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Original Research

Perceptions and Barriers to Utilisation of Primary Health Care Services among 1,010 households in Health District IV, Lagos State

***Adedoyin O Ogunyemi[1], Brenda C Isikekpei[2], Josephine O Omoseni[3], Michael O Bolaji[1], Khadijah A Jimoh[4], Omolaja O Odunuga[5], Oludolapo M Sotunde[6], Adekunle A Akinade[6], Nifemi B Oloniniyi[6], Yemisi A Obajuluwa[6], Titilayo A Oni[6], Abimbola Bowale[6]**

[1]Department of Community Health and Primary Care, College of Medicine, University of Lagos, Lagos State, Nigeria. [2]Department of Community Health and Primary Care, Lagos University Teaching Hospital, Lagos State, Nigeria. [3]School of Medicine, University College Dublin, Dublin, Ireland. [4]Department of Nursing, Lagos University Teaching Hospital, Lagos State, Nigeria. [5]Department of Community Health and Primary Health Care, Eko University of Medicine and Health Sciences, Ijanikin, Lagos State, Nigeria. [6]Lagos State Health District IV, Lagos State, Nigeria

Abstract

Background: Primary Health Care (PHC) forms the backbone of public health and is central to achieving universal health coverage in Nigeria. Yet, its utilisation remains inconsistent, even in urban settings. This study assessed household perceptions, barriers, and factors influencing PHC utilisation in Health District IV, Lagos State.

Methodology: A community-based cross-sectional survey was conducted among 1,010 households in Health District IV of Lagos State, using a multistage sampling technique. Data was collected through a structured interviewer-administered questionnaire assessing socio-demographic characteristics, awareness and perceptions of PHC services, and PHC utilisation in the preceding year.

Results: About half (51%) of the respondents utilized PHC services in the preceding year, predominantly for illness-related care rather than preventive services. The majority (85.9%) were aware of a PHC close to their residence, and 97.5% correctly identified its location. Concerning non-utilization of services, more than half (59.9%) of respondents reported they had not fallen ill. Other barriers included alternative health seeking behaviour (12.2%), long patient waiting time (9.4%), absence of medical doctors (8.2%), poor staff attitudes (7.3%). Health insurance coverage was low (20.7%), and half perceived costs as moderate.

Conclusions: Despite high awareness, PHC utilisation remains moderate and predominantly curative. Strengthening service organisation, enhancing financial risk protection, and improving community engagement are essential to reposition PHCs to deliver comprehensive, people-centred care.

Keywords: Barriers; Nigeria; Perceptions; Primary health Care; Utilisation

***Correspondence:** Dr. Adedoyin Ogunyemi, aoogunyemi@unilag.edu.ng

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Introduction

On a global scale, primary healthcare forms the backbone of public health, integrating physical, social, and mental needs of communities [1]. As health systems shift towards universal health coverage, primary health contributes to achieving 75% of the Sustainable Development Goals (SDGs), as outlined by the World Health Organization (WHO) [1]. Primary healthcare centres (PHCs) are designed to function as the first point of contact within the health system, delivering comprehensive, community-oriented care within developing countries, such as Nigeria.

In Nigeria, PHCs play a central role in healthcare delivery, with approximately 70% of the population relying on PHCs for care, which represents 85% of health facilities nationwide [2]. Despite approximately 34,000 PHC facilities nationwide, these serve a population exceeding 227.6 million [3.4].

Demand-side barriers contribute substantially to underutilisation. Service costs, poor perceived quality of care, medicine shortages, long waiting times, and limited equipment have been identified as key deterrents [3,5]. Communities frequently view facilities as poorly equipped or unreliable, resulting in a preference for higher-level or alternative healthcare providers [6].

Despite recent national investments in primary health care [2], utilisation remains suboptimal, particularly in urban areas. Household perceptions of access, quality, and affordability strongly influence care-seeking behaviour [7], yet context-specific evidence on barriers remains limited, especially in Lagos, Nigeria's most populous state [5]. This study assessed household perceptions, barriers, and factors influencing PHC utilisation to provide context-specific evidence in Health District IV, Lagos State, to inform targeted health system strengthening and improve service uptake.

Methodology

Study design

This was a descriptive cross-sectional study conducted to assess household utilisation of Primary Health Care (PHC) services and to examine perceptions and barriers influencing service uptake in Health District IV, Lagos.

Study setting

Lagos State is one of the fastest growing urban cities globally, comprises 20 Local Government Areas (LGAs) and is served by five public tertiary healthcare facilities, over 700 secondary health facilities, and 319 primary healthcare centres [8]. The study was conducted in Health District IV of Lagos State, comprising four LGAs, namely Apapa, Lagos Island, Lagos Mainland, and Surulere [8]. These LGAs are predominantly urban, reflecting diverse socio-economic and demographic profiles within metropolitan Lagos. Apapa LGA serves as a major commercial and industrial hub, home to Nigeria’s largest seaports and featuring a highly mobile population across residential and business districts. Lagos Island LGA, one of Lagos's oldest urban centres, exhibits high population density, mixed residential-commercial land use, and close proximity to public and private healthcare providers. Lagos Mainland LGA is a densely populated urban zone with varied socio-economic groups and multiple public health facilities. Surulere LGA, primarily residential, shows relatively higher educational attainment and healthcare access compared to other Lagos areas. Health District IV is served by 40 PHC centres spread across the four LGAs [8].

Study population and eligibility criteria

The study population comprised adults aged 18 years and above residing in selected households within the four LGAs who were present in the various communities at the time of conducting the study. Eligible respondents were household heads or designated representatives with knowledge of healthcare use within the household. All visitors and workers who did not reside in the community, or were unable to participate due to illness or cognitive impairment, were excluded.

Sample size determination

The minimum sample size for the household survey was calculated using the single-proportion formula. The minimum sample size was 316, estimated using the formula, $n=Z^2pq/d^2$ where n is the required sample size, Z is the standard normal deviate corresponding to a 95% confidence level (1.96), p is the estimated prevalence of PHC utilisation (0.457) based on a previous study conducted in Ekiti State [9], Nigeria, $q = 1 - p$, and d is the margin of error set at 5% (0.05). Substituting these values yielded a minimum sample size of 381. To account for the clustered nature of the sampling design, a design effect of 1.5 was applied, resulting in an adjusted minimum sample size of 572 (381 × 1.5). A further 10% allowance for non-response was added, giving a final minimum sample size of approximately 629 respondents. To improve representativeness across the four LGAs and to increase statistical power for subgroup analyses, the sample size was deliberately increased to 1,000 households, with proportional allocation across the LGAs.

Sampling methods

A multistage sampling technique was used to select respondents from Health District IV, Lagos State.

Stage 1: Selection of wards: Health District IV comprises Apapa (10 wards), Lagos Mainland (11 wards), Lagos Island (19 wards) and Surulere (12 wards). In each LGA, five (5) wards were selected using simple random sampling by balloting, giving a total of 20 wards.

Stage 2: Selection of streets within each ward: In each selected ward, a list of streets was compiled using a ward map. From this list, ten streets were selected by simple random sampling (balloting). Thus, 10 streets × 20 wards = 200 streets were included in the sample.

Stage 3: Systematic selection of households within each selected street: A household listing was conducted in each selected street to obtain the estimated number of households (N). For standardisation and field feasibility, it was assumed and operationalised that each selected segment contained approximately 25–50 households (typical street-length segments in urban Lagos).

5 households × 10 streets = 50 households per ward

50 households × 20 wards = 1,000 households

The systematic sampling interval (k) was calculated at the segment level as:

$$k = \frac{N}{n}$$

where $N$is the estimated number of households in the streets (25–50) and n is the number of households required per street (5). Therefore:

If $N = 25$, then $k = 25/5 = 5$ and if $N = 50$, then $k = 50/5 = 10$

Simple random sampling by balloting was done to determine the starting household between 1 and k, after which every kth household on the street was approached until 5 households were recruited from that street. Where an identified household had no eligible respondent or declined participation, the next immediate household was approached to maintain the sample size.

Stage 4: Selection of respondent within household: In each selected household, one eligible adult (≥18 years) who was the household head or a knowledgeable household representative was interviewed. Where multiple eligible adults were available, one was selected by simple balloting to minimise selection bias.

Data collection tool

Quantitative data were collected using a pre-tested, structured, interviewer-administered questionnaire, administered electronically via KoboToolbox, an open-source digital data collection platform. Electronic data capture was used to reduce data entry errors, improve data completeness, and facilitate real-time quality checks. The questionnaire was developed based on validated tools and existing literature on PHC utilisation and access, including health service access frameworks that conceptualise utilisation as a function of accessibility, availability, affordability, and acceptability [9, 10]. The questionnaire was organised into the following sections: *Section A: Sociodemographic characteristics:* This section collected data on age, sex,

marital status, religion, ethnicity, LGA of residence, and household size. *Section B: Socio-economic characteristics:* Information on education level, employment status, occupation, average monthly income, health insurance enrolment, and receipt of financial support was collected. *Section C: Patterns of PHC utilisation:* This section assessed whether respondents had utilised PHC services within the preceding 12 months (yes/no), frequency of visits, and reasons for utilisation or non-utilisation. *Section D: Perceived physical accessibility:* Physical accessibility was assessed using both subjective measures (perceived distance, perceived travel duration) and objective measures (self-reported travel time in minutes). *Section E: Service availability and organisational accessibility:* This domain captured perceived ease of seeing a doctor, availability of prescribed medications, perceived waiting duration, and actual waiting time before consultation. *Section F: Affordability of PHC Services:* Affordability was assessed through perceived costs of transportation, laboratory and other service fees, medication costs, and overall cost of accessing PHC services. *Section G: Adequacy, acceptability, and perceived quality of care:* This section assessed cleanliness of the facility, perceived effectiveness of treatment, healthcare worker behaviour, convenience of operating hours, and the influence of sociocultural factors (religion, culture, provider gender) on PHC choice.

Pre-testing of the data collection tool

The questionnaire was pre-tested among approximately 5% of the intended sample size among respondents with similar characteristics to the study population in a community outside the selected study LGAs to avoid contamination of the main study sample. The purpose of the pre-test was to assess the clarity, appropriateness, flow, and comprehensibility of the questions, as well as the average duration of the interview. Feedback from the pre-test was used to refine question wording, improve sequencing, and resolve any ambiguities identified before commencement of the main data collection. Data generated during the pre-test were not included in the final analysis.

Data management

Quantitative data were collected using a pre-tested, structured, interviewer-administered questionnaire designed to assess household utilisation of PHC services and perceived barriers to access. All completed questionnaires were exported into a password-protected database. Prior to analysis, data were cleaned through range checks, consistency checks, and verification of missing values. Personal identifiers were removed to ensure anonymity, and access to the dataset was restricted to the research team.

Outcome variables and measurement

The primary outcome variable was utilisation of PHC services, defined as self-reported use of any PHC service within the preceding year. This variable was categorised as yes or no. Among respondents who reported utilisation, secondary utilisation measures, including frequency of visits and reasons for visits, were analysed descriptively. Perception-related outcome variables were grouped into four key domains: physical accessibility, service availability and organisational accessibility, affordability, and adequacy/acceptability and perceived quality in line with established health service access frameworks.

Physical accessibility*:* This was assessed using both subjective and objective indicators. Subjective measures included perceived distance of the PHC from the respondent's residence and perceived duration of travel to the PHC, originally captured on five-point ordinal Likert-type scales (very near, near, normal, far, very far; very short, short, normal, long, very long). For analysis, these variables were systematically recategorized into three categories: near (favourable), moderate, and far (unfavourable) for distance, and short (favourable), moderate, and long (unfavourable) for travel duration. Accessibility was assessed using self-reported travel time to the PHC in minutes, collected using predefined categories. These were retained and, where appropriate, regrouped into analytically relevant thresholds (<30 minutes, 30–60 minutes, >60 minutes) based on commonly used benchmarks for access to care.

***Service availability and organisational accessibility*:** Service availability was measured through respondents' reports of difficulty in seeing a doctor (yes/no) and availability of prescribed medications (yes/no). Organisational accessibility was assessed using perceived waiting duration on a five-point ordinal scale (very short to very long) and average waiting time to see a doctor, recorded in time categories. Perceived waiting duration was recategorized into short (favourable), moderate, and long (unfavourable) using the same rule applied to other ordinal variables. Average waiting time was grouped into <30 minutes, 30–60 minutes, and >60 minutes for analysis.

***Affordability of PHC services*:** This was assessed using respondents' perceptions of transportation costs, laboratory and other service fees, medication costs, and overall cost of accessing PHC services. These variables were originally captured on five-point ordinal scales (very cheap, cheap, normal, expensive, very expensive). For analysis, affordability variables were recategorized into cheap (favourable), moderate, and expensive (unfavourable) cost categories by collapsing adjacent response options. This approach improved interpretability and ensured consistency across affordability indicators.

Adequacy, acceptability, and perceived quality: These were assessed using dichotomous variables, including convenience of PHC working hours (yes/no) and influence of religious, cultural, or provider gender considerations on PHC choice (yes/no). Perceived quality was measured through ratings of cleanliness of the PHC environment, effectiveness of treatment, and healthcare worker behaviour, each originally captured using ordinal response options.

For analytical clarity, cleanliness ratings were grouped into clean/very clean, normal, and dirty/very dirty. Treatment effectiveness was categorised as effective/very effective, partially effective, or ineffective/worsened health, while healthcare worker behaviour was grouped into positive (good/very good), neutral, and negative (bad/very bad) experiences.

Statistical analysis

Descriptive statistics were used to summarise all variables. Categorical variables were presented as frequencies and percentages, while continuous variables were summarised using means and standard deviations. All analyses were conducted using Stata version 16 (StataCorp, College Station, TX, USA).

Ethical considerations

This study adhered to the ethical principles of the Declaration of Helsinki. Ethical approval was obtained from the Health Research and Ethics Committee of Lagos University Teaching Hospital (LUTH) (ADM/DSCST/HREC/APP/7232). Written informed consent was obtained from all participants. Participation was voluntary, confidentiality was assured, and respondents retained the right to withdraw at any time.

Results

Socio-demographic and socio-economic characteristics of respondents

Table 1 presents the socio-demographic characteristics of the 1,010 respondents. Over half (55.5%) were aged 20–39 years, with a mean age of 40.2 ± 11.8 years, and the respondents were predominantly female (71.4%). The majority were married (82.6%), and half identified as Christian (50.1%). The Yoruba ethnic group accounted for 80.1% of respondents, followed by Igbo (13.3%) and Hausa (3.6%). Respondents were evenly distributed across the four LGAs studied.

Table 2 shows the socio-economic characteristics. Nearly half (47.9%) had completed secondary education, while 32.3% had tertiary education and 6.5% had no formal education. Employment was high at 85.8%, with most respondents self-employed (71.1%). Most respondents **(89.2%)** lived in households of 1–6 persons. Monthly income exceeded ₦70,000 (~$50) for 51.6% of respondents, while 44.8% earned below this

threshold. Health insurance coverage was low, with only 20.7% enrolled, and over half (53.4%) received financial support from family members.

Awareness of the PHC operations and specific services offered at the facilities

Table 3 shows that awareness of PHC facilities and their operations was generally high. Most respondents (85.9%) knew of a PHC nearby, and 97.5% correctly identified its location. About half (50.2%) believed PHC services were free, while 41.2% disagreed. More than half (55.1%) knew that some PHC facilities operate 24 hours a day. However, awareness of community governance mechanisms was limited; only 35.4% knew of a Ward Health Committee, and only 28.2% knew that community members serve as PHC facility staff.

Figure 1 shows that more than half of the respondents knew about immunisation services (89.3%), antenatal care (66.6%), treatment of common illnesses (60.7%), family planning (57.4%) and maternal and child health services (57.1%). Fewer knew about essential drugs (28.7%), and health education (25.9%), while awareness was very low for nutrition (7.0%), referral services (6.7%), sanitation promotion (6.3%), dental health (4.6%), and mental health services (0.9%).

Utilization of PHC services

Figure 2 shows that just over half (51%) of the utilization of respondents visited a PHC primary in the past year, while 49% had not.

Figure 3 shows reasons for non-utilization. More than half (59.9%) had not been ill. Other reasons included: long patient waiting time (9.4%), absence of doctors (8.2%), negative staff attitude (7.3%), poor community involvement (6.9%), poor quality of services (6.1%), non-availability of essential drugs (5.9%), and high cost of services (5.5%). Examples of other reported reasons (9.0%) included limited knowledge of PHC services offered, inadequate infrastructure in PHCs, and unavailability during PHC operating hours.

Accessibility, availability, and affordability of PHC services

Table 4 shows that over two-thirds (67.8%) perceived the PHC centre as nearby, while 25.6% reported moderate distance. Similarly, 65.3% reported short travel time to the PHC, and 93.6% reached the facility in less than 30 minutes. The majority (80.9%) reported no difficulty seeing a doctor, and prescribed medications were available for 71.5%. Nearly half (46.0%) described waiting time to see a doctor as moderate, while 35.7% reported short waiting times. Most (72.1%) waited less than 30 minutes, though 6.7% waited one hour. Most (67.8%) found transportation cheap by 67.8%, while 28.1% reported moderate costs. About half described the cost of laboratory (49.1%) and medications (46.4%) as moderate, with smaller proportions reporting them as expensive. Overall, the average cost of accessing PHC services was perceived as moderate by 50.5%, although 18.3% reported high costs.

Acceptability, adequacy and perceived quality of PHC services

Table 5 presents perceptions of the adequacy, acceptability, and quality of PHC services in the LGAs. Few respondents (7.5%) reported religious or cultural beliefs influenced their choice of PHC, and only 6.7% indicated that provider gender affected their care seeking. The majority (84.2%) found PHC operating hours convenient. Almost two-thirds (61.1%) of the respondents described the PHC environment as clean or very clean (37.9%). Most found treatment effective (68.6%), and 28.7% describing it as very effective. Less than 1% reported non-effective care or health deterioration. Over half (57.4%) described provider behaviour as good, while 28.7% as very good. Only 2.5% reported negative experiences, and 11.4% were neutral.

Factors associated with PHC utilization

Female sex was strongly associated with utilization, with a higher proportion of females (58.5% vs 33.6%, $p < 0.001$). Marital status was significantly associated with use, with widowed (62.8%) and married (54.0%)

respondents more likely to use PHC services ($p < 0.001$). Educational attainment was significantly associated (**p** = 0.042)**,** with respondents with primary education showing the highest proportion of utilization (54.5%). Age, employment status, income level, and insurance coverage were not associated with PHC use

In the multivariable analysis, only sex and marital status remained significantly associated with PHC utilization. Males had lower odds compared to females (AOR = 0.37, 95% CI: 0.28–0.50, $p < 0.001$). Compared to single respondents, married (AOR = 2.92, 95% CI: 1.70–5.02, $p < 0.001$) and widowed respondents (AOR = 3.45, 95% CI: 1.47–8.09, $p = 0.004$) had higher odds.

Discussion

This study examined perceptions and barriers influencing PHC utilisation among households in Health District IV, Lagos State. Although awareness of PHC facilities and core services was high, and perceptions of accessibility and quality were generally favourable, utilisation remained moderate and was largely curative. This finding highlights a persistent disconnect between the availability of PHC facilities and their effective use for preventive and promotive care [11].

Despite relatively favourable socio-economic indicators, such as high employment levels and more than half of respondents earning above the minimum wage, health insurance coverage remained very low, with most households relying on out-of-pocket payments. This may be a result of systemic barriers to enrolment extending beyond the ability to pay, including weak penetration of informal-sector-friendly schemes, limited risk pooling, and low public trust in insurance arrangements [2]. This leaves households structurally vulnerable to catastrophic health expenditure and reinforces financial barriers to PHC utilisation [2,12].

Although awareness of the physical presence of PHC facilities was high, this did not translate into adequate understanding of PHC functions and governance. Many respondents incorrectly assumed that PHC services were universally free and operated 24-hourly. These misconceptions reflect weak communication between the health system and communities, indicating that community engagement structures are poorly implemented or inadequately communicated, undermining community ownership and social accountability [13].

Awareness of PHC services was largely confined to immunisation, antenatal care, and treatment of common illnesses, while awareness of preventive, promotive, mental health, and referral services was low. Similar patterns have been documented in other Nigerian settings, where PHCs are often perceived primarily as facilities for maternal, child health, and basic curative services [14]. Poor understanding of the full scope of PHC services weakens demand for preventive care and undermines the foundational PHC principle of comprehensive, continuous care [15].

Utilisation patterns revealed that about half of respondents had accessed PHC services in the preceding year, and utilisation was driven by illness rather than preventive care. suggests that PHCs are not optimally functioning as platforms for prevention, likely reflecting entrenched cultural norms of seeking care only when symptomatic, compounded by concerns about service quality, waiting time, and drug availability [5,14,16]. The observed utilisation level is comparable to 46.2% reported in Enugu State [10], suggesting that moderate uptake of PHC services remains common across several Nigerian contexts [2]. However, wide variations across Nigerian states, from 7.5% in Katsina State to 89.5% in Ibadan [17,19-21], underscore how contextual factors shape utilisation, raising questions about adequacy and equity of PHC delivery in Lagos.

The most frequently cited reason for non-utilisation was not falling sick, reinforcing the perception of PHCs as facilities for curative care only. Structural barriers, including long waiting times, absence of medical doctors, and negative staff attitudes, were also reported. These system failures can have disproportionate effects on community trust, reputation of services, and repeat utilisation [10].

Organisational access was weakened by variable waiting times and reported staff shortages, reflecting inefficiencies in service delivery. Despite favourable geographical conditions, with most respondents living within a short travel distance and reaching PHC facilities in under 30 minutes, utilisation remained moderate. This urban paradox, where proximity does not determine use, contrasts with rural contexts where distance and transportation cost remain primary barriers [9,16, 22]. In this study, where sociocultural barriers such as religious beliefs or gender preferences were minimal, underutilisation is more directly attributable to system-level inadequacies in organisation, reliability, and responsiveness rather than physical or cultural access [5,10,17]. Perceived quality of care was generally positive, with respondents reporting favourable views of cleanliness, provider behaviour, and treatment effectiveness. This contrasts with reports of poor PHC quality in some other Nigerian settings [3]. Evidence increasingly emphasises that quality extends beyond patient experience to include system reliability, continuity, and responsiveness domains in which PHC systems in Nigeria continue to face persistent challenges [5,14,16].

Only female sex and being married or widowed independently predicted PHC utilisation. Women's higher utilisation likely reflects engagement with maternal and reproductive health services, as documented in other Nigerian contexts [2,23]. The lack of association with income or insurance suggests that affordability, while perceived as a barrier, may be less influential than gender and family structure in determining PHC use in this relatively accessible urban setting.

Implications for PHC Strengthening

The findings show PHC utilisation requires more than close proximity or positive perceptions of service quality. It remains largely driven by illness rather than prevention, suggesting PHCs are not yet delivering ongoing, comprehensive care. Raising community awareness of all PHC services, strengthening community structures such as Ward Health Committees(WHC) , and reducing waiting times and addressing staff shortages are essential to sustained use of services. Additionally, low health insurance coverage and reliance on out-of-pocket payments require stronger financial protection. Without addressing these barriers, PHCs are likely to remain focused on treating illness care rather than promoting health.

Strengths and Limitations

This study benefits from a large sample size and the integration of multiple perception domains: accessibility, availability, affordability, acceptability, and quality, providing a comprehensive assessment of factors influencing PHC utilisation. The focus on an urban setting also offers important insights from a context with relatively high facility density yet suboptimal utilisation.

This study has some limitations. The 12-month recall period may have introduced recall bias, affecting the accuracy of utilisation reporting. Missing data were handled through complete case analysis, which may have introduced selection bias if the missing data were not random. It relied on self-reported measures of utilisation and perceptions, which are susceptible to social desirability bias. Additionally, the findings are based on data from a single urban health district and may therefore have limited generalisability to rural or peri-urban settings with different health systems and sociocultural contexts.

Conclusions and Recommendations

Despite high awareness of PHC facilities and generally favourable perceptions of accessibility and quality in Health District IV, utilisation remains moderate and illness-driven. While geographical access is good, long waiting times and staff shortages, perceived costs, and weak community engagement continue to limit use. Raising community awareness, improving service delivery, and expanding insurance coverage are essential for PHCs to function as providers of comprehensive, people-centred care.

Author contributions

AOO, BCI, TAO and AB conceived and designed the study. MOB, BCI and AOO performed the statistical analysis. JOO and BCI drafted the initial manuscript. All authors contributed to manuscript revision, read, and approved the submitted version.

Conflict of interest

The authors declare no conflict of interest.

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