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Using Data from the Pakistan Demographic & Health Survey (PDHS) to Investigate the Predictors of Health Literacy in Communicable Diseases

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Citation:
Asma Ihsan. Using Data from the Pakistan Demographic & Health Survey (PDHS) to Investigate the Predictors of Health Literacy in Communicable Diseases. Taiwania journal of healthcare 2024.

1. Abstract

For the purpose of preventing and controlling disease, information on the spread of communicable diseases is essential, but it is uncommon in Pakistan. The purpose of this study is to find out how much the Pakistani population knows about the three infectious diseases that can spread: HIV, hepatitis B and C, and tuberculosis (TB).This study used data from the 2018 Pakistan Demographic and Health Survey (PDHS) to determine men's and women's knowledge and perceptions of HIV transmission, hepatitis, and tuberculosis. The data has been analyzed using bivariate and multinomial logistic regression to identify the factors that are related to the understanding of how all three diseases are transmitted. Covariate factors were age, wealth position, education, urban/rural location, and access to mass media (television, internet) etc. People in Punjab were found to know more about how tuberculosis is transmitted [OR=1.12, men] and [OR=1.14, women]. It was discovered that Sindh had greater understanding of hepatitis transmission [OR=1.74, men] and [OR=1.61, women]. Compared to people living in metropolitan regions, residents of rural areas were less knowledgeable about the spread of tuberculosis [OR=0.74, men] and [OR=0.86, women]. The results also demonstrated that sociodemographic characteristics, including education level, place of residence, and exposure to media online and on television, differed according to one's understanding of how each disease is spread. Individuals who had access to television and the internet were also found to be better informed about the spread of hepatitis and tuberculosis than people without these mass media outlets. If transmission is known to exist about HIV/AIDS in respondents, the mass media exposure did not reflect good picture. Keeping in view the survey results, it is suggested that there is ire need to launch awareness campaigns to enhance the awareness level on transmission of TB and Hepatitis.

2. Introduction

It is imperative that people are informed of health issues and diseases in light of the ever-complex circumstances they face. Disease prevention and control are greatly aided by public knowledge of both infectious and non-infectious diseases; A decent understanding of diseases results in low rates of detection, subpar health outcomes, the emergence of health problems, treatment interruptions, stigma, and discrimination. Thus, being aware of a sickness is essential to being able to prevent it, manage it, decrease its crippling consequences, or, in the end, overcome it. Preventing a disaster by taking the appropriate precautions and being aware of the situation is always preferable to treating it after it has already happened. As soon as the illness begins to spread, The repercussions can occasionally be problematic, hazardous, and even fatal. In the end, promoting health awareness and practicing appropriate illness prevention are crucial. The body of research clearly shows that the primary cause of illness spread is an unhealthy lifestyle. Previous research investigations have also proven that diseases associated with bad lifestyle choices can be prevented and controlled [1, 2, 3].From this perspective, health literacy, illness-related communication, and education receive increased global focus [4]. It was crucial to assess Pakistani citizens' health literacy levels given the realization that access to healthcare and health literacy are critical for maintaining good health. Pakistan's health and healthcare systems are known to be sluggish, convoluted, and plagued by a number of problems [5]. Both communicable and non-communicable diseases fall on a wide spectrum. Pakistan is confronted with a dual burden of disease (BoD) due to the prevalence of indigenous hepatitis B and C, which affects 7.6% of the population, or around 12 million people, and adds over 150,000 new cases annually [6]. Similarly, Pakistan has the fifth-highest global tuberculosis (TB) load [6]. Additionally, it is projected that roughly 165,000 individuals were living with HIV in 2019 among which only 14.7 percent or 24,331 are registered with the National AIDS Control Program (NACP), this has been increased from 4500 in 2013 [6,7].

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Pakistan, a signatory to the SDGs declaration, has pledged to end the AIDS, TB, malaria, and neglected tropical diseases by 2030, therefore reducing the burden of communicable disease. battle water-borne illnesses, tropical infections, and other contagious illnesses. Understanding people's degree of awareness of these diseases is a prerequisite for developing effective preventative and treatment strategies. The public's conduct in seeking medical attention may be influenced by their understanding of the symptoms, routes of transmission, and signs and symptoms of various diseases [8]. One of the main causes of the majority of cases of infectious diseases is a lack of knowledge about how diseases spread [9]. Ignorance of these illnesses could be a factor in the high Pakistan, a signatory to the SDGs declaration, has pledged to end the AIDS, TB, malaria, and neglected tropical diseases by 2030, therefore reducing the burden of communicable disease. battle water-borne illnesses, tropical infections, and other contagious illnesses. Understanding people's degree of awareness of these diseases is a prerequisite for developing effective preventative and treatment strategies. The public's conduct in seeking medical attention may be influenced by their understanding of the symptoms, routes of transmission, and signs and symptoms of various diseases [8]. One of the main causes of the majority of cases of infectious diseases is a lack of knowledge about how diseases spread [9]. Ignorance of these illnesses could be a factor in the high level of burden in Pakistan [10]. This study is to assess the general population's knowledge of the transmission of infectious diseases like tuberculosis in four provinces of Pakistan, taking into account the importance of public awareness about these illnesses. HIV/AIDS and hepatitis. Comprehending the factors that contribute to disease literacy is crucial for developing evidence-based healthcare policy and implementing efficient measures for disease control and prevention. The following research questions are derived from these objectives.

1. To what extent are particular diseases known?
2. What is the key factor influencing Pakistani knowledge of the spread of particular diseases?

3. Review of the Literature

Numerous determinants have been found in vast investigations that contribute to reduced illness literacy levels in the literature. In order to comprehend how economies comparable to Pakistan are striving to raise the level of public awareness regarding the diseases and the health policies related to them, this review of the literature does not only concentrate on the awareness factors identified in the developed countries but also the developing ones. Public health depends on people's understanding of the condition; research has shown that when people become more aware of different diseases, they begin to take better preventative measures and can even receive early interventions [11]. All of this not only keeps the disease from becoming more common but also lowers the risk of several health issues. According to a 2017 US Public Health Report, a significant barrier to disease management and treatment is a lack of public knowledge of the condition. The study discovered that not only did the general public have very little understanding about hepatitis, but social workers and health care professionals also lacked adequate knowledge of the disease.

Furthermore, the healthcare system was unable to stop hepatitis, its consequences, and other linked illnesses including liver cancer because of this critical illness knowledge gap. Therefore, it is important to learn how much knowledge Pakistani citizens have about diseases. In a similar vein, an additional Egyptian study discovered that friends and the media were the primary information sources. According to a 2011 study done in a rural area of the Chinese province of Zhejiang, better education levels are positively correlated with an awareness of diseases (Liu, Li, Jin, Wang, & Kun, 2013). According to their findings, only 37.70 percent of respondents knew everything there was to know about HIV, 34.25 percent about TB, and 36.12 percent about HBV. The authors discovered that a basic factor of disease awareness is education level [12]. In order to examine men's and women's knowledge and habits about the hepatitis B virus, a community-based in-person survey of Vietnamese men and women was undertaken in 2002 by Victoria M. Taylor et al. (2005). The majority of respondents were aware that sharing sexual contact can result in the transmission of HBV. toothbrushes and razors, etc. Punjab (Pakistan) has an alarmingly high prevalence of HBV. Since our study aims to evaluate public understanding of the disease, we may be able to identify strategies to stop the spread of the virus and develop health policies in response by examining public awareness of the HBV risk factors [13].

4. Data And Methodology

With technical support from Opinion Research Corporation (ORC) Macro, the Pakistan Bureau of Statistics (BOS) conducts the cross-sectional Pakistan Demographic and Health Survey (PDHS). One of the most comprehensive sources of data for analyzing the factors influencing healthcare in Pakistan is the PDHS, a nationally representative survey. This research has made use of the PDHS, 2018 microdata. Estimates for all of Pakistan's rural and urban areas, four provinces—Punjab, Sindh, Baluchistan, and Khyber Pakhtunkhwa—as well as four regions—Islamabad Capital Territory, FATA, Azad Jammu and Kashmir, and Gilgit Baltistan—are provided using the PDHS sample design. The four regions that were previously indicated were not included in our research, which is limited to four provinces. 13,118 women in total have ever been married, and 3,634 Men were found to be eligible for interviews in the PDHS sample, which was reduced to 2,658 men and 8,642 women after the four regions were removed during the data cleaning procedure. Qualitative and quantitative approaches have been used to assess awareness and understanding of disease consequences and causal variables. Frequencies and percentages have been used to show descriptive data. One type of qualitative response/discrete choice model in economics is the logistic regression model. It addresses both categories and binary response variables, where the output can have just two possible values: 0 and 1. The desired result, such as pass/fail, win/lose, alive/dead, healthy/ill, or yes=1, no=0, is represented by the numbers. The dependent variable in the current study is binary, having two categories: yes and no, denoting the respondent's knowledge of transmission of disease then it is represented by yes=1 and if not then it is represented by no=0. When dependent variable is binary then the suitable technique for the estimation is Logistic regression. Logistic regression analysis studies the association between

a binary dependent variable and a set of independent (explanatory) variables.

5. Variables and Models

The following query was posed to the respondents in the questionnaire: "Are you familiar with the disease known as tuberculosis, or TB?"
After receiving the "yes" response, students were asked the second question, "How does tuberculosis spread?," to test their understanding of how the disease is passed from person to person. from one individual to another? They were given the following choices in response to this:
A. via the air when sneezing or coughing B. by sharing cutlery
C. Using tb to touch someone
D. By distributing meals
E. By means of intercourse
F. By way of a mosquito bite

The responders who selected choice "A" were deemed to have accurate information, whereas the remainder had misguided notions regarding tuberculosis. Consequently, by re-coding the question, a new binary variable was created. 2. Individuals who gave the correct information about transmission of TB were given the option "yes" and 'no' to other options. Awareness about TB is taken as dependent variable while the independent variables are provinces, education, wealth status, age, area of residence, exposure to television and internet etc.

6. Results

Socio-demographic Characteristics of Participants

Four provinces comprise the socio-demographic data set for the study. Pakistan: With 201 million people living there, the country's population density was 5.43%. PKR 41, 545 is the average monthly family income (HIES, 2018). There were 2,658 men and 8,642 women among the survey participants. Participants' ages were falls between the ages of 15 and 49 for both sexes. Age distribution: of those in the 35–39 age range, 24.51% of females and 30–34 age group, respectively, have the highest proportions. Education level: Among respondents, the majority of women were uneducated, while the majority of men had just completed secondary school. According to Table 1, the income distribution revealed that the majority of the sample's female members belonged to the lowest group for females and the poorest group for males.As stated by PDHS in 2018 the most commonly assessed form of media is television in Pakistan. The frequency of watching television on weekly bases is relatively higher in male group as compare to females. There is lowest use of internet in females with 7.40 percent only while the use of internet in males was 32.17 percent.

7. Discussion

With 12 million individuals suffering from hepatitis B or C, roughly 165,000 people living with HIV in 2019, and the fifth-highest burden of TB, Pakistan has a significant prevalence of the diseases mentioned above.

illness among the world's rankings, and the correlated variables or predictors have been examined. Significant differences were seen between the various socioeconomic categories. The Punjabi population was found to know more about the spread of tuberculosis. For males and women, the odds were 1.12 and 1.14, respectively. In a similar vein, urban residents possess greater knowledge than those in rural areas. Previous research [22, 23, 24,] have confirmed this rural disadvantage. This may also be explained by the fact that rural areas receive less educational funding than urban ones. In light of micro data of PDHS 2018, it is estimated that among all uneducated people, about 65 percent belonged to rural areas. The education not only makes the people aware to protect themselves from getting infection but also encouraging people to be concerned with their own healthcare for a successful future. The indicator of TB Awareness and Hepatitis Awareness was found significant at all level of education in both men and women. Television and internet usage are very effective media tools to reach the general population in order to communicate relevant information through music, news items, dramas, and advertisements.

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