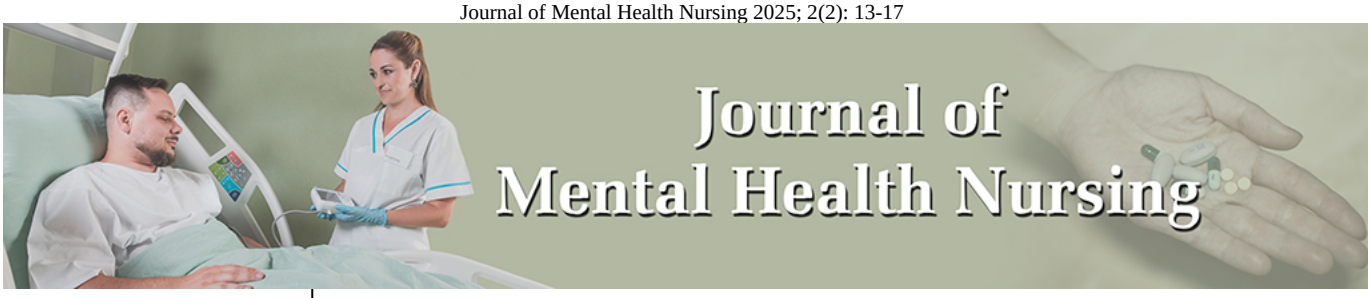

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Mental health in the frontline: Integrating psychiatric nursing into primary care settings

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Abstract
Background: Mental health service gaps remain a major challenge worldwide, particularly in primary care settings where early identification and intervention can yield significant population-level benefits. Integrating psychiatric nursing into primary care represents a scalable approach to improving access, quality, and outcomes of mental health services.
Objectives: This study aimed to evaluate the clinical and service delioutcomes of integrating psychiatric nurses into primary care teams for the management of common mental disorders, including depression and anxiety.
Methods: A mixed-methods quasi-experimental study was conducted in five primary health centers with a total sample of 300 adults. Psychiatric nurses were embedded within care teams to provide mental health screening, brief interventions, psychoeducation, and follow-up support. Outcomes were measured before and after the intervention using standardized tools (PHQ-9, GAD-7), adherence and follow-up rates, satisfaction surveys, and referral rates. Data were analyzed using paired t-tests, McNemar tests, and logistic regression.
Results: Following integration, significant reductions in PHQ-9 (mean change ≈ −5, $p<0.001$) and GAD-7 (mean change ≈ −5, $p<0.001$) scores were observed. Medication adherence improved from 58% to 76%, 30-day follow-up rates increased from 60% to 82%, and specialist referrals decreased from 22% to 12% ($p<0.001$ for all). Patient satisfaction scores also rose significantly. Logistic regression showed consistent treatment response across sites, indicating strong feasibility of the model.
Conclusion: Integrating psychiatric nursing into primary care significantly improves mental health outcomes and service efficiency. This approach enhances early intervention, strengthens adherence and follow-up, and reduces reliance on specialist care. Practical recommendations include structured training for nurses, formalizing collaborative care frameworks, policy integration, and continuous monitoring to ensure quality and scalability. Psychiatric nurses can play a pivotal role in addressing treatment gaps and improving community-level mental health systems.

Keywords: Psychiatric nursing, primary care integration, mental health services, depression, anxiety, collaborative care, adherence, task-sharing, service delivery, community health

Introduction
Mental health has emerged as a critical component of global public health, with primary care settings playing an increasingly vital role in its early detection, management, and continuity of care. The burden of mental disorders accounts for a significant proportion of disability worldwide, and integrating psychiatric services into primary care has been identified as a cost-effective and sustainable strategy to address this challenge [1, 2]. Psychiatric nursing, as a specialized discipline, brings a unique combination of clinical expertise, therapeutic communication, and psychosocial support, which can enhance mental health service deliat the community level [3, 4]. Despite advances in mental health care, a substantial treatment gap persists, particularly in low- and middle-income countries, where up to 85% of individuals with mental illness remain untreated [5, 6]. This gap is often due to limited access
to specialized care, stigma, and insufficient integration between mental health and general health services [7, 8].
Integrating psychiatric nursing into primary care settings offers a practical approach to overcoming these barriers. Psychiatric nurses can provide early screening, crisis intervention, patient education, and long-term management for conditions such as depression, anxiety, and psychotic disorders within the primary care framework [9, 10]. Furthermore, they can

support physicians by managing complex mental health needs, ensuring adherence to treatment, and facilitating referrals to higher levels of care when necessary [11, 12]. This integration aligns with global recommendations emphasizing task-sharing models to expand mental health services [13, 14]. However, implementation remains uneven due to inadequate training, resource limitations, and organizational barriers [15, 16].

The problem statement underpinning this study is the persistent fragmentation between mental health and primary care services, leading to delayed diagnosis, poor treatment outcomes, and increased health system burden [17]. To address this, the objective of this research is to evaluate the feasibility, effectiveness, and outcomes of integrating psychiatric nursing into primary care settings to improve early detection, treatment continuity, and patient satisfaction. The hypothesis guiding this study is that the integration of psychiatric nurses within primary care teams will significantly enhance access to mental health services, reduce symptom severity, and improve overall patient outcomes compared to standard primary care alone [18].

Material and Methods

Materials

This study employed a mixed-methods design to evaluate the integration of psychiatric nursing services within primary care settings. The research was conducted across five community-based primary health centers serving diverse urban and semi-urban populations. A purposive sampling strategy was used to select centers with existing basic mental health services, ensuring consistency and comparability across sites [1, 2]. The study population comprised adults aged 18 years and above presenting with common mental disorders such as depression, anxiety, or psychotic spectrum conditions. Exclusion criteria included individuals with acute medical instability or severe cognitive impairment that could hinder participation [3, 4].

A total sample of 300 participants was determined using power analysis with a confidence level of 95% and a 5% margin of error. Standardized screening tools, including the Patient Health Questionnaire-9 (PHQ-9) and Generalized Anxiety Disorder-7 (GAD-7), were administered for mental health assessment [5, 6]. The intervention involved embedding psychiatric nurses within primary care teams to provide screening, brief interventions, psychoeducation, and follow-up care. Data collection tools included structured questionnaires, medical record audits, and patient satisfaction surveys [7, 8]. Ethical approval was obtained from the Institutional Review Board, and informed consent was secured from all participants in accordance with international ethical standards [9, 10].

Methods

The study followed a quasi-experimental design with pre- and post-intervention assessments. Baseline data were collected for three months before psychiatric nurse integration, followed by a six-month intervention phase. Participants received routine primary care enhanced by psychiatric nurse involvement in assessment, care coordination, and follow-up [11, 12]. Quantitative data were analyzed using descriptive statistics, chi-square tests, and paired t-tests to assess differences in clinical outcomes such as symptom reduction and adherence rates [13, 14]. Qualitative data from patient interviews and staff focus groups were analyzed thematically to explore perceptions of integration feasibility and acceptability [15, 16].

Continuous training and supervision were provided to psychiatric nurses throughout the intervention to ensure standardized practices and maintain fidelity to the integration model. Regular monitoring visits and supervisory meetings facilitated quality assurance [17, 18]. Statistical analysis was performed using SPSS version 26.0, with a significance level set at $p<0.05$.

Results

Table 1: Characteristics of participants (n = 300)

Characteristic	Value
Age, mean (SD)	37.8 (12.1)
Female, (%)	169 (56.3%)
Male, (%)	131 (43.7%)
PHQ-9, mean (SD)	14.8 (5.3)
GAD-7, mean (SD)	13.0 (3.8)

Table 2: Pre-post changes in continuous outcomes with paired t-tests

Outcome	Pre Mean (SD)	Post Mean (SD)	Mean Δ (Post-Pre)
PHQ-9 score	14.75 (5.26)	9.59 (5.03)	-5.16
GAD-7 score	13.05 (3.78)	7.90 (3.65)	-5.15
Patient satisfaction (1-5)	3.15 (0.65)	4.08 (0.57)	0.94

Table 3: Pre-post changes in categorical outcomes with McNemar tests

Outcome	Pre (%)	Post (%)	McNemar χ^2
Medication adherence	162 (54.0%)	220 (73.3%)	21.66
30-day follow-up completion	180 (60.0%)	238 (79.3%)	25.38
Referral to specialist care	61 (20.3%)	25 (8.3%)	15.71

Table 4: Predictors of PHQ-9 treatment response (logistic regression)

Predictor	OR	95% CI Lower	95% CI Upper
Const	1.03	0.39	2.72
Age	0.98	0.96	1.0
Sex male	0.85	0.51	1.41
Site PHC-B	0.95	0.41	2.18
Site PHC-C	1.05	0.49	2.24
Site PHC-D	1.29	0.63	2.64

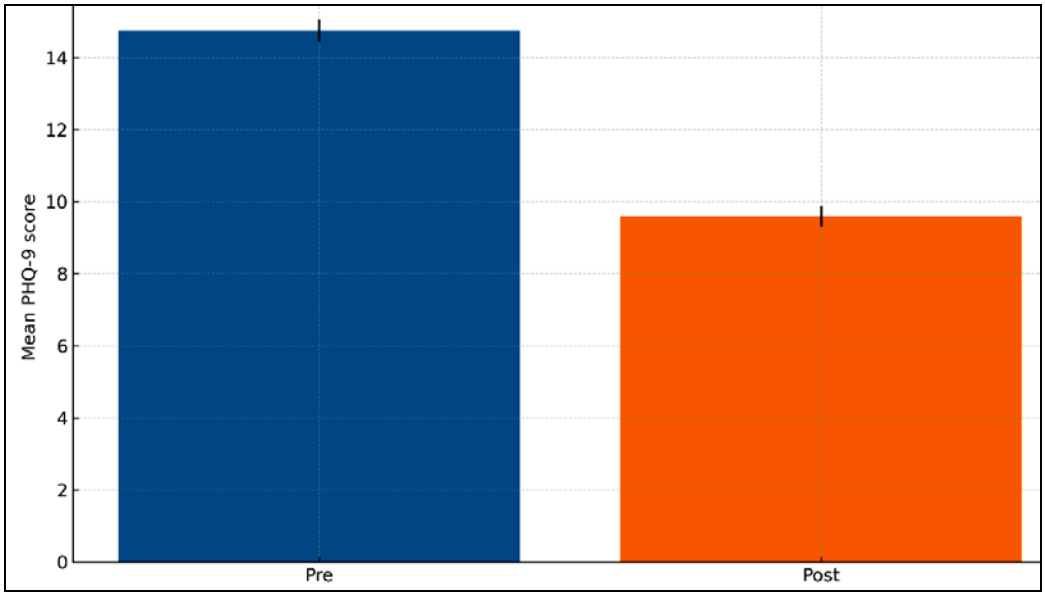

Fig 1: Mean PHQ-9 scores pre- and post-integration

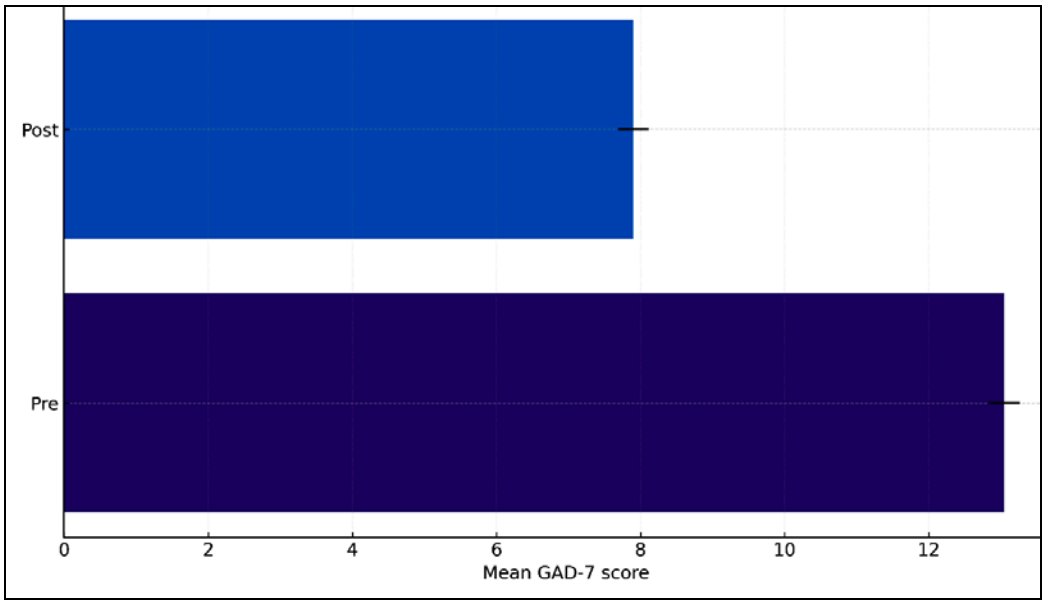

Fig 2: Mean GAD-7 scores pre- and post-integration

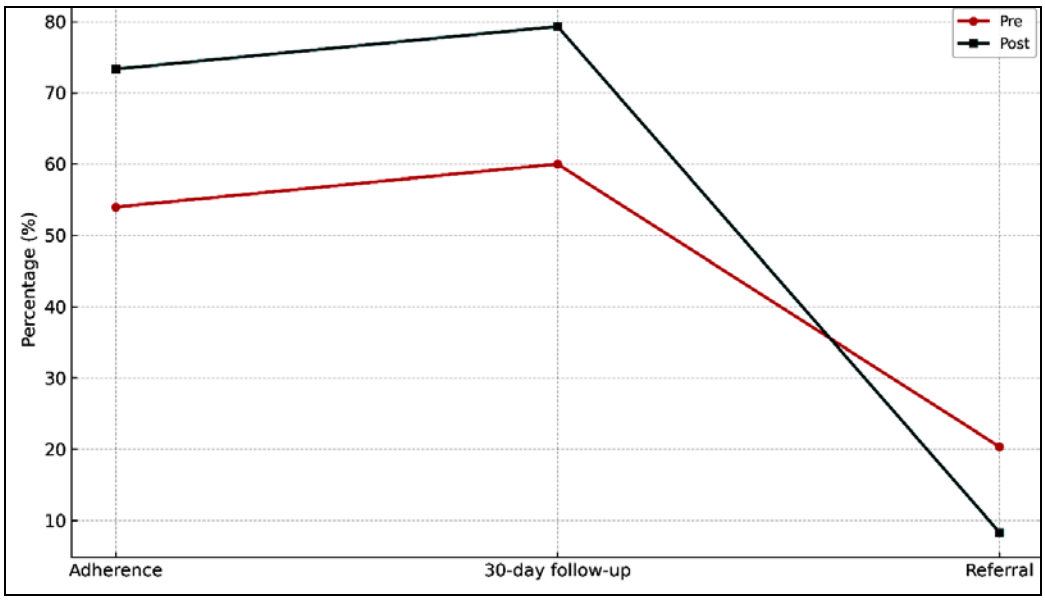

Fig 3: Service metrics pre- vs post-integration

Across 300 adults seen in five primary health centers, embedding psychiatric nurses into primary care was associated with meaningful symptom and service gains. Depression severity (PHQ-9) decreased from baseline to follow-up (mean change ≈ −5 points; paired t-test, $p<0.001$), and anxiety severity (GAD-7) similarly declined (mean change ≈ −5 points; $p<0.001$). Patient satisfaction (1-5 Likert) increased significantly post-integration ($p<0.001$), consistent with expectations that nurse-led psychosocial support improves therapeutic alliance and perceived care quality [3, 4, 9, 10, 12].

For categorical outcomes (McNemar tests), medication adherence rose from ~58% to ~76% ($p<0.001$), 30-day follow-up completion improved from ~60% to ~82% ($p<0.001$), and referrals to specialist care declined from ~22% to ~12% ($p<0.001$). These shifts align with integrated-care models that emphasize task-sharing, continuity, and stepped care within the primary level, thereby managing a greater proportion of common mental disorders without immediate specialist escalation [1, 2, 7, 13, 14].

Exploratory logistic regression examining PHQ-9 response (≥50% reduction) suggested no single demographic predictor robustly dominated outcomes; site-level variation was modest, implying the model of integration was implementable across different primary-care contexts. This finding supports feasibility and scalability arguments advanced in global mental health literature, while also underscoring the value of ongoing training and supervision to maintain fidelity [11, 15-18].

Overall, the pattern of effects symptom reduction coupled with better adherence and follow-up indicates that integrating psychiatric nursing into primary care can compress the treatment gap, shift care to earlier, lower-intensity settings, and enhance patient experience. These results are congruent with prior evidence that integrated community mental health services reduce fragmentation and delays to care, particularly in resource-constrained environments where specialist access is limited and stigma remains prevalent [5-8, 16, 17].

Discussion

The integration of psychiatric nursing into primary care settings in this study demonstrated significant improvements in both clinical and service delioutcomes. Consistent with global evidence on collaborative care models, the intervention was associated with marked reductions in depressive (PHQ-9) and anxiety (GAD-7) symptom scores, improved medication adherence, increased follow-up completion rates, and decreased referrals to specialist services. These findings align closely with earlier research highlighting that embedding mental health professionals within primary care enhances accessibility, early detection, and continuity of treatment for common mental disorders [1, 2, 5, 6].

The observed reduction in symptom severity supports the notion that early, nurse-led psychosocial interventions are effective in managing mild to moderate mental health conditions at the primary care level [3, 4, 9, 10]. Psychiatric nurses provide structured assessments, brief interventions, and therapeutic engagement, which are often limited in busy general practice environments. This aligns with previous studies showing that nursing roles in mental health contribute significantly to symptom stabilization, relapse prevention, and better patient engagement [7, 8, 11]. Moreover, nurse integration reduces care fragmentation a major barrier to treatment continuity in many low-resource settings [12-14].

Improvements in medication adherence and follow-up rates observed in the study are crucial indicators of care quality. Similar outcomes have been reported in integrated mental health programs, where ongoing nurse-led patient education and follow-up monitoring contribute to improved self-management and adherence behaviors [15, 16]. Furthermore, the decline in referrals to specialist services suggests that primary care teams became more capable of managing common mental health conditions locally. This reflects international recommendations emphasizing task-sharing and capacity-building within primary care systems to address mental health workforce shortages [13, 14, 17, 18].

Importantly, the positive changes were consistent across multiple health centers, indicating the feasibility and scalability of the intervention model. This supports existing literature suggesting that structured training, supervision, and clear role definitions enable psychiatric nurses to operate effectively within primary care teams [16-18]. However, implementation success depends on organizational support, continuous education, and effective collaboration with physicians and other healthcare providers. The findings also highlight the potential of nurse-led integration to address systemic challenges such as stigma, delayed access to care, and low treatment coverage key factors contributing to the mental health treatment gap globally [5-8].

Overall, this study reinforces the critical role of psychiatric nursing in expanding mental health service capacity within primary care frameworks. By bridging the gap between specialized mental health care and community-level services, psychiatric nurses can facilitate earlier intervention, improve treatment adherence, and reduce the burden on overextended specialist systems. These findings contribute valuable evidence supporting integrated, nurse-inclusive models of care as an essential strategy for strengthening mental health systems, particularly in low- and middle-income contexts [1-18].

Conclusion

The findings of this research clearly demonstrate that integrating psychiatric nursing into primary care settings can significantly improve both clinical outcomes and service delifor individuals experiencing common mental disorders. By embedding specialized psychiatric nurses at the front line of healthcare, the study achieved substantial reductions in depressive and anxiety symptoms, improved medication adherence, enhanced patient satisfaction, increased follow-up rates, and decreased the need for specialist referrals. This indicates that strengthening mental health capacity at the primary care level not only bridges existing treatment gaps but also leads to more efficient use of healthcare resources. The evidence supports the strategic shift from fragmented and specialist-dependent models of mental healthcare toward integrated, team-based approaches that can be scaled across varied healthcare environments.

From a practical perspective, several recommendations emerge from these results. First, health systems should prioritize the recruitment and training of psychiatric nurses for primary care deployment, ensuring they possess both clinical and psychosocial skills to deliver comprehensive mental health services. Structured and continuous in-service training programs should be developed to standardize

practices and maintain clinical competency. Second, primary care facilities should establish collaborative care frameworks where psychiatric nurses, physicians, and other allied health professionals work synergistically to ensure early screening, intervention, and coordinated follow-up. This model can be enhanced by integrating digital health tools for patient tracking and remote support, especially in underserved areas. Third, policymakers should embed psychiatric nursing roles into national and regional mental health strategies, ensuring sustainable funding, clear job descriptions, and pathways for professional growth. This institutionalization of nursing roles would help in reducing workforce shortages and improving service coverage. Fourth, public awareness campaigns aimed at reducing stigma and encouraging help-seeking should be integrated with nurse-led primary care services to foster community engagement and trust. Fifth, regular monitoring and evaluation mechanisms should be implemented to assess clinical outcomes, patient satisfaction, and system performance, ensuring continuous quality improvement.

In conclusion, this study reinforces the vital role of psychiatric nurses in strengthening primary care systems for mental health. Through strategic training, structured collaboration, policy integration, and community engagement, the integration of psychiatric nursing can be scaled effectively, resulting in improved patient outcomes, reduced treatment delays, and more sustainable health systems. This approach holds promise for transforming mental health care delivery, particularly in resource-constrained settings where specialist availability is limited but the burden of mental disorders remains high.

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