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Research Article

Cost, Stigma and Specialist Scarcity: Determinants, Outcomes and Barriers to Psychotropic Treatment among People Living with HIV/AIDS in Bayelsa State, Nigeria

Boutuaere Wariowei[1], Bernard Opatimidi Patani[2], Peter Owonaro[3], Joshua Eniojukan[4]

[1,3,4]Department of Clinical Pharmacy, Faculty of Pharmacy, Niger Delta University, Bayelsa State, Nigeria
[2]Department of Pharmaceutics and Pharmaceutical Technology Bayelsa Medical University, Nigeria

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Corresponding Author:
Boutuaere Wariowei, Department of Clinical Pharmacy, Faculty of Pharmacy, Niger Delta University, Bayelsa State, Nigeria
E-mail Id:
boutuaereotogie@gmail.com
Orcid Id:
https://orcid.org/0009-0007-7777-8207
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A B S T R A C T

Background: Integrating mental health care into HIV services is widely recommended, but the design of such integration requires local evidence on what actually stands between patients and treatment. We examined the determinants, outcomes, and barriers surrounding psychotropic treatment among people living with HIV/AIDS (PLWHA) at a Nigerian tertiary facility and tested whether socio-demographic characteristics predicted who received treatment.

Methods: A cross-sectional study of 336 patients attending the HIV/AIDS clinic of Federal Medical Centre, Yenagoa, was conducted over January to December 2023, using stratified systematic random sampling from a register of 2,563. Seventy-seven respondents receiving an antidepressant or antipsychotic formed the analytical subgroup. Data came from medical records and a structured interviewer-administered questionnaire. Analysis in SPSS version 27 used descriptive statistics, chi-square tests, and multiple regression at the 0.05 level, interpreted through Andersen's Behavioral Model of Health Services Use.

Results: A quarter of psychotropic users reported comorbidity, most commonly hypertension. Attendance was regular (93.0% monthly among antidepressant users), and satisfaction with care was high (93.0% satisfied), although 16.9% travelled more than an hour to the facility. Among antidepressant users, 63.4% rated the medicine very effective, 77.5% very safe and 67.6% reported a very positive effect on quality of life; no respondent rated their medicine unsafe. Three quarters of users in both classes spent ₦5,001 to ₦6,000 monthly, up to 12% of monthly income for the lowest-earning quarter of respondents. Cost (41.6%), stigma (32.5%), and discrimination (16.9%) were the leading barriers; counselling (32.5%), health insurance (24.7%), and awareness (18.2%) were the leading facilitators. Socio-demographic variables did not jointly predict utilization ($R^2 = 0.068$; adjusted $R^2 = -0.057$; $F(9, 67) = 0.543$; $p > 0.05$).

Conclusion: Treatment was acceptable and well tolerated where it was received; what obstructed access was structural. That patient

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characteristics did not predict utilization is consistent with a system in which access is governed by clinical need and specialist availability rather than by who the patient is and argues for investment in prescriber capacity, screening coverage, and financial protection rather than in demographic targeting.

Keywords: HIV/AIDS, Mental health, Access to medicines, Stigma, Out-of-pocket expenditure, Health systems, Nigeria

Introduction

Mental disorder is substantially more prevalent among people living with HIV/AIDS (PLWHA) than in the general population, and it erodes adherence to antiretroviral therapy, accelerates disease progression, and reduces quality of life.[11,14] Depression among PLWHA in Northwest Ethiopia was associated with significantly lower quality-of-life and adherence scores than among those without it.[3] Effective pharmacological treatment exists. The persistent difficulty in low- and middle-income countries is not the absence of effective medicines but the distance between those medicines and the people who need them.

That distance is usually described in general terms. Reviews of African HIV cohorts document a treatment gap in which most of those meeting criteria for a common mental disorder receive no treatment at all, attributed principally to the absence of screening in routine HIV care.[13] Nigerian work has identified income as the leading socioeconomic determinant of depression among PLWHA.[12] stigma and anticipated discrimination as predictors of depression severity.[9] and clinical severity together with health-system capacity, rather than patient demography, as the operative predictors of whether psychotropic treatment is initiated.[8] A study of antipsychotic accessibility in northwestern Nigeria found that 46.3% of patients had difficulty obtaining their medicines, with cost affecting 75% of those reporting difficulty, stock-outs 52.5%, and distance 53.1%; the study also reported that adequate accessibility was associated with almost threefold higher adherence.[10]

The remedies are comparatively well evidenced. Task-shifting has proved effective across low- and middle-income settings.[10] seventeen of eighteen integrated HIV and mental health interventions in a recent systematic review employed task-sharing and produced symptom-score reductions exceeding 50% relative to HIV services alone.[4] and stepped-care models delivering severity-matched interventions through non-specialists are under evaluation in Nigeria.[5] What is generally missing is the facility-level evidence needed to design such a program for a specific site: which barriers actually operate, how large the cost burden is relative to income, whether patients find treatment acceptable, and whether the patients who miss out can be identified demographically.

This study addressed those questions at a tertiary facility in Bayelsa State, where HIV prevalence of 3.8% is more than twice the national average of 1.4% and where mental health provision consists of one psychiatrist and one psychiatric nurse for the whole hospital. Andersen's Behavioral Model of Health Services Use.[2] framed the analysis. The model holds that service use is a function of predisposing characteristics, enabling resources and clinical need, and predicts that need and enabling factors will dominate where provision is severely constrained. That prediction is directly testable, and evidence from mental health services research supports it, with clinical need having been found to be the primary determinant of psychiatric service use, with demographic characteristics contributing little.[6]

Methods

Design, setting and participants

A cross-sectional study was conducted at the HIV/AIDS clinic of Federal Medical Centre, Yenagoa, covering January to December 2023, combining retrospective record review with a structured interviewer-administered questionnaire. The sampling frame was the clinic register of 2,563 patients. The minimum sample of 346 was calculated using the Taro Yamane formula.[15] at a 5% margin of error and increased by 10% for non-response; 354 selected patients were contacted, and 336 participated, a response rate of 94.9%. Sampling was stratified by gender, age group and recorded mental disorder, with systematic random selection within strata.

Patients were included if they had a confirmed HIV diagnosis and clinic registration, at least one attendance during the study period, a retrievable record, sufficient wellness to be interviewed, the ability to communicate in English or through an available interpreter, and informed consent, given personally or by a parent or guardian with the patient's assent where the patient was below the age of legal consent. Seventy-seven respondents had received at least one antidepressant or antipsychotic prescription and formed the analytical subgroup for the determinant, outcome and barrier analyses.

Measures

Determinants comprised comorbidity, frequency of facility attendance, mode and duration of travel, and satisfaction with care. Correlates comprised duration of HIV infection and self-rated physical and mental health. Outcomes comprised respondent-rated effectiveness, safety, monthly out-of-pocket expenditure on the medicine, and effect on quality of life. Barriers and facilitators were elicited as the single factor respondents identified as most impeding, and

most enabling, their access to and continued use of the medicine. Predisposing characteristics entered into the regression were age, gender, education, monthly income, marital status, employment status, occupation, religion, and lifestyle.

Analysis

Analysis used IBM SPSS Statistics version 27. Percentages relating to a drug class were computed on the number of users of that class, 71 for antidepressants and 8 for antipsychotics. Chi-square statistics tested whether responses were evenly distributed across available categories. Multiple regression with the nine predisposing characteristics entered simultaneously examined their joint contribution to utilization. Significance was set at 0.05.

Ethical approval

The Research Ethics Committee of Federal Medical Centre, Yenagoa granted approval. Written informed consent was obtained from every participant. Interviews were conducted in a private room to prevent inadvertent disclosure of HIV or mental health status.

Results

Determinants and correlates

Comorbidity was reported by 25.4% of antidepressant users and 25.0% of antipsychotic users, hypertension being commonest in both. Monthly attendance for HIV care was reported by 93.0% and 87.5%, respectively. Bus (36.6%) and taxi (31.0%) were the commonest modes of travel among antidepressant users; travel time was most often sixteen to thirty minutes (38.0%), but 16.9% travelled more than an hour. Satisfaction with care was high; 47.9% of antidepressant users were very satisfied and 45.1% somewhat satisfied. Physical health was rated very good or good by 83.1% of antidepressant users, and mental health by 91.5%. Table 1 presents these findings.

Outcomes and cost

Among antidepressant users, 63.4% rated the medicine as very effective, 29.6% as somewhat effective, and 7.0% as not effective. Six of the eight antipsychotic users rated the medicine very effective. Perceived safety was high in both classes, and no respondent rated their medicine unsafe. Monthly expenditure of ₦5,001 to ₦6,000 was reported by 76.1% of antidepressant users and 75.0% of antipsychotic users. Table 2 presents cost, safety, and quality-of-life outcomes.

Barriers and facilitators

Among the 77 psychotropic users, cost was identified as the principal barrier by 41.6%, stigma by 32.5% and discrimination by 16.9%; availability of the medicine and lack of social support were reported at lower frequencies. Counselling was identified as the principal facilitator by 32.5%, health insurance by 24.7%, and awareness of mental health and its treatment by 18.2%.

Socio-demographic prediction of utilization

The regression model accounted for 6.8% of variance in utilization ($R = 0.261$; $R^2 = 0.068$; adjusted $R^2 = -0.057$) and was not statistically significant, $F(9, 67) = 0.543$, $p > 0.05$. No individual predictor reached significance; occupation carried the largest standardized coefficient ($\beta = 0.164$) and gender the smallest ($\beta = 0.002$). The negative adjusted R^2 indicates that the model performed slightly worse than one containing no predictors. Table 3 presents the analysis.

Table 1.Determinants and Correlates of Psychotropic Utilization

Item	Antidepressant users (n = 71) n (%)	Antipsychotic users (n = 8) n (%)
Comorbid condition besides HIV/AIDS		
Yes	18 (25.4)	2 (25.0)
No	51 (71.8)	6 (75.0)
Do not know	2 (2.8)	0 (0.0)
Commonest conditions reported		
Hypertension	12 (16.9)	1 (12.5)
Diabetes mellitus	3 (4.2)	1 (12.5)
Frequency of attendance for HIV care		
Weekly	2 (2.8)	1 (12.5)
Monthly	66 (93.0)	7 (87.5)
Less than monthly	3 (4.2)	0 (0.0)
Travel time to the facility		
0 – 15 minutes	3 (4.2)	4 (50.0)
16 – 30 minutes	27 (38.0)	2 (25.0)

31 – 45 minutes	24 (33.8)	1 (12.5)
46 – 60 minutes	5 (7.0)	1 (12.5)
More than 1 hour	12 (16.9)	0 (0.0)
Satisfaction with quality of care		
Very satisfied	34 (47.9)	2 (25.0)
Somewhat satisfied	32 (45.1)	5 (62.5)
Neither satisfied nor dissatisfied	5 (7.0)	1 (12.5)
Self-rated physical health		
Very good or good	59 (83.1)	7 (87.5)
Fair	12 (16.9)	1 (12.5)
Self-rated mental health		
Very good or good	65 (91.5)	8 (100.0)
Fair	6 (8.5)	0 (0.0)

Note: Percentages are of the number of users of each class.

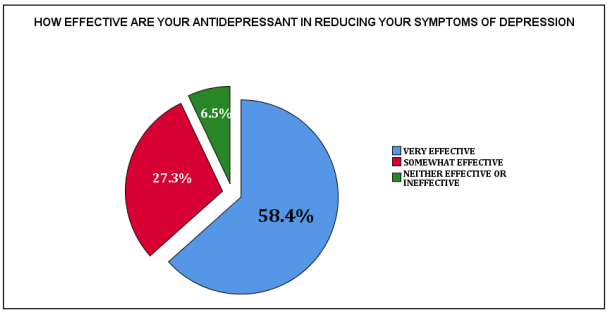


Figure 1.Perceived effectiveness of antidepressants in reducing symptoms of depression

Table 2.Cost, Safety and Quality-of-Life Outcomes of Psychotropic Utilization

Variable	Antidepressant users (n = 71) n (%)	Antipsychotic users (n = 8) (%)
Monthly out-of-pocket expenditure on the medicine (antidepressant $\chi^2 = 191.21$, $p < 0.001$; antipsychotic $\chi^2 = 229.73$, $p < 0.001$)		
0 – ₦1,000	6 (8.5)	0 (0.0)
₦1,001 – ₦2,000	5 (7.0)	1 (12.5)
₦2,001 – ₦3,000	4 (5.6)	1 (12.5)
₦3,001 – ₦4,000	2 (2.8)	0 (0.0)
₦4,001 – ₦5,000	0 (0.0)	0 (0.0)
₦5,001 – ₦6,000	54 (76.1)	6 (75.0)
Perceived safety (antidepressant $\chi^2 = 78.35$, $p < 0.001$; antipsychotic $\chi^2 = 165.66$, $p < 0.001$)		
Very safe	55 (77.5)	7 (87.5)
Somewhat safe	16 (22.5)	1 (12.5)
Unsafe	0 (0.0)	0 (0.0)
Effect on quality of life (antidepressant $\chi^2 = 338.09$, $p < 0.001$; antipsychotic $\chi^2 = 228.90$, $p < 0.001$)		
Very positive	48 (67.6)	4 (50.0)
Somewhat positive	20 (28.2)	1 (12.5)
Neither positive nor negative	3 (4.2)	3 (37.5)

Note: Percentages are of the number of users of each class. The chi-square statistic tests whether responses were evenly distributed across the available categories

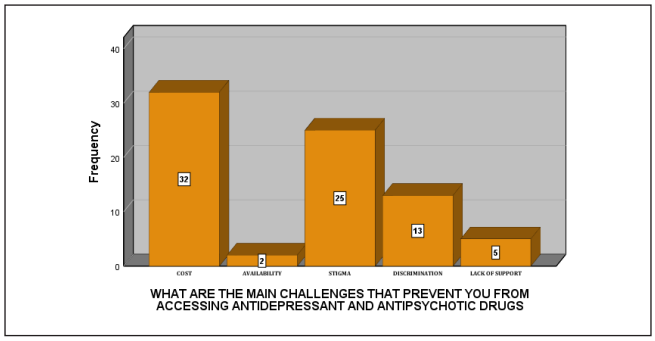


Figure 2.Barriers to accessing and adhering to psychotropic treatment reported by 77 users

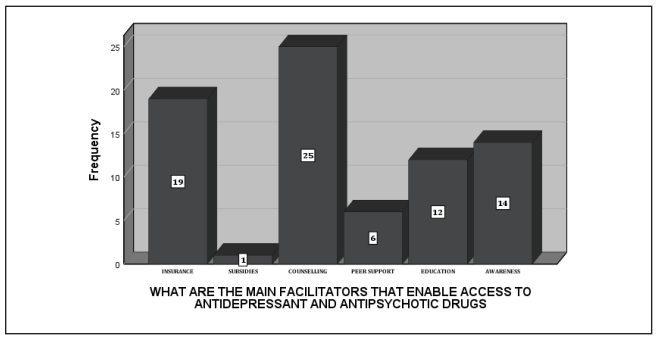


Figure 3.Facilitators of access and adherence reported by 77 users

Table 3.Multiple Regression of Predisposing Characteristics on Psychotropic Drug Utilization (n = 77)

Predictor	B	SE	β	t	p
(Constant)	1.521	0.517	–	2.940	0.005
Age	−0.050	0.046	−0.183	−1.073	0.287
Gender	0.002	0.123	0.002	0.014	0.989
Education	0.007	0.072	0.015	0.104	0.918
Monthly income	0.019	0.030	0.085	0.634	0.528
Marital status	0.004	0.046	−0.013	−0.090	0.928
Employment status	−0.053	0.048	−0.175	−1.109	0.272
Occupation	0.031	0.031	0.164	1.017	0.313
Religion	0.053	0.115	0.076	0.462	0.645
Lifestyle	−0.160	0.103	−0.231	−1.561	0.123

Note: Dependent variable: antidepressant and antipsychotic drug utilization. $R = 0.261$; $R^2 = 0.068$; adjusted $R^2 = −0.057$; $F(9, 67) = 0.543$; $p > 0.05$. SE = standard error. The model was not statistically significant and no individual predictor reached significance

Discussion

The central finding of this study is a contrast. Treatment, where it was received, was acceptable: patients rated it effective and safe, reported improved quality of life, attended regularly, and expressed satisfaction with their care. What obstructed access lay almost entirely outside the clinical encounter: in the price of the medicine, the social cost of seeking it, and the scarcity of anyone able to prescribe it. The treatment gap at this facility is structural rather than attitudinal.

Cost was the most frequently reported barrier, and its magnitude is worth stating plainly. A monthly outlay of ₦5,001 to ₦6,000 represents up to 12% of monthly income for the 23.5% of respondents earning below ₦50,000, before transport, food, and other necessities are considered. Nigerian health financing rests predominantly on out-of-pocket payment, and although antiretroviral medicines are supplied without charge at designated public facilities, psychotropic medicines are not. A patient may therefore receive a three-drug antiretroviral regimen free of charge while being unable to afford a single tablet of

a first-line antidepressant. Cost affected 75% of Nigerian patients reporting difficulty obtaining antipsychotics in a comparable study (10). That health insurance was among the three leading facilitators demonstrates the effect of financial protection where it exists and indicates what wider coverage would achieve.

Stigma, reported by 32.5%, operates differently but no less powerfully. HIV-related and mental-health-related stigma coincide in this population, and seeking psychotropic treatment requires a second disclosure beyond the disclosure of HIV status. Stigmatization was reported by 57% of recently diagnosed Nigerian PLWHA in a mixed-method study and was associated with reduced medication adherence.[1] and stigma has been shown to predict depression severity as well as obstruct its treatment.[9] Discrimination, reported by 16.9%, is particularly damaging where it occurs within health services, since it converts the place of treatment into a source of harm.

It is useful to separate these three barriers by the instrument each requires. Cost is a barrier to the health financing system and responds to insurance coverage, subsidies and improved procurement. Stigma is a barrier of the social environment and responds to sustained community engagement and to the normalization that follows from routine screening; it changes slowly. Discrimination within services is a barrier of the service itself and responds to staff training, explicit policy, and accountable complaint mechanisms and can therefore be addressed comparatively quickly by the facility acting alone. Treating the three as a single undifferentiated obstacle obscures the fact that the fastest available gains lie with the third.

The regression finding is theoretically coherent and practically consequential. The nine variables entered were exclusively predisposing characteristics under Andersen's model.[2] Their failure to predict utilization is precisely what the model anticipates in a system where access is governed by clinical need and by the availability of a single prescriber, and it accords with evidence that clinical need is the primary determinant of psychiatric service use.[6] and with Nigerian findings identifying clinical severity and health-system capacity rather than demography as the operative predictors.[8] Read alongside the barrier data, the finding acquires a further meaning: cost was the leading reported barrier, yet income did not predict utilization, which suggests that cost constrained almost everyone rather than excluding the poorest specifically. Where a barrier applies broadly, it will not appear as a socio-demographic gradient.

The practical implication is that program designs premised on identifying underserved patients demographically and reaching them through targeted outreach are misdirected here. Where the binding constraint is the number of clinicians authorized to prescribe, targeting redistributes a fixed quantity of treatment rather than increasing it. Investment belongs in prescriber capacity, screening coverage, and medicine affordability. It should be stressed that this is a statement about the determinants of receiving treatment, not about the determinants of the disorder itself; income remains strongly associated with the risk of depression in Nigerian PLWHA.[12]

Two findings require cautious reading. High satisfaction with care coexisted with substantial reported barriers, which is not a contradiction: satisfaction was asked about the clinical encounter, whereas the barriers operate in the pharmacy, the household budget, and the community. A facility monitoring only patient satisfaction would conclude that its psychotropic service was performing well and would be wrong. Similarly, that no respondent rated their medicine unsafe is improbable given the known adverse-effect profiles of fluoxetine and haloperidol and is more plausibly explained by a high threshold for a negative response, by social desirability bias in a clinic-based interview, or by a survivor effect excluding those who had already discontinued. A structured adverse-effect checklist administered at dispensing would be likely to detect what open questioning missed.

Implications for practice and policy

Four measures follow directly. First, mental health screening should become a routine element of the HIV clinic visit, with results recorded in the existing electronic record so that follow-up can be tracked; this addresses detection and simultaneously normalizes help-seeking. Second, a task-shifted prescribing model should be introduced, in which trained HIV clinicians and nurses initiate first-line antidepressant treatment under remote specialist supervision, reserving the psychiatrist for complex and psychotic presentations; the evidence base for this approach is established.[7,4] and a Nigerian stepped-care template exists.[5] Third, essential psychotropic medicines should be advocated for inclusion in the National Health Insurance Authority benefit package, and hospital procurement should be strengthened to reduce purchases at higher costs in the private market. Fourth, counselling capacity should be expanded, since counselling was the facilitator most frequently credited by respondents and is therefore an existing asset rather than a service to be created.

A final observation concerns measurement. Nigerian HIV programs are monitored against testing, enrollment, treatment coverage, and viral suppression targets. None of these indicators would detect the situation documented here. If mental health is to be integrated into HIV care in substance rather than in principle, an indicator of mental

health screening coverage will need to enter the routine reporting framework, because services are managed against what is counted.

Limitations

This was a single-center cross-sectional study, so causal inference is not available and generalizability is limited. The regression was conducted on 77 cases across nine predictors, which affords limited power; the correct reading is that no socio-demographic effect was detected, not that none exists. Outcomes were self-reported and subject to recall and social desirability bias, and no objective safety, laboratory, or adherence data were collected. Barriers were elicited as a single, principal factor, which does not capture their co-occurrence. Case identification relied on clinical records rather than validated instruments. Transport costs were not captured in the expenditure figures (Fig 1, fig 2 & fig 3), and the true economic burden is therefore understated.

Conclusion

Among PLWHA at a Nigerian tertiary facility, psychotropic treatment was acceptable, well tolerated, and associated with favorable self-rated outcomes where it was received. Access was obstructed by cost, stigma, discrimination, and the concentration of prescribing in a single specialist, and socio-demographic characteristics did not predict who received treatment. Mental health care must therefore be delivered through the HIV services that patients already attend reliably, supported by routine screening, task-shifted prescribing, financial protection for essential psychotropic medicines, and sustained anti-stigma work, rather than through a separate specialist pathway that most cannot reach.

Declarations

Ethics approval and consent to participate: The study was approved by the Research Ethics Committee of the Federal Medical Centre, Yenagoa. Written informed consent was obtained from all participants.

Consent for publication: Not applicable.

Availability of data and materials: The dataset analyzed during the current study is available from the corresponding author on reasonable request.

Conflict of Interests: None

Sources of Funding: None

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