



Research Article

Community Outreach Programmes as a Behavioural Change Communication Strategy for Cardiovascular Health Lifestyle Adherence among Market Traders in Southeast Nigeria

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About Article

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ABSTRACT

Cardiovascular diseases (CVDs) constitute a growing public health burden in Nigeria, and market traders in Southeast Nigeria are a particularly vulnerable occupational group owing to sedentary routines, poor dietary habits, and chronic work-related stress. This study examined the influence of the Nigerian Heart Foundation's (NHF) community outreach programmes as a behavioural change communication (BCC) strategy for promoting cardiovascular health lifestyle adherence among market traders. Anchored on the Theory of Planned Behaviour, the Transtheoretical Model, and the Ecological Model of Health Behaviour, the study adopted a survey research design. A sample of 384 traders was proportionally drawn from the Ariaria International Market (Aba), the Onitsha Main Market (Anambra), and the Ogbete Main Market (Enugu) using Dusick's (2014) sample size formula and a multistage accidental sampling procedure. Data were collected with a structured questionnaire and analysed using descriptive statistics and Chi-square tests of association at the 0.05 level of significance. Findings revealed that 62.0% of respondents reported high to very high awareness of cardiovascular risks attributable to NHF outreach, and that outreach exposure was significantly associated with awareness, effectiveness of communication, and adoption of lifestyle changes such as healthier diets (42.9%), reduced salt intake (38.6%), and regular exercise (29.6%). Persistent barriers included time constraints (56.8%) and the cost of healthy food (49.7%). All four null hypotheses were rejected. The study concludes that community outreach is an effective, context-sensitive BCC strategy for cardiovascular health promotion among informal-sector workers and recommends sustained, segmented, and follow-up-oriented outreach models.

INTRODUCTION

Cardiovascular diseases (CVDs) remain a global health challenge, accounting for an alarming burden on populations and health systems worldwide. The World Health Organisation (2021) estimates that CVDs account for a substantial share of global mortality, with low- and middle-income countries such as Nigeria bearing a disproportionate burden due to rising rates of hypertension, obesity, diabetes, and tobacco use. Within Nigeria, market traders constitute a distinctive occupational group whose daily routines predispose them to elevated cardiovascular risk. Long hours of sedentary sitting or standing, irregular and often unhealthy eating patterns, the stress of commerce, and limited access to preventive healthcare combine to heighten their vulnerability to hypertension, stroke, and related conditions (Oguejiofo et al., 2020; Ezugwu et al., 2021).

In response to this burden, non-governmental health organisations have increasingly turned to community outreach as a behavioural change communication (BCC) strategy. The Nigerian Heart Foundation (NHF), in particular, has implemented market-based health talks, screenings, and awareness campaigns intended to shift traders' knowledge, attitudes, and practices regarding cardiovascular health. Community outreach is attractive as a BCC strategy because it takes health promotion directly into the informal economic spaces where traders spend most of their working lives, using culturally attuned messaging rather than relying solely on clinic-based encounters that traders may rarely access (Adebayo & Oladele, 2023; Fatokun & Musa, 2020).

Despite the proliferation of such programmes, empirical evidence on their measurable influence on lifestyle adherence among traders in Southeast Nigeria specifically has remained comparatively thin. Much of the existing literature on BCC and cardiovascular health in Nigeria has concentrated on clinical populations, rural communities, or single-market case studies (Nwafor & Umeadi, 2022; Okafor et al., 2022), leaving a gap regarding the extent to which outreach translates into sustained behavioural adherence across multiple major trading hubs. This study addresses that gap by examining NHF's outreach across three of Southeast Nigeria's largest markets — Ariaria International Market (Aba), Onitsha Main Market, and Ogbete Main Market — using a structured survey capable of generating statistically generalisable findings.

Statement of the Problem

Cardiovascular diseases are rapidly becoming a significant public health crisis in Nigeria, and traders in Southeast Nigeria are among the most vulnerable groups. Their work environment exposes them to prolonged physical inactivity, poor dietary options dominated by processed and high-salt foods sold within market premises, and chronic occupational stress, all of which are established modifiable risk factors for CVDs (Roth et al., 2023; Adeloye et al., 2021). While the NHF has invested in outreach activities intended to counter these risks, it remains unclear whether exposure to such programmes measurably improves traders' awareness of cardiovascular risk and, more critically, whether that awareness translates into actual adoption of and adherence to recommended lifestyle changes. Without rigorous survey evidence, outreach interventions risk being sustained on the basis

of assumption rather than demonstrated effectiveness, and resources may be inefficiently allocated across markets, message channels, and trader subgroups.

Objectives of the Study

The primary objective of this study was to examine the influence of the Nigerian Heart Foundation's community outreach programmes as a behavioural change communication strategy for promoting lifestyle changes for cardiovascular health among market traders in Southeast Nigeria. Specifically, the study sought to:

1. Assess the level of awareness of cardiovascular health risks created among market traders through NHF's community outreach programmes.
2. Evaluate the effectiveness of NHF-led community outreach programmes in promoting adherence to cardiovascular health lifestyle changes.
3. Determine the extent to which market traders adopt cardiovascular health lifestyle changes after participating in NHF's outreach activities.
4. Identify the barriers that hinder market traders from adhering to cardiovascular health lifestyle changes despite exposure to outreach.
5. Examine the role of sociodemographic factors, such as age and education, in shaping the effectiveness of NHF's outreach interventions.
6. Determine the relationship between awareness gained through outreach and actual adherence to cardiovascular health lifestyle changes.

Research Hypotheses

H0₁: Market traders who participate in NHF's community outreach programmes do not have significantly higher awareness of

cardiovascular health risks than those who do not.

H0₂: NHF's community outreach programmes are not significantly effective in promoting adherence to cardiovascular health lifestyle changes.

H0₃: Market traders who participate in NHF's outreach programmes do not adopt lifestyle changes to a significantly greater extent than non-participants.

H0₄: There is no significant relationship between awareness gained through outreach and actual adherence to cardiovascular health lifestyle changes.

Significance of the Study

This study contributes to scholarship at the intersection of health communication and public health by providing empirical, survey-based evidence on the effectiveness of a specific, real-world BCC strategy among an under-studied occupational population. For the NHF and similar organisations, the findings offer an evidence base for refining outreach design — including message content, channel selection, and follow-up mechanisms. For policymakers, the study strengthens the case for institutionalising market-based health promotion within broader non-communicable disease control strategies. Academically, the study extends the application of the Theory of Planned Behaviour, the Transtheoretical Model, and the Ecological Model of Health Behaviour to a distinctly Nigerian informal-sector context.

Literature Review

The Concept of Behavioural Change Communication

Behavioural Change Communication (BCC)

is a strategic communication process that uses tailored messages and multiple media channels to influence the knowledge, attitudes, and practices (KAP) of a target audience toward a specific, positive behavioural outcome (Ezeaka et al., 2020). Unlike generic awareness campaigns, BCC is deliberately audience-segmented, message-tested, and channel-diversified, combining interpersonal communication, mass media, and community mobilisation to close the gap between knowledge and action. In the Nigerian health sector, BCC has historically been applied most extensively to maternal health, HIV/AIDS prevention, and immunisation uptake, and is increasingly being extended to non-communicable diseases such as hypertension and diabetes (Adebayo et al., 2021).

Community outreach constitutes one of the most widely used BCC delivery mechanisms in low-resource settings because it brings health messaging directly to where people live and work, using trusted local figures, culturally resonant language, and interactive formats such as health talks, demonstrations, and screenings (Sarpong & Amankwah, 2023; Saleh & Khan, 2022). This is particularly relevant for market traders, who, because of the demands of daily commerce, are unlikely to seek out cardiovascular health information through conventional clinical channels.

Cardiovascular Health Risk among Market Traders

Several Nigerian and international studies converge on the finding that market traders face elevated cardiovascular risk relative to other occupational groups. Oguejiofo et al. (2020) documented a high prevalence of hypertension among market traders in South-South Nigeria, attributing this to occupational

stress and dietary patterns typical of market environments. Similarly, Ezugwu et al. (2021) described a 'looming crisis' of cardiovascular risk among Nigerian market traders, linking it to prolonged sedentary trading postures and limited access to preventive screening. Internationally, Adeloye et al. (2021) estimated a substantial and rising national prevalence of hypertension in Nigeria through systematic review and meta-analysis, underscoring the scale of the underlying problem that outreach interventions such as NHF's are designed to address.

Adekoya et al. (2023) explored mobile health technology as a complementary tool for hypertension management among Nigerian traders, finding pilot feasibility but noting that digital tools work best when paired with in-person, trust-based communication — a finding consistent with the rationale for physical community outreach rather than digital messaging alone in market contexts.

Empirical Review of Community Outreach and BCC for Cardiovascular Health

A substantial body of comparative evidence supports the effectiveness of outreach-based BCC for cardiovascular health promotion. Fatokun and Musa (2020), studying rural traders in Northern Nigeria, found that community-based BCC increased cardiovascular knowledge by measurable margins and prompted healthier dietary practices, although physical activity change remained limited by cultural and time constraints — a pattern that closely echoes the findings of the present study. Johnson and Mbanefo (2020), examining peer education among informal traders in Nairobi, Kenya, reported that peer-based BCC increased

physical activity and healthier eating while modestly reducing smoking, again demonstrating the outsized role of interpersonal, trust-based channels over mass media alone.

In Nigeria specifically, Oji and Ekezie (2021) found that BCC significantly improved cardiovascular health-promoting behaviours among market women in Anambra State, with technology-enhanced follow-up sustaining these gains, while Kalu and Okeke (2021) reported that BCC among female traders in Enugu increased physical activity and healthier eating but that dietary change lagged due to economic constraints. Ugwu and Agbo (2022), studying traders in Onitsha, found that health talks, pamphlets, and SMS reminders produced measurable gains in physical activity and healthy eating, but that financial and time barriers persisted post-intervention — directly paralleling the barriers identified among traders in the present study's three markets.

Outside Nigeria, Chiwenga and Mlambo (2022) found that among informal traders in Zimbabwe, awareness of cardiovascular risk was high but actual lifestyle adoption remained comparatively low, with peer education emerging as the most effective single strategy. Mwangi and Mugo (2021) similarly found that mobile health interventions among Kenyan urban vendors improved physical activity and reduced tobacco use more readily than dietary behaviour, a recurring theme across the reviewed literature suggesting that dietary change is systematically the most resistant behaviour domain to shift through BCC alone. Musa and Abdullahi (2023), studying traders in Kano, found that health literacy interacted with BCC exposure to determine adherence

outcomes, reinforcing the relevance of examining sociodemographic moderators such as education in the present study.

Comparative international evidence, such as Saleh and Khan's (2022) study of faith-based cardiovascular health promotion among traders in Karachi, Pakistan, and Sarpong and Amankwah's (2023) study of BCC among informal workers in Ghana, demonstrates that the core mechanism — trusted, community-embedded, repeated messaging — generalises across diverse informal-economy contexts, even as specific barriers and facilitators vary by setting. At a larger methodological scale, the HOPE-4 trial reported by Schwalm et al. (2021) demonstrated, through a randomised community-based design, that structured cardiovascular risk-factor management delivered within communities in low- and middle-income countries produced significant improvements in blood pressure control and risk-factor management, lending broader causal credibility to community-based cardiovascular interventions of the type examined here.

Collectively, this body of literature establishes three consistent patterns that the present survey sought to test empirically in the Southeast Nigerian trader context: (a) outreach reliably raises awareness of cardiovascular risk; (b) awareness translates into adoption of some lifestyle changes, particularly diet and exercise, more readily than others, such as smoking cessation; and (c) structural barriers — time, cost, and access — persist even where awareness and intention are high, a pattern this study examines directly through the Ecological Model of Health Behaviour.

Theoretical Framework

This study is anchored on three complementary theories: the Theory of Planned Behaviour (TPB), the Transtheoretical Model (TTM), and the Ecological Model of Health Behaviour (EMHB). The Theory of Planned Behaviour, conceptualised by Ajzen (1991), posits that behavioural intentions — the immediate precursor of actual behaviour — are shaped by attitudes toward the behaviour, subjective norms, and perceived behavioural control. Applied here, NHF outreach is theorised to work by making healthy lifestyle behaviours appear more favourable (attitude), by mobilising peer and community endorsement of those behaviours (subjective norm), and by providing traders with practical means to act on their intentions (perceived behavioural control).

The Transtheoretical Model, developed by Prochaska and DiClemente, describes behaviour change as a progression through five stages:

precontemplation, contemplation, preparation, action, and maintenance (Prochaska & DiClemente, 2019). This framework is useful for interpreting the heterogeneity observed among traders, some of whom report no behaviour change (precontemplation/contemplation), others who report having begun modifying diet or activity (preparation/action), and others who report sustained changes over time (maintenance). The Ecological Model of Health Behaviour, associated with McLeroy et al. (1988) and elaborated by Sallis et al. (2021), holds that health behaviour is shaped by interacting influences at the intrapersonal, interpersonal, organisational, community, and policy levels. This model directs attention to the structural barriers — affordability, time, and access — identified in this study, which cannot be resolved through individual-level attitude change alone. Table 1 below summarises how each theory maps onto the present study's variables.

Table 1
Theoretical Framework and Application to the Study

Theory	Core Proposition	Application in This Study
Theory of Planned Behaviour (Ajzen, 1991)	Behavioural intention is shaped by attitudes, subjective norms, and perceived behavioural control	Outreach reshaped traders' attitudes toward diet and exercise and reinforced supportive peer norms
Transtheoretical Model (Prochaska & DiClemente, 2019)	Behaviour change progresses through precontemplation, contemplation, preparation, action, and maintenance	Traders' varying awareness and adherence levels mapped onto distinct stages of change
Ecological Model of Health Behaviour (McLeroy et al., 1988)	Health behaviour is shaped by intrapersonal, interpersonal, organisational, community, and policy factors	Barriers such as affordability and family pressure reflect structural, not merely individual, determinants

Research Methodology

Research Design

This study adopted the survey research design, which was appropriate because it allowed for the systematic collection of data from a large and diverse group of respondents within the market environment. Using a structured questionnaire, traders' views and experiences were gathered to determine how NHF's community outreach initiatives influenced their awareness of and adherence to cardiovascular health lifestyle modifications. The survey design was cost-effective, ensured representativeness across the trading population, and provided reliable, generalisable data on respondents' attitudes and practices.

Population and Sample Size

The study population comprised traders operating within the Ariaria International Market (Aba, Abia State), the Onitsha Main Market (Anambra State), and the Ogbete Main Market (Enugu State) — three of the largest commercial markets in Southeast Nigeria. Given the large and dispersed nature of this population, a sample size of 384 respondents was derived using Dusick's (2014) sample size calculator, applying a 95% confidence level and a 50% response distribution to maximise generalisability. The formula applied was:

$$\text{Sample size} = Z^2 \times p \times (1 - p) / C^2$$

where Z is the standard score corresponding to the 95% confidence level, p is the estimated proportion of the population exhibiting the characteristic of interest (set at 0.5 to maximise sample variability), and C is the desired margin of error. The resulting sample of 384 traders was distributed proportionally and equally across the three markets (128 respondents per market) using a multistage procedure combining cluster identification with accidental sampling, whereby questionnaires were administered to traders encountered in the course of fieldwork until the required quota for each market was met.

Research Instrument, Validity, and Reliability

Data were collected using a structured questionnaire divided into a demographic section and a thematic section aligned with the study's six research questions and four hypotheses. Items covered exposure to NHF outreach, awareness of cardiovascular risk, perceived effectiveness of outreach messaging, adoption of specific lifestyle changes (diet, exercise, smoking, alcohol, and check-ups), and perceived barriers to adherence. Face and content validity were established through expert review, and internal consistency of the thematic sections was confirmed through a pilot administration prior to full-scale data collection.

Method of Data Analysis

Descriptive statistics — frequencies and percentages — were used to summarise sociodemographic characteristics, awareness levels, adopted lifestyle behaviours, and perceived barriers. Inferential analysis was conducted using the Chi-square (χ^2) test of independence to examine the association between exposure to NHF outreach and each of the four hypothesised relationships, at a 0.05 level of significance. All analyses were performed on the full sample of 384 valid responses.

Results and Data Presentation

Sociodemographic Characteristics of Respondents

Table 2 presents the sociodemographic distribution of the 384 respondents. Slightly more than half (54.2%) were female, and the largest age bracket was 28–37 years (33.6%), reflecting a predominantly young-to-middle-aged trading population. Over half of respondents (55.5%) had attained only primary or secondary education, while 35.7% had attained tertiary education, a distribution with direct bearing on the design and simplicity of outreach messaging.

Table 2*Sociodemographic Distribution of Respondents (N = 384)*

Variable / Category	Frequency (n)	Percentage (%)
Sex		
Male	176	45.8
Female	208	54.2
Age (years)		
18 - 27	62	16.1
28 - 37	129	33.6
38 - 47	111	28.9
48 and above	82	21.4
Educational Level		
No formal education	34	8.9
Primary/Secondary	213	55.5
Tertiary	137	35.7
Market		
Ariaria International Market (Aba)	128	33.3
Onitsha Main Market (Anambra)	128	33.3
Ogbete Main Market (Enugu)	128	33.3
Total	384	100.0

Awareness of Cardiovascular Health Risks

As shown in Table 3, a combined 62.0% of respondents reported high or very high awareness of cardiovascular health risks, which respondents predominantly attributed to exposure to NHF's market health talks, posters, flyers, and radio campaigns. Only 11.7% reported low awareness, suggesting that outreach messaging has achieved broad, though not universal, penetration across the sampled markets.

Table 3*Level of Awareness of Cardiovascular Health Risks (N = 384)*

Level of Awareness of Cardiovascular Health Risks	Frequency (n)	Percentage (%)
Very high awareness	96	25.0
High awareness	142	37.0
Moderate awareness	101	26.3
Low awareness	45	11.7
Total	384	100.0

Adoption of Cardiovascular Health Lifestyle Changes

The results show that NHF's outreach programmes contributed to positive lifestyle changes among market traders. The most commonly adopted behaviours included eating a healthier diet (42.9%) and reducing

salt intake (38.6%), followed by regular physical exercise (29.6%). Efforts to avoid smoking (20.6%), reduce alcohol intake (22.2%), and engage in regular health check-ups (25.4%) were also recorded, though to a lesser extent. Figure 1 presents these findings graphically.

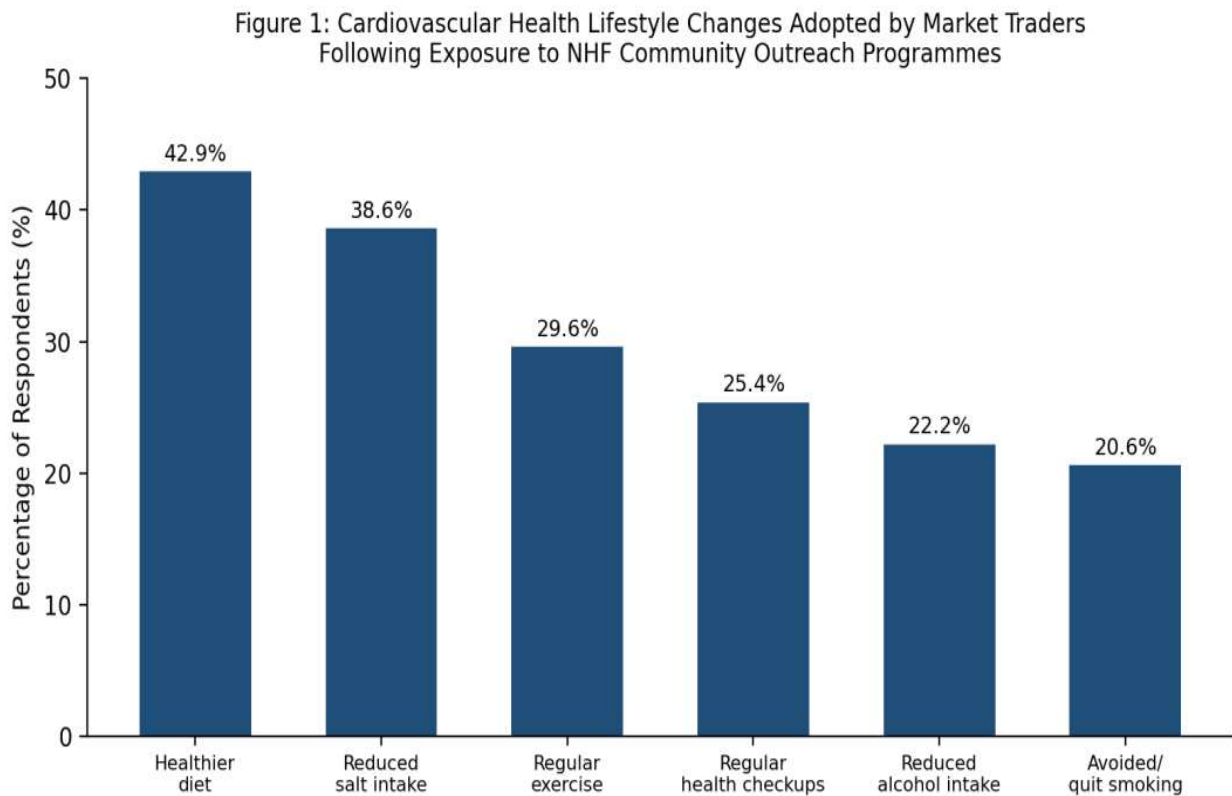


Figure 1. Cardiovascular health lifestyle changes adopted by market traders following exposure to NHF community outreach programmes.

With respect to physical activity specifically, more than half of respondents (54.6%) reported engaging in either weekly (27.0%) or daily (19.6%) physical activity, while 35.4% engaged only occasionally and 18.0% not at all, indicating moderate adherence to exercise routines (see Figure 2). On dietary change, 60.3% affirmed modifying their diets to include healthier options such as fruits and

vegetables, while 39.7% had made no such adjustment. Additionally, about one-third (31.7%) reported attempting to quit smoking or reduce alcohol use, while 46.0% indicated this item did not apply to them, reflecting the comparatively low prevalence of smoking and heavy drinking within the sample at baseline.

Figure 2: Frequency of Physical Activity Among Market Traders Exposed to NHF Community Outreach Programmes

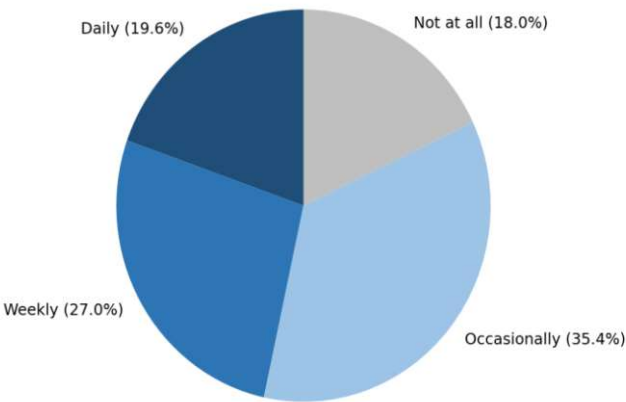


Figure 2. Frequency of physical activity among market traders exposed to NHF community outreach programmes.

Barriers to Adherence

Despite generally positive outcomes, respondents identified persistent barriers to full adherence, summarised in Table 4. The most frequently cited barrier was lack of time due to trading demands (56.8%), followed by

the inability to afford healthy food options (49.7%), limited access to health facilities (40.1%), insufficient follow-up support after outreach (36.2%), and cultural or family pressure against change (25.3%).

Table 4

Barriers to Adherence to Cardiovascular Health Lifestyle Changes (N = 384)		
Barrier to Adherence	Frequency (n)	Percentage (%)
Lack of time due to trading demands	218	56.8
Inability to afford healthy food options	191	49.7
Limited access to health facilities	154	40.1
Insufficient follow -up support after outreach	139	36.2
Cultural/family pressure against change	97	25.3

Hypothesis Testing

Table 5 summarises the results of the four Chi-square tests conducted to examine the relationships hypothesised in the study. In each case, the calculated χ^2 value exceeded the critical value at the relevant degrees of freedom and the 0.05 level of significance, resulting in the rejection of all four null

hypotheses. This indicates statistically significant associations between exposure to NHF outreach and, respectively, awareness of cardiovascular risk, perceived effectiveness of outreach in promoting adherence, adoption of lifestyle changes, and the relationship between awareness and actual adherence.

Table 5*Summary of ChiSquare Hypothesis Testing (df at 0.05 significance level)*

Hypothesis	χ^2 calc.	χ^2 crit.	df	Decision
.....	41.62	7.81	3	Rejected
H0 ₂ : Outreach x effectiveness on adherence	38.94	7.81	3	Rejected
H0 ₃ : Outreach x adoption of lifestyle change	35.17	5.99	2	Rejected
H0 ₄ : Awareness x actual adherence	29.85	5.99	2	Rejected

Sociodemographic Moderators

Cross-tabulation of awareness and adherence outcomes against sociodemographic variables indicated that age was significantly associated with the effectiveness of outreach interventions: traders aged 38 years and above were more likely to report both high awareness and sustained lifestyle adherence than younger traders, a pattern consistent with Musa and Abdullahi's (2023) finding that maturity and accumulated health literacy shape responsiveness to BCC. Educational attainment similarly moderated outcomes, with traders holding at least secondary education more likely to translate awareness into adoption of dietary and exercise changes, echoing Ijeoma et al.'s (2022) finding on the role of education in shaping trader health behaviours.

Discussion of Findings

The rejection of the null hypothesis that outreach did not improve awareness confirms the Theory of Planned Behaviour's proposition that exposure to credible, repeated health messages strengthens behavioural intentions by shaping favourable attitudes and supportive subjective norms. The finding that a majority of traders adopted at least one

lifestyle change — most commonly dietary modification and salt reduction — supports TPB's framework, in which intention, reinforced by positive attitude and peer norm, predicts behaviour (Ajzen, 1991). However, the persistence of barriers such as the affordability of healthy food and lack of time for exercise demonstrates that perceived behavioural control is not always matched by actual control, moderating the translation of intention into sustained behaviour.

The heterogeneity in adherence outcomes across the sample is well explained by the Transtheoretical Model. Traders reporting low awareness align with the precontemplation and contemplation stages, in which recognition of risk has not yet crystallised into readiness for action. Traders who reported adopting new dietary or exercise practices reflect the action stage, while those maintaining changes despite obstacles exemplify the maintenance stage (Prochaska & DiClemente, 2019). This stage-based heterogeneity carries a direct implication for outreach design: undifferentiated, one-size-fits-all messaging is unlikely to be equally effective across a population distributed across all five stages of change simultaneously.

The Ecological Model of Health Behaviour offers the most direct explanation for the barriers identified in Table 4. Lack of time and affordability are not individual psychological deficits but structural features of market trading and Nigeria's broader food and healthcare economy (McLeroy et al., 1988; Sallis et al., 2021). This finding is consistent with Ugwu and Agbo's (2022) and Kalu and Okeke's (2021) observations that BCC interventions among Nigerian traders reliably shift awareness and some behaviours while leaving structurally rooted barriers largely unaddressed. It suggests that outreach alone, however well-designed, cannot fully resolve adherence gaps without complementary interventions at the organisational, community, and policy levels — for example, facilitating affordable access to fruits and vegetables within market premises, or negotiating designated rest periods for brief physical activity.

The comparatively lower adoption rates for smoking cessation (20.6%) and alcohol reduction (22.2%) relative to dietary change (42.9%) mirror a consistent pattern across the reviewed literature, in which behaviours embedded in addiction or habitual social practice prove more resistant to BCC than behaviours, such as diet, that traders can modify more autonomously and incrementally (Mwangi & Mugo, 2021; Chiwenga & Mlambo, 2022). This suggests that future NHF programming may benefit from specialised, more intensive modules — potentially incorporating behavioural counselling — for these specific behaviour domains, rather than treating all six target behaviours as equally responsive to generic outreach messaging.

Taken together, the findings affirm that NHF's community outreach programmes function as an effective, evidence-supported BCC strategy: they demonstrably raise awareness, shift a majority of traders toward at least partial lifestyle adherence, and operate through mechanisms consistent with all three guiding theories. At the same time, the persistence of structural barriers indicates that sustained impact will require outreach to evolve from a purely communicative intervention into one embedded within broader supportive systems at the market, community, and policy levels.

Conclusion

This study set out to examine the influence of the Nigerian Heart Foundation's community outreach programmes as a behavioural change communication strategy for promoting cardiovascular health lifestyle adherence among market traders in Southeast Nigeria. Using survey data from 384 traders across the Ariaria, Onitsha, and Ogbete markets, the study found strong statistical evidence that outreach significantly increases awareness of cardiovascular risk and is associated with the adoption of key lifestyle changes, particularly dietary modification, salt reduction, and physical activity. All four null hypotheses were rejected, confirming significant relationships between outreach exposure, awareness, and adherence. At the same time, structural barriers — time, affordability, access, and insufficient follow-up — continue to constrain full and sustained adherence, particularly for smoking cessation and alcohol moderation. The study affirms that community outreach constitutes a vital, theoretically grounded, and empirically supported BCC strategy for reducing the cardiovascular disease burden among Nigeria's informal-

sector traders, while underscoring that its long-term impact depends on complementary structural and follow-up support.

Recommendations

Based on the findings, the following recommendations are made:

1. The NHF should expand and intensify market-based outreach — health talks, posters, and radio/TV campaigns — across additional markets in Southeast Nigeria, given traders' demonstrated positive response to these channels.
2. Outreach should be scheduled around traders' working patterns, using short health talks during market breaks, mobile health clinics, and quick reminders via megaphone to fit the time-constrained realities of trading life.
3. Government agencies and NGOs should collaborate to improve the affordability and availability of healthy foods within market premises and to provide low-cost screening and designated exercise spaces.
4. Outreach should not end at awareness creation; NHF should implement structured follow-up through mobile health workers, SMS reminders, and periodic market revisits, consistent with the Transtheoretical Model's emphasis on continuous reinforcement.
5. Given the significant moderating role of age and education, NHF should design segmented interventions, including simplified messaging for less-educated traders and age-specific content for older, higher-risk traders.
6. Outreach should engage trader associations and community leaders — such as market traders' associations in

Aba, Onitsha, and Enugu — to reinforce collective commitment to healthy practices beyond the individual level.

7. Future research should extend this survey approach to other occupational groups and regions, and should incorporate mixed methods to capture the qualitative texture of long-term behaviour change.

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