Exploration of Digital Health Technologies

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Open Access Letter to the Editor

Methodological appraisal of digital psychiatry readiness among Pakistani psychiatrists: gaps and recommendations

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Academic Editor: Atanas G. Atanasov, Medical University of Vienna, Austria
Received: February 9, 2026 **Accepted:** March 27, 2026 **Published:** May 7, 2026

Cite this article: Rizvi SB, Rehman K, Idrees M, Tariq U, Tahir HN. Methodological appraisal of digital psychiatry readiness among Pakistani psychiatrists: gaps and recommendations. Explor Digit Health Technol. 2026;4:101193. https://doi.org/10.37349/edht.2026.101193

Abstract

This letter offers a critical appraisal of Riaz et al.'s study (Explor Digit Health Technol. 2026;4:101179. DOI: 10.37349/edht.2026.101179) on psychiatrists' knowledge, perceptions, and willingness toward digital psychiatry in Pakistan. The mixed-methods design identifies critical gaps in competencies (e.g., 68.5% telepsychiatry familiarity vs. 32.5% VR) and barriers like infrastructure deficits (44.5%). However, methodological issues per STROBE guidelines such as absent response rates, convenience sampling bias, and incomplete bias mitigation limit representativeness. An adapted Newcastle-Ottawa Scale scores it 7/10, indicating moderate bias of risk from selection and non-response. Additional concerns include under-explored cultural factors. Recommendations propose a tailored LMIC digital health adoption framework emphasizing infrastructure, training, and policy to address Pakistan's > 75% mental health treatment gap.

Keywords

digital psychiatry, telepsychiatry, artificial intelligence, mental health apps, virtual reality, STROBE, Newcastle-Ottawa Scale, Pakistan

Dear Editor:

Riaz et al.'s [1] multicenter survey of 200 Pakistani psychiatrists represents an important preliminary assessment of digital psychiatry literacy, uncovering substantial gaps: 68.5% familiarity with telepsychiatry but only 39.5% with artificial intelligence (AI) training, 62% unfamiliarity with mental health apps (MHAs), and 32.5% with virtual reality (VR). Integrating validated questionnaires (Cronbach's alpha 0.614–0.866) and thematic analysis (inter-rater reliability: Cohen's kappa 0.84), it highlights barriers like infrastructure deficits (44.5%) and education deficits (21.5%), aligning with global low- and middle-income countries

LMIC challenges where mental health burdens outstrip resources [2]. Positive correlations (e.g., telepsychiatry-AI $\rho = 0.493$, $p < 0.01$) indicate clustering of digital literacy domains, informing policy for curriculum reforms to close the > 75% treatment gap [3].

Strengths in Methodology and Implications Sample size justification (Raosoft calculator: population ~400, 5% margin, 95% CI) and non-parametric handling (Spearman's rho for non-normal data) bolster reliability. Associations (e.g., telepsychiatry training-awareness $\beta = 0.408$, $p = 0.0038$) and qualitative quotes enrich insights, revealing cultural resistance (14% unwillingness). With 67% lacking telepsychiatry training, findings echo Asia-Pacific audits [4] and advocate for Fellowship of the College of Physicians and Surgeons (FCPS) integrations. This recommendation is immediately feasible within Pakistan's existing postgraduate medical training infrastructure, as FCPS modules are centrally administered by the College of Physicians and Surgeons Pakistan (CPSP) and can be updated to incorporate digital psychiatry competencies, thereby reaching trainees across all provinces, potentially enhancing access amid urban-rural disparities [5].

Critiques and Limitations Based on STROBE Guidelines Assessed against STROBE for cross-sectional studies [6], the report shows moderate compliance, with gaps in:

- **Bias (Item 9):** Convenience sampling via social media and networks is noted, but without stratified efforts or non-response analysis, risking tech-savvy overrepresentation and inflating familiarity.
- **Study size (Item 10):** Justified, but lacks power analysis for subgroups (e.g., provincial differences: data from 18/39 departments, Punjab-dominant).
- **Participants (Item 13):** $n = 200$ reported, but no flow diagram, distributed questionnaires, or response rate from contacted departments/individuals.
- **Descriptive data (Item 14):** Detailed, but imbalances (e.g., 68% < 5 years' experience) unadjusted; the inclusion of inferential statistics in descriptive tables (e.g., Table 1) may create ambiguity unless tied to predefined hypotheses, suggesting unintended chi-square tests without hypotheses.
- **Main results (Item 16):** Estimates lack confidence intervals (e.g., 68.5% telepsychiatry familiarity); regressions (e.g., betas) are presented without full models, covariates, or diagnostics.
- **Limitations (Item 19):** Acknowledges self-report and English-only biases, but overlooks chronological errors (2023 survey vs. 2025 receipt—likely typo) and cultural confounders (e.g., stigma in conservative settings [7]).

Table 1. Adapted Newcastle-Ottawa Scale Assessment of Riaz et al.'s study [1] on digital psychiatry readiness among Pakistani psychiatrists.

Domain	Item	Assessment	Stars
Selection (max 5)	Representativeness	Multi-center but convenient; excludes private/military	*
	Sample size	Justified ($n = 200$)	*
	Non-respondents	No rate/comparability	0
	Ascertainment of exposure	Validated tool (pilot $n = 23$, KMO 0.812)	**
Comparability (max 2)	Controls for factors	Correlations/regressions (e.g., VIF < 5)	*
Outcome (max 3)	Assessment	Self-report (KAP suitable)	*
	Statistical test	Appropriate (non-parametric, thematic kappa 0.84)	*
Total		Moderate risk (7/10)	*******

KAP: Knowledge, Attitudes, and Practices; KMO: Kaiser-Meyer-Olkin; VIF: variance inflation factor.

These omissions potentially overstate readiness and restrict extrapolation beyond the sampled institutions. The concern is not merely the sample size ($n = 200$ from ~400 is statistically justified) but rather the convenience sampling approach, which may over-represent digitally engaged psychiatrists and limit generalizability to broader practice settings across Pakistan.

Bias Assessment Using Adapted Newcastle-Ottawa Scale Using an adapted NOS for cross-sectional studies [8] (max 10 stars) illustrated in Table 1.

Bias stems mainly from selection (social media favoring digitally literate) and non-response (unknown refusals), potentially biasing upward. No major errors in re-analyzed correlations/alphas, but misplaced demographic *p*-values indicate analytical oversight.

Additional Critiques from Full Analysis Chronological discrepancies raise concerns: data collection ended June 2023; this apparent discrepancy may reflect a typographical error, and we recommend the original authors clarify the timeline accordingly. Qualitative themes underexplore cultural/religious barriers (e.g., family stigma limiting telepsychiatry [9]), despite 14% unwillingness. Discussion comparisons (e.g., Saudi 88% readiness vs. Pakistan's lower) are apt but overlook successful LMIC models like India's telepsychiatry [10]. Exclusion of private/military sectors limits the scope, as does the English-only survey instrument in a multilingual population.

Recommendations and Proposed Framework To rectify, future work should use random sampling, bilingual tools, and full-sector inclusion. Longitudinal studies could assess training efficacy. We propose an LMIC-tailored framework with three pillars: infrastructure audits, literacy programs, and sentiment monitoring. Table 2 illustrates these recommendations.

Table 2. Proposed LMIC-Tailored Framework for Digital Psychiatry Adoption: Three-Pillar Model with Pakistan-Specific Applications.

Pillar	Description	Pakistan application
Infrastructure Benchmarking	Evaluate hardware/internet readiness	Audit hospitals for VR/AI compatibility
Digital Health Literacy	Deliver clinician training	FCPS modules on telepsychiatry
Social Media Listening	Complementary systems-level analysis of public perceptions	Analyze digital discourse as a complementary strategy for population-level stigma monitoring

VR: virtual reality; FCPS: Fellowship of the College of Physicians and Surgeons; LMICs: low- and middle-income countries.

This study initiates vital dialogue but demands refinements for impactful contributions to Pakistan's digital mental health landscape.

Abbreviations

AI: artificial intelligence

FCPS: Fellowship of the College of Physicians and Surgeons

KAP: Knowledge, Attitudes, and Practices

KMO: Kaiser-Meyer-Olkin

LMICs: low- and middle-income countries

VR: virtual reality

Declarations

Acknowledgments

The authors acknowledge the Deanship of Scientific Research at Shaqra University for providing institutional support for this study.

Author contributions

SBR: Conceptualization, Writing—review & editing. KR: Investigation, Writing—original draft. MI: Conceptualization, Investigation, Writing—original draft, Writing—review & editing. UT: Investigation, Writing—original draft. HNT: Methodology, Validation, Writing—review & editing. All authors read and approved the submitted version.

Conflicts of interest

The authors declare that they have no conflicts of interest.

Ethical approval

Not applicable.

Consent to participate

Not applicable.

Consent to publication

Not applicable.

Availability of data and materials

Not applicable.

Funding

Not applicable.

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