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# Health Knowledge in the Pakistani General Population: An Experimental Study Using a Questionnaire

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## Abstract

### Background

Health literacy is a crucial determinant of public health results, which influences behaviors, healthcare utilization, and overall quality of life. In Pakistan, limited data exists on the baseline health knowledge of the general population. This experienced study explores the level of general health knowledge among Pakistani adults to highlight gaps and inform future health education programs.

### Objectives

To assess the baseline health knowledge of personalized from various demographic groups in Pakistan using a structured questionnaire, and to analyze patterns and predictors of health knowledge levels.

### Methods

A cross-sectional pilot study was conducted among 155 participants across urban and rural settings using an affirm health knowledge questionnaire. The questionnaire includes nutrition, hygiene, disease prevention, and healthcare access.

### Results

Overall, health knowledge was quite, with urban participants scoring remarkably higher than rural participants. Educational level and age were remarkably predictors of health knowledge scores. Key gaps were highlighted in knowledge of obstructive healthcare and nutrition.

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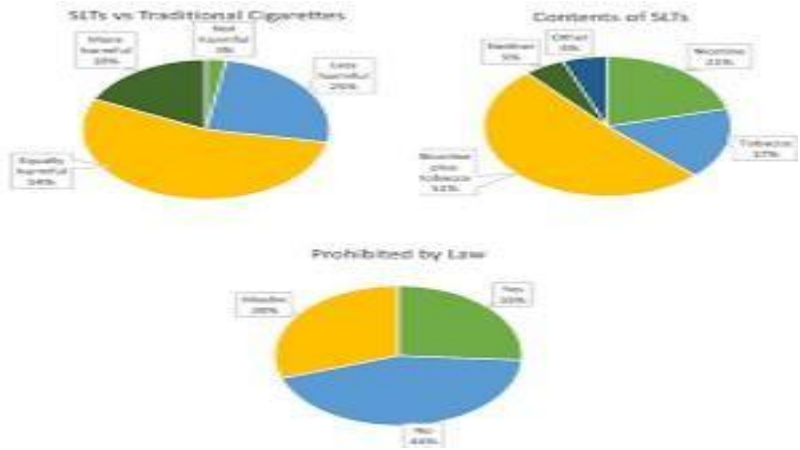
**Conclusions**

This pilot study demonstrates considerable variability in health knowledge across the Pakistani population. Targeted public health initiatives, particularly in rural areas and among the less educated, are urgently needed to improve awareness and promote healthier behaviors.

**Keywords:** Health care, Nutrition, Experimental study, Behaviors

## Introduction

Health knowledge, an important component of health literacy, which shows a fundamental role in authorizing individuals to make informed decisions about their well-being [1]. It enclosed understanding of basic health practices, disease prevention, hygiene, nutrition, and appropriate utilization of health-care services. In developing countries like Pakistan, low health literacy is a major barrier to effective healthcare delivery, resulting in poor health outcomes, high rates of preventable diseases, and overburdened health systems [2]. Pakistan is usually diverse country with a population exceeding 240 million people, where socioeconomic and educational disparities contribute significantly to variations in health knowledge [3].




Rural populations, women, and low-income groups are often at a disadvantage due to restricted access to health education and healthcare services [4]. While health-care facilities have expanded in recent years, particularly in urban centers, health awareness has not necessarily kept pace. In spite, the recollection of health knowledge as a public health priority, there is restricted empirical data on the base-line level of health knowledge in Pakistan's general population [5].

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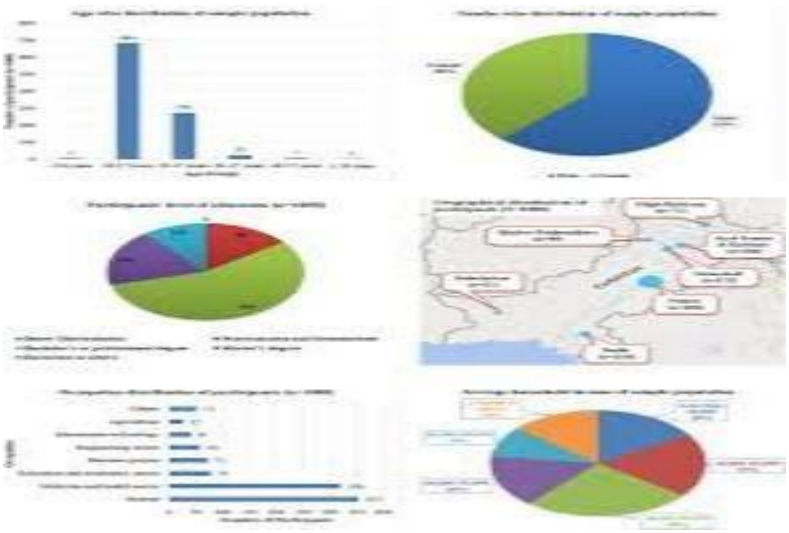

Foregoing studies have primarily concentrated on specific health domains includes maternal health, communicable diseases, or urban populations. Moreover, there is a growing need to understand general health literacy patterns linked with different demographic groups and regions to guide future public health interventions [6]. This study aims to fill this knowledge gap by managing a pilot assessment of health knowledge in a diverse sample of the Pakistani population using a structured questionnaire [7]. The primary objectives are to evaluate the overall level of health knowledge, identify key areas of misinformation or lack of knowledge, and examine the relationship between demographic variables includes age, gender, education level, and urban or rural residence and health knowledge scores [8]. By spreading light on these factors, this pilot study seeks to contribute to the development of more effective, culturally sensitive, and aimed health education campaigns that can improve health outcomes across the country [9]. The findings can also serve as a basis for larger-scale national health literacy assessments in the future.

**Methodology**

A cross-sectional pilot study was conducted over a three-month period from April to June 2024 across both urban and rural settings in Pakistan. A total of 155 adult participants aged 20 and above were enlist through comfort sampling. Ethical approval was obtained from the local ethics committee, and informed consent was secured from all participants. The health knowledge questionnaire, designed and validated by a panel of public health experts, included 30 multiple-choice questions categorized into 4 domains: hygiene and sanitation, nutrition and diet, disease prevention, and healthcare services utilization. The

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questionnaire was provided in both English and Urdu to ensure accessibility. Participants were interviewed face-to-face by trained data collectors. Each correct answer was awarded one point, resulting in a maximum score of 30. Scores were categorized as poor, moderate, or good health knowledge. Demographic data includes the age, gender, educational attainment, and place of residence were collected alongside. Data were analyzed using SPSS version 25. Descriptive statistics summarized health knowledge scores and demographics. Independent t-tests and ANOVA were used to compare mean scores across groups. Pearson correlation assessed associations between continuous variables, and multiple regression analysis was conducted to identify predictors of health knowledge.

**Results**

Out of 150 participants, 83 (55.8%) were male and 71 (47.4%) were female. The mean age was 34.9 years (SD ± 11.5). 62% resided in urban areas, while 42% were from rural regions. Educational levels varied, with 26% having no formal education, 42% completing secondary education, and 36% holding a bachelor's degree or higher.

**Table 1: Participant Demographics and Average Health Knowledge Scores**

| **Demographic Group** | **Mean Score (out of 30) Knowledge Level** | |
|---|---|---|
| Urban | 21.7 ± 5.5 | Moderate |
| Rural | 16.3 ± 6.3 | Poor to Moderate |
| No Formal Education | 14.9 ± 5.8 | Poor |
| Secondary Education | 19.8 ± 4.9 | Moderate |
| Bachelor's Degree or Above | 23.5 ± 4.2 | Good |

Significant differences ($p < 0.04$) were observed between urban and rural residents and among different education levels.

**Table 2: Domain-wise Correct Response Rate**

| **Domain** | **Average Correct (%)** |
|---|---|
| Hygiene and Sanitation | 73% |

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| Domain | Average Correct (%) |
|---|---|
| Nutrition and Diet | 59% |
| Disease Prevention | 48% |
| Healthcare Utilization | 66% |

Participants illustrate relatively strong knowledge in hygiene but had the lowest scores in disease prevention, specifically regarding vaccinations and early symptom recognition.

**Discussion**

The findings of this pilot study reveal critical insights into the state of health knowledge within the Pakistani general population [10]. Overall, the results indicate a moderate level of health knowledge, with substantial disparities based on education level, residential status, and to a lesser extent, age [11]. These differences highlight systemic inequities in access to health education and healthcare resources. Urban residents, unsurprisingly, demonstrated significantly higher health knowledge scores compared to their rural counterparts [12]. This aligns with broader global trends, where urban populations benefit from better infrastructure, more frequent health campaigns, and greater access to media and formal education. Rural populations often face structural barriers, including poor transportation, fewer healthcare facilities, and limited exposure to health-promoting messages [13]. Educational attainment was another strong predictor of health knowledge. Individuals with higher levels of education were not only more likely to score in the "good" knowledge category but also illustrate greater awareness across all four domains linked. This reinforces the importance of integrating health education into formal schooling, particularly at the secondary level and above [14]. Domain-specific analysis showed encouraging awareness around hygiene and sanitation, likely due to long-standing public health campaigns around clean water and personal hygiene. However, significant knowledge gaps were noted in disease prevention, especially regarding non-communicable diseases, routine vaccinations, and symptom identification [15]. These areas are critical for early intervention and reducing disease burden in both urban and rural areas. Interestingly, gender was not a statistically significant predictor in this pilot sample, although future studies with larger and more diverse samples may yield different results [16]. Similarly, while age did not show strong correlation in this analysis, younger participants appeared slightly more informed in digital health literacy, a trend worth exploring further. As a pilot study, this research is limited by its small sample size and nonrandom sampling method, which may limit generalizability [17]. Moreover, it provides a foundational

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understanding of health knowledge trends in Pakistan and lays the groundwork for larger-scale studies. Future research should incorporate longitudinal designs and explore interventions tailored to low-literacy groups.

**Conclusion**

This pilot study provides preliminary evidence of uneven health knowledge in the Pakistani population, influenced strongly by education and urban-rural divides. While hygiene-related knowledge is reasonably high, critical gaps remain in understanding of disease prevention and nutrition. These findings underscore the urgent need for targeted health education programs, especially in rural and undereducated populations. Scaling up this research to include larger, nationally representative samples can inform policy-level initiatives aimed at improving health literacy and ultimately, health outcomes in Pakistan.

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