out the screening tests. Majority of the participants were comfortable in the pharmacy, and were happy with how clean and well-kept the pharmacies were. This highlights that patients highly value the physical environment before the clinical care even begins.[15] The pharmacies were easy to locate and the waiting areas pleasant enough to sit. This emphasizes the need for pharmacies to be spacious and built nicely. Other than a place to make profit, a good environment is important for people waiting to be attended to for clinical services. It has also been observed that pharmacies' accessibility and welcoming presence are central to why patients turn to them in the first place.[7,15,16]

The finding about the quality of the screening services was highly positive. Pharmacists were rated highly on how they treated participants by being polite, friendly and communicating clearly. This is quite remarkable because pharmacy clients who feel heard and respected are simply more likely to act on what they are told. This mirrors what Mozu *et al*.,[17] found in Ghana, where the mere presence of an attentive pharmacist and a bit of speed in service were enough to meaningfully shift how satisfied clients felt. The manner pharmacists treat their client is a significant factor for revisit as observed in a Croatian study observed in Croatia, where patients who found pharmacist-led testing convenient overwhelmingly said they would happily do it again.[18]

The screening tests were well received, with most participants satisfied with how they were conducted. Interestingly, though, satisfaction dipped slightly, and became more varied, when it came to the results of the tests themselves. This could be as a result of some new findings by some of the respondents as some became aware of either an elevated blood pressure, blood glucose or other abnormal values. This lower satisfaction with results is a normal psychological reaction to discovering an undiagnosed disease, echoing Amadi *et al*.,[5] findings during opportunistic screenings in Lagos. In the study, it was noted that some participants were informed about results they did not necessarily want to know regarding their health, similar pattern also seen in Poland, where a structured hypertension-screening protocol routinely uncovered previously undiagnosed cases requiring referral.[12,13] This stresses the need for community pharmacists to integrate empathetic, standardized post-screening counseling to manage patient distress when delivering abnormal test results.

Beyond the numbers, this affirms, patients also valued being taught something. Health education alongside the screening satisfied a very high percentage of participants, suggesting that people were not just there for a quick test but appreciated understanding what it meant for them. This fits comfortably within the vision of pharmaceutical care first described by Hepler and Strand,[19] where the pharmacist's role extends well beyond handing over medication into actively helping a patient understand and manage their own health, a trajectory that Eddy *et al*.,[20] describe as still very much relevant in community pharmacy practice today.

Most participants rated the overall service as good, that the service was worth paying for, and believed it should be made available in pharmacies more widely. In a healthcare landscape where many patients are paying out of their own pocket, that willingness to pay is patients quietly saying that they see real value in what pharmacists are offering, a conclusion that lines up with the strong continuity-of-care ratings pharmacist-led chronic disease clinics have received in high income settings.[13,14] It is also worth remembering why this willingness to pay is necessary, considering the prevalence of hypertension and diabetes and the constraints in healthcare facilities in Nigeria.[2,21] Enthusiasm for an accessible screening option should provide a strong mandate for pharmacy regulatory body and associations to advocate for formally integrated, reimbursed screening models within the national primary healthcare framework**.**

While this study provides valuable insights into patient acceptability and satisfaction with pharmacy-based screening services, some limitations should be borne in mind when interpreting these findings. The research utilized a cross-sectional design, meaning data was collected at a single point in time. While this provides a useful snapshot of current satisfaction levels, it cannot track whether participant satisfaction changes over time. Furthermore, it does not measure whether highly satisfied participants actually returned for follow-up care or adhered to the pharmacists' health advice. Additionally, the study was localized to eight specific community pharmacies drawn primarily from urban and semi-urban settings, the findings may not be entirely generalizable to highly rural regions of Nigeria or to populations in different states, where pharmacy infrastructure and patient expectations might differ.

CONCLUSION

Participants reported high level of satisfaction towards pharmacy infrastructures, particularly noting cleanliness and accessibility. Satisfaction with clinical screening was exceptional, reflecting strong trust in pharmacist competence and skill. Majority of those screened demonstrated a strong willingness to pay for and recommend pharmacy-based screenings to others. Community pharmacies are highly viable and effective hubs for chronic disease screening services. Standard operating procedures for such screening services should be developed and rigorously implemented across all community pharmacies. This will ensure uniform, high-quality service delivery, regardless of the pharmacy's specific location.

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CONFLICT OF INTEREST: The authors declare no competing conflict of interest.

REFERENCES

1. European Society of Cardiology. 'Non-communicable diseases, a growing threat to global health', eJournal of Cardiology Practice, 2017; 15(14). Available at: https://www.escardio.org/communities/councils/cardiology-practice/scientific-documents-and-publications/ejournal/volume-15/Non-communicable-diseases-a-growing-threat-to-global-health/ (Accessed: 26 May 2026).
2. Odili, A.N., Chori, B.S., Danladi, B., Nwakile, P.C., Okoye, I.C., Abdullahi, U., Nwegbu, M.N., Zawaya, K., Essien, I., Sada, K., Ogedengbe, J.O., Aje, A. and Isiguzo, G.C. 'Prevalence, awareness, treatment and control of hypertension in Nigeria: data from a nationwide survey 2017', Global Heart, 2020; 15(1): 47. Available at: https://doi.org/10.5334/gh.848.
3. Wariri, O., Toyin-Thomas, P., Akhirevbulu, I.C. et al. 'Understanding the exodus: a 15-year retrospective cohort study on the pattern and determinants of migration among Nigerian doctors and dentists', Global Health Action, 2024; 17(1): 2432754.
4. Yisa, S.S., Ogunniyi, T.J. and Dine, R.D. Strengthening primary health care in Nigeria: a means to achieve universal health coverage', BMJ Global Health, 2025; 10(10): e018486.
5. Amadi, C.E., Lawal, F.O., Ajiboye, W., Agbim, R., Mbakwem, A. and Ajuluchukwu, J.N. Opportunistic screening of cardiovascular disease risk factors in community pharmacies in Nigeria: a cross-sectional study', International Journal of Clinical Pharmacy, 2020; 42: 1469–1479. Available at: https://doi.org/10.1007/s11096-020-01112-2.
6. Okoro, R.N. and Nduaguba, S.O. Community pharmacists on the frontline in the chronic disease management: the need for primary healthcare policy reforms in low and middle income countries', Exploratory Research in Clinical and Social Pharmacy, 2021; 2: 100011. Available at: https://doi.org/10.1016/j.rcsop.2021.100011
7. Ihekoronye, M.R. and Osemene, K.P. Evaluation of the participation of community pharmacists in primary healthcare services in Nigeria: a mixed-method survey', International Journal of Health Policy and Management, 2022; 11(6): 829–839. Available at: https://doi.org/10.34172/ijhpm.2020.224.
8. Akande-Sholabi, W., Akinbitan, A.A. and Adebisi, Y.A. Public health activities: evaluation of community pharmacists' attitude, practice and barriers in a Nigerian Southwestern state', Malaysian Journal of Pharmaceutical Sciences, 2023; 21(1):

135–147. Available at: https://doi.org/10.21315/mjps2023.21.1.9.
9. JNC 7 (2003), https://www.nhlbi.nih.gov/health-topics/seventh-report-of-joint-national-committee-on-prevention-detection-evaluation-and-treatment-high-blood-pressure Accessed June 2025
10. American Diabetes Association (ADA), Standard of Care in Diabetes 2026, https://professional.diabetes.org/standards-of-care
11. Alzubaidi, H. T., Chandir, S., Hasan, S., McNamara, K., Cox, R., & Krass, I. Diabetes and cardiovascular disease risk screening model in community pharmacies in a developing primary healthcare system: a feasibility study. BMJ Open, 2019; 9: e031246. https://doi.org/10.1136/bmjopen-2019-031246
12. Waszyk-Nowaczyk, M., Guzenda, W., Plewka, B., Michalak, M., Cerbin-Koczorowska, M., Stryczyński, Ł., Byliniak, M. and Ratka, A. Screening services in a community pharmacy in Poznan (Poland) to increase early detection of hypertension', Journal of Clinical Medicine, 2020; 9(8): 2572. Available at: https://doi.org/10.3390/jcm9082572.
13. Lewicki, J., Religioni, U. and Merks, P. Evaluation of the community pharmacy comorbidities screening service on patients with chronic diseases', Patient Preference and Adherence, 2021; 15: 1611–1619. Available at: https://doi.org/10.2147/PPA.S312341.
14. Buatois, E.M., Covington, L.P., Lopez, N.D., Young, R.B. and MacLaughlin, E.J. Impact of a pharmacist-led chronic disease state management clinic on patient assessment of chronic illness care', Journal of Patient Experience, 2022; 9. Available at: https://doi.org/10.1177/23743735221105682.
15. Ihekoronye, M.R., Osemene, K.P., Erhun, W.O. and Afolabi, M.O. Customers' perspectives of service quality in community pharmacies in Nigeria: a cross-sectional survey', Journal of Health and Medical Sciences, 2021; 4(1): 8–17. Available at: https://doi.org/10.31014/aior.1994.04.01.150.
16. Hohmann, L., Harris, K., Zhao, Y., Marlowe, K., Phillippe, H et al. Organizational readiness to implement community pharmacy-based opioid counseling and naloxone services: a scoping review of current practice models and opportunities', Pharmacy, 2023; 11(3): 99. Available at: https://doi.org/10.3390/pharmacy11030099.
17. Mozu, I.E., Marfo, A.F.A., Opare-Addo, M., Adomako, N.O. et al. 'Perspectives and satisfaction of consumers with hypertension and diabetes on services provided by community pharmacy', Journal of Patient Experience, 2024; 11. Available at: https://doi.org/10.1177/23743735241261237.
18. Fehir Šola, K., Hrabač, P., Religioni, U., Frančić Pranjković, L. and Merks, P. Patient satisfaction with pharmacist-led COVID-19 testing in community pharmacies: insights from the Croatian experience', Healthcare, 2025; 13(7): 693. Available at: https://doi.org/10.3390/healthcare13070693.
19. Hepler, C.D. and Strand, L.M. Opportunities and responsibilities in pharmaceutical care', American Journal of Hospital Pharmacy, 1990; 47(3): 533–543.
20. Eddy, E., Ballou, J.M., Finke, J.B., Nuffer, W., Avena-Woods, C., Bandy, V.T. Medication therapy management: the evolution of clinical pharmacy services in U.S. community-based pharmacy practice—an opinion of the community-based practice and research network of the American College of Clinical Pharmacy', JACCP: Journal of the American College of Clinical Pharmacy, 2024; 7(12): 1228–1234. Available at: https://doi.org/10.1002/jac5.2047.
21. Olamoyegun, M.A., Alare, K., Afolabi, S.A. A systematic review and meta-analysis of the prevalence and risk factors of type 2 diabetes mellitus in Nigeria', Clinical Diabetes and Endocrinology, 2024; 10(1): 43.