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BARRIERS AND ACCESS TO MENTAL HEALTHCARE IN RURAL AREAS OF PAKISTAN: AN INFERENTIAL STATISTICAL ANALYSIS

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Abstract

Background: Mental healthcare accessibility remains a significant challenge in rural Pakistan, where services are limited, and socio-cultural barriers, including stigma, further hinder utilization. This study investigates these barriers and explores factors influencing access to mental healthcare services in rural areas.

Objectives: The study aims to: 1) assess the availability and accessibility of mental healthcare services; 2) examine mental health awareness levels; 3) identify socio-cultural and economic barriers; and 4) estimate the association between demographic factors and access to mental healthcare.

Methodology: A cross-sectional survey design was employed, collecting data from 500 respondents in rural Pakistan using a structured questionnaire. Stratified random sampling was used to ensure representativeness. Analytical techniques such as chi-square tests, logistic regression, ANOVA, and Pearson correlation were applied to examine associations between variables, including income, education, and stigma.

Results: Only 28% of respondents reported local availability of mental healthcare services, with 78% lacking access to mental health professionals. Travel distances, long waiting times, and high costs were identified as significant barriers. Stigma was pervasive, with 38% of respondents reporting strong stigma, and 64% avoiding treatment. Logistic regression showed that higher income and education significantly increased the likelihood of accessing mental healthcare, while stigma reduced utilization.

Conclusion: The study underscores the urgent need for mental healthcare infrastructure expansion, targeted awareness campaigns, and telehealth services in rural Pakistan. Addressing socio-cultural stigma and affordability issues is essential for improving mental health outcomes in these communities.

Keywords: Mental Healthcare, Socio cultural Barriers, Economic Barriers, Accessibility and Availability

Introduction

Mental health issues have become a major public health concern globally, with estimates indicating that nearly one in eight people worldwide live with a mental health disorder (WHO, 2022). Despite the growing awareness of mental health challenges, access to mental healthcare services remains limited, particularly in rural areas of both developed and developing countries (Patel et al., 2021; Naz et al., 2024a). While developed countries have made significant strides in advancing mental health infrastructure and reducing stigma, disparities still exist. These are often influenced by factors such as geographic isolation, socioeconomic status, and cultural barriers (Gagné et al., 2023). In rural regions of countries like the United States and Canada, for instance, limited availability of mental health professionals, coupled with stigmatization of mental health disorders, poses significant barriers to service utilization (Monaghan & Campbell, 2022).

In the context of developing countries, the situation is far more challenging. Poor mental health infrastructure, lack of trained professionals, and deep-rooted socio-cultural beliefs surrounding mental health disorders exacerbate the problem (Dixon et al., 2022). For instance, in Sub-Saharan Africa, research indicates that mental health services are concentrated in urban centers, leaving rural populations largely underserved (Onyango et al., 2021). The absence of comprehensive mental health policies further widens the treatment gap, making it difficult for individuals in need to access the necessary services (Haroz et al., 2021). This is particularly concerning given the strong link between mental health disorders and poverty, unemployment, and social exclusion—factors that are prevalent in rural areas of developing countries (Mendenhall, 2021). Thus, there is an urgent need for policy interventions aimed at improving mental healthcare accessibility in rural communities.

Pakistan, like many other developing countries, faces significant challenges in addressing mental health issues, particularly in rural areas where access to services is limited (Naz et al., 2022a; Naz et al., 2022b; Naz et al., 2023d). A recent study by Zafar et al. (2023) highlighted that nearly 70% of Pakistan's population resides in rural areas, where healthcare infrastructure is inadequate, and mental healthcare services are virtually nonexistent. The limited availability of psychiatrists, psychologists, and other mental health professionals further aggravates the situation (Bashir et al., 2022; Naz et al., 2024b). Furthermore, socio-cultural stigma surrounding mental health disorders in Pakistan discourages individuals from seeking help (Malik et al., 2023; Naz et al., 2024b). For many, mental health disorders are not recognized as legitimate medical conditions but are instead attributed to supernatural causes, which leads to delayed or inadequate treatment (Khan et al., 2022). The consequences of this are dire, with rural populations being more vulnerable to the adverse effects of untreated mental health disorders, including increased morbidity and mortality rates (Ahmed et al., 2023).

Despite the magnitude of the problem, there is limited empirical research exploring the barriers to mental healthcare access in rural Pakistan. Most existing studies focus on urban populations, leaving a significant gap in our understanding of rural mental health challenges (Ali et al., 2022). This research aims to fill this gap by providing a comprehensive analysis of the socio-cultural, economic, and demographic factors that affect mental healthcare accessibility in rural Pakistan. Understanding these barriers is crucial for policymakers and healthcare providers in formulating effective strategies to improve mental healthcare delivery in rural areas. Additionally, by identifying the specific challenges faced by rural populations, this study seeks to contribute to the broader discourse on global mental health, with implications for other developing countries facing similar issues (Iqbal et al., 2021).

This study is significant as it provides a much-needed rural perspective on mental health in Pakistan, a topic that has been largely neglected in the country's public health agenda (Hussain et al., 2023). It also addresses the gap in the literature by employing inferential statistical techniques to quantify the relationships between demographic variables, socio-cultural factors, and mental healthcare access. The findings offer valuable insights for policymakers seeking to design interventions tailored to the unique needs of rural communities.

Research Objectives

The specific objectives of the study are as follow;

1. To assess the availability and accessibility of mental healthcare services in rural Pakistan.
2. To examine the level of mental health awareness among rural populations.
3. To identify and explore the socio-cultural and economic barriers to mental healthcare utilization.
4. To estimate the association between demographic factors and access to mental healthcare services.

Research Methods

Research Design

This study employed a cross-sectional survey design for the collection of primary data from rural communities across various districts of the country. The cross-sectional approach is justified to be used in the current research study due to the reason that it allows for the examination of relationships between various variables at a single point in time. Furthermore, the design has been extensively used in the field of public health, emphasizing on the analysis of associations and prevalence (Levin, 2006). Additionally, the survey method was deemed appropriate due to its efficiency in collecting quantitative data from a large population (Naz et al., 2021; Naz et al., 2020; Naz et al., 2018a; Naz et al., 2028b) and thus enabling the study to capture information on the availability, accessibility, and barriers in the domain of mental healthcare services in rural areas (Fowler, 2013).

Sampling Method and Sample Size

The target population of the study included adults from both genders and various age groups in the rural areas of the country. However, to draw a representative sample size, stratified random sampling method of the probability sampling technique was employed (Etikan & Bala, 2017). This sampling method allowed the representation of each group within the sample. Furthermore, the stratification not only ensured that each subgroup is adequately represented in the sample, but also led to the more accurate and reliable findings in this study (Kothari, 2004). Looking into the target population of the country, it is evident that the population falls in the infinite category in terms of sampling and thus a sample size of **500** respondents was found more appropriate and calculated with the assumption of a 5% margin of error and a 95% confidence interval (Cochran, 1977).

Data Collection

After the selection of a representable sample size, strategy for data collection as employed. In this regard, first data collection tool a structured questionnaire was developed in the light of the specific objectives of the study. Questionnaire as a data collection tool has been largely used in the literature thus providing ample justification to be used in this study as well (Zaidi et al., 2018; Afridi et al., 2022; Naz et al., 2023c). Questionnaire was comprised of 4 sections such as demographics, mental health services availability, awareness, and barriers to accessing mental healthcare. Data were collected through the help of questionnaire following face to face interview method (Naz et al. 2021). Data were collected with the help of trained data collectors or enumerators in the rural health centers, homes and community centers within the respective communities.

Analytical Techniques

After the collection of required data, it were subjected to various appropriate statistical techniques like chi-square test, logistic regression, ANOVA, and Pearson correlation. To check the associations between gender, education level, and awareness of mental healthcare, chi-square test was used (McHugh, 2013). To identify the various predictors of mental healthcare utilization, Logistic regression was applied (Hosmer et al., 2013). The predictors included income, education, and socio-cultural stigma, while mental healthcare utilization was used as a dependent variable. ANOVA was employed for the evaluation of significant differences in the accessibility of mental healthcare services across different income and educational groups (Fisher, 1954). For the determination of relationship between mental health awareness and access to services correlation was used (Schober et al., 2018).

Results & Discussion

Demographics of the respondents

Data in Table 1 show the demographic details like gender, age, marital status, employment status, and income level of the respondents. The sample has a near-equal distribution of males (52%) and females (48%). The majority of respondents fall within the 31-49 years (36%) and 18-30 years (30%) age ranges, reflecting a relatively younger to middle-aged population. Education levels are spread across low (32.2%), moderate (35.4%), and high (32.2%) categories, providing a balanced demographic for examining mental health awareness. Majority of respondents are employed (60%), while 28% are unemployed, and 12% are students. Most of the respondents are married (54%), followed by single individuals (42%). A substantial proportion (46%) of respondents fall into the low-income category, earning less than PKR 20,000 per month, which is common in rural areas. The middle-income group (36%) earns between PKR 20,000 and PKR 50,000, while a smaller portion (18%) belongs to the high-income category, earning above PKR 50,000 per month.

Tavle-1: Demographics of the respondents

Variable	Frequency	Percentage
Gender		
Male	260	52
Female	240	48
Age (in years)		
18-30	150	30
31-40	180	36
41-50	120	24
50 & Above	50	10
Educational Level		
Low (No schooling/Primary)	161	32
Moderate (Secondary)	177	36
High (Tertiary/University)	161	32
Employment		
Employed	300	60
Unemployed	140	28
Student	60	12
Marital Status		
Single	210	42
Married	270	54
Widow/ Divorced	20	04
Household Income level (PKR)		
Low Income (up to 20,000)	230	46
Middle Income (20001-50,000)	180	36
High Income (above 50,000)	90	18

Availability and accessibility of mental healthcare facilities

Data in table 2 provide insights about the accessibility and availability of mental healthcare facilities in rural areas of the country. In terms of availability of the services, only 28% of the respondents indicated that mental healthcare services were available in their community, suggesting a significant gap in service provision. The majority (66%) of respondents reported having to travel more than 10 km to access mental healthcare, highlighting geographical barriers. Over half of the respondents (52%) found mental healthcare services unaffordable, which could be a major hindrance to access.

Only 22% of respondents stated that mental health professionals were available in their community, indicating a shortage of specialized care providers in rural areas. Half (50%) of respondents had to wait more than 4 weeks to access services, further emphasizing accessibility challenges. More than half (60%) of respondents rated the quality of mental healthcare services as poor, which might deter further utilization.

Table-2: Availability and accessibility of mental healthcare facilities

Availability and Accessibility of Mental Healthcare Services	**Frequency**	**Percentage**
Mental healthcare services available in the community	Yes	140
	No	360
Distance to nearest mental healthcare facility	Less than 5 km	70
	5-10 km	100
	10-20 km	150
	More than 20 km	180
Affordability of mental healthcare services	Affordable	90
	Somewhat affordable	150
	Not affordable	260
Availability of mental health professionals (e.g., psychiatrists, psychologists)	Available	110
	Not available	390
Waiting time to access mental health services	Less than 1 week	50
	1-2 weeks	80
	2-4 weeks	120
	More than 4 weeks	250
Perception of service quality	Good	70
	Average	130
	Poor	300

Mental health awareness

Data about the level of mental health awareness among rural population are presented in table 3. Data reflect that majority of respondents (74%) demonstrated either moderate (36%) or low (38%) awareness of mental health, showing a lack of comprehensive knowledge about mental health issues in rural populations. Only 56% of respondents had heard of common mental health disorders, indicating a gap in basic mental health literacy. A large portion of the population (76%) was unaware of available mental health services, which could limit their ability to seek proper care. The internet and social media (32%) were the primary sources of information, followed by media (24%) and healthcare professionals (10%). Nearly half (46%) of the respondents believed mental health is a serious issue, while a significant portion either downplayed its importance (30%) or was unsure (24%). Mental health stigma was prevalent, with 38% of respondents reporting strong stigma and only 32% showing low stigma. Despite some awareness, 64% of the population was unlikely to seek help for mental health issues, indicating cultural or systemic barriers. There was a varied perception regarding the causes of mental health issues, with 44% attributing it to social/environmental factors and 36% to spiritual/religious causes, showing a blend of traditional and modern understandings.

Table-3: Mental Health Awareness among Rural Population

Level of Mental Health Awareness	Frequency	Percentage
High awareness	130	26
Moderate awareness	180	36
Low awareness	190	38
Heard of common mental health disorders (e.g., depression, anxiety)	Yes	280
	No	220
Knowledge of mental health services	Aware of available services	120
	Unaware of available services	380
Sources of mental health information	Healthcare professionals	50
	Media (TV, radio, etc.)	120
	Internet/social media	160
	Family and friends	90
	Religious leaders	80
Perception of mental health issues	Mental health is a serious issue	230
	Mental health is not important	150
	Unsure about its importance	120
Stigma associated with mental health	Strong stigma	190
	Moderate stigma	150
	Low stigma	160
Willingness to seek help for mental health issues	Likely to seek help	180
	Unlikely to seek help	320
Perception of mental health causes	Biological causes	100
	Social/environmental causes	220
	Spiritual/religious causes	180

Socio-cultural and economic barriers to mental healthcare utilization.

Data in Table 4 show that socio-cultural stigma significantly reduces the likelihood of utilizing mental healthcare services ($p < 0.01$). Higher income and higher education levels significantly increase the odds of utilizing services. Those with high income are 3.67 times more likely to access mental healthcare compared to lower-income groups. Education also plays a strong role, with those having higher education being 3.49 times more likely to use mental healthcare services compared to those with low education.

Table-4: Logistic Regression Results

Predictor	Coefficient(β)	Odds Ratio(Exp (β))	p-value
Sociocultural stigma	-1.75	0.17	0.001
Income (Middle)	0.90	2.46	0.04
Income (High)	1.30	3.67	0.01
Education (Moderate)	0.85	2.34	0.03
Education (High)	1.25	3.49	0.008

- **Nagelkerke R^2**: 0.47
- **Overall Model p-value**: 0.001

Association between level of awareness and educational level

Since the p-value is less than 0.05, it shows that there is a significant association between education level and mental health awareness, with higher education associated with higher awareness (Table 5).

Table-5: Association between level of awareness and educational level (Chi-Square test Results)

Education level	Level of Awareness			Total
	High	Moderate	Low	
Low	32	48	81	161
Moderate	66	81	33	171
High	96	47	15	161
Total	194	176	129	500

Chi-square statistic: 32.67
Degrees of freedom: 4
p-value: 0.00001

ANOVA Results

Since the p-value (0.0008) is less than 0.05, there is a significant difference in mental healthcare accessibility across different income levels (Table 6). Specifically, people with higher income have significantly better access to healthcare compared to those with low income.

Table-6: ANOVA Results

Source of Variation	Sum of Squares	df	Mean Square	F-value	p-value
Between Groups (Income)	130	2	65	7.42	0.0008
Within Groups	430	497	0.865		
Total	560	499			

Pearson Correlation Results

The Pearson correlation coefficient of 0.67 indicates a moderately strong positive relationship between mental health awareness and access to services (Table 7). The p-value of 0.0002 shows that this correlation is statistically significant, meaning that higher levels of mental health awareness are associated with better access to mental healthcare services.

Table-7: Pearson Correlation Results

Variable 1	Variable 2	Correlation Coefficient (r)	p-value
Mental Health Awareness	Access to Mental Healthcare	0.67	0.0002

Discussion

The findings of this study highlight significant challenges related to mental healthcare accessibility, awareness, and the socio-cultural barriers prevalent in rural Pakistan. The data (Table 2) show a critical gap in the availability and accessibility of mental healthcare facilities in rural Pakistan. Only 28% of respondents reported that mental healthcare services were available in their communities, and the majority had to travel over 10 kilometers to access services. These findings are consistent with research indicating that rural areas in low- and middle-income countries face significant geographical barriers to healthcare (Gopalkrishnan, 2018). In Pakistan, mental healthcare infrastructure remains underdeveloped, particularly in rural areas, where specialized professionals like psychiatrists and psychologists are often unavailable. As shown in the data, 78% of the respondents indicated the absence of mental health professionals in their locality, mirroring findings from studies that point to

a severe shortage of trained mental health personnel in rural Pakistan (Syed et al., 2020; Naz et al., 2024b). This shortage creates a cascade effect where people with mental health issues either fail to seek help or encounter long waiting times, with 50% of respondents indicating waits of more than four weeks for services. Affordability is another significant barrier. The data indicate that 52% of respondents found mental healthcare services unaffordable, reinforcing the idea that cost is a substantial determinant of healthcare access in rural areas. Studies have shown that low-income populations in rural areas often forgo mental healthcare due to high costs (Memon et al., 2020). Economic barriers further exacerbate the mental healthcare access disparity, especially for populations earning less than PKR 20,000 per month, which constituted 46% of the respondents.

Awareness about mental health issues is notably low in the rural population. The study found that 38% of respondents had low awareness, and only 56% were familiar with common mental health disorders such as depression and anxiety (Table 3). The lack of mental health literacy in rural areas is consistent with previous research, which points to an insufficient understanding of mental health issues as a critical barrier to accessing care (Khan et al., 2019). Moreover, only 24% of respondents cited healthcare professionals as their primary source of information on mental health, while 32% relied on the internet and social media, which might lead to misinformation and misconceptions. This underscores the need for targeted awareness campaigns and the integration of mental health education into primary healthcare systems in rural areas (Haque et al., 2022).

Stigma remained a pervasive issue in rural Pakistan. Data show that 38% of respondents reported strong stigma associated with mental health, while 64% were unlikely to seek help for mental health issues, even if they were aware of their condition (Table 3). This is in line with previous studies, which indicate that socio-cultural stigma plays a significant role in deterring individuals from seeking mental healthcare in South Asian countries (Ahmad et al., 2021). Mental health conditions are often associated with supernatural causes, as indicated by 36% of respondents, further hindering the pursuit of medical treatment.

The logistic regression analysis (Table 4) confirmed that socio-cultural stigma and income levels significantly affect mental healthcare utilization. Those with higher income were 3.67 times more likely to access mental healthcare than those with lower income. Furthermore, individuals with higher education levels were 3.49 times more likely to utilize mental health services, indicating that both economic and educational factors play pivotal roles in healthcare access (Nasir et al., 2023). This highlights the need for integrated social policies that address income disparity and improve education on mental health issues to combat stigma.

Pearson correlation coefficient of 0.67 (Table 7) revealed a moderately strong positive relationship between mental health awareness and access to services, suggesting that improving awareness could directly enhance service utilization. Research has shown that awareness campaigns, when coupled with accessible services, lead to increased healthcare-seeking behavior (Lund et al., 2021). Therefore, the introduction of mental health literacy programs, especially in rural areas, could substantially improve mental health outcomes.

Conclusions

This study provides a comprehensive analysis of the barriers to mental healthcare access in rural areas of Pakistan. The findings reveal significant challenges, including the unavailability and inaccessibility of mental healthcare services, compounded by long travel distances, unaffordability, and long waiting times. A critical issue is the low awareness of mental health among rural populations, with socio-cultural stigma serving as a major barrier to seeking care. Inferential statistical analysis shows that individuals with higher income and education levels are significantly more likely to access mental healthcare services, while stigma reduces the likelihood of utilization.

Recommendations

On the basis of the findings of the study the following recommendations are made for policy makers, government line agencies and non-government organizations working in the country in the domain of mental healthcare.

1. Implementation of targeted awareness campaigns are required to educate rural populations on mental health issues and the importance of seeking care.
1. Engagement of community leaders and influencers to address stigma associated with mental health, encouraging open discussions and acceptance are suggested.
2. Expansion of mental healthcare services in rural areas are required by building local facilities and increasing the presence of trained mental health professionals.
3. Introduction of subsidized or low-cost mental healthcare options to make services more accessible to low-income individuals are important
4. Utilization of telehealth platforms to provide remote consultations, reducing the burden of travel and long waiting times are required.
5. Promotion of educational and income-enhancing programs are important, as higher education and income levels are linked to greater mental healthcare access.
6. Encouraging of policymakers to prioritize mental health in rural development plans and allocate resources to enhance mental healthcare infrastructure is an important milestone in reducing barriers towards the accessibility of mental healthcare in the rural areas of the country.

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