

Statistical Analysis of Social Causation of Diseases

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ABSTRACT:

The main objective of the study is to examine the social causes of diseases. The association among social determinants and diseases is intended to find out because in our society, importance of social factors is not fully recognized. The questionnaire based survey was conducted at public and private hospitals of Southern Punjab, Pakistan. Fifteen hundred in home patients were interviewed to gather the required data. It is found that there is a strong association between disease and social determinants. Stress causes a negative effect on a person's health. It is also found that low literacy rate and inadequate health care facilities are the major factors impacting the health status. Majority of areas have medical facilities but most of these medical facilities are not fully facilitated.

Key Words: social determinants, disease, Southern Punjab.

Introduction

Social factors have a huge impact on health and diseases. Social status has direct impact on disease. Poor social situations distress health throughout life. Social factors are those factors that influence the lifestyle of people. These factors have a huge impact on a person's daily day. Major social factors contributing to diseases are area in which people are living, education, occupation, workload, family size, marital

status, medical service availability, source of drinking water, consumption of food, level of blood pressure, housing conditions, smoking habits, physical inactivity, stress and home environment. Social status plays a vital role in health studies. The health status of a person is highly affected by his illiteracy (Qasim, 2014).

Michael Marmot, (2005) said, "technical knowledge and an effective public health system may not always be the answer. Sometimes, understanding the social determinants of diseases can help in prevention." Krieger (2001) said that social determinants of disease are referred to both particular features of and access by which social states affect health and that possibly can be changed by proper treatment. Deolalikar and Laxminarayan (2000) used data from 1997 Cambodia Socioeconomic Survey to estimate the influence of socioeconomic variables on the extent of disease transmission within villages in Cambodia. They concluded that infectious diseases were the leading cause of morbidity in the country. Younger adults were less likely to get infected by others, but it increased with age. Income and the availability of a doctor had a significant effect on disease transmission.

Song et al (2011) studied the influence of social determinants of health on disease rates. They specified AIDS as the disease of concern and utilized data from American Community Survey. They used correlation and partial correlation coefficients to quantify the effect of socioeconomic determinants on AIDS diagnosis rates in

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certain areas and found that the AIDS diagnosis rate was mutually related with kind, marital status and population density. Poverty, education level and unemployment also determine the cause of disease in an individual.

Washington State Department of Health (2007) examined Washington adults and inferred that adult with lower incomes or less education were more likely to smoke, obsessed, or ate fewer fruits and vegetables than adults with the broader culture, higher incomes and more education. In cultures where smoking was culturally unacceptable for women, women died less often from smoking-related diseases than women in groups where smoking was socially accepted. Lack of health care facilities or inadequate use of medical services, contributed to relatively poorer health among people. In lower socioeconomic position groups health care received by the poor was inferior in quality. People of higher socioeconomic position had larger networks of social support. Low levels of social capital had been associated with higher mortality rates. People who experienced racism were more likely to have poor mental health and unhealthy lifestyles.

Habib et al (2012) conducted a questionnaire based survey to measure the social, economic, demographic and geographic influence on the disease of bronchial asthma in Kashmir valley. They concluded that non smokers, males working in farms and females working with animals have a high incidence of Bronchial Asthma. This study also showed a significant relationship between the age and disease. Hosseinpoor et al (2012) took self-reported data, stratified by gender and low or middle

income, from 232,056 adult participants in 48 countries, derived from the 2002–2004 World Health Survey. A Poisson regression model with a robust variance and cross tabulations was used deducing the following results. Men reported higher prevalence than women for current daily smoking and heavy episodic alcohol drinking, and women had higher growth of physical inactivity. In both genders, low fruit and vegetable consumption were significantly higher. Ghias et al (2012) studied the patients having HCV positive living in province of Punjab, Pakistan. Socio-demographic factors and risk factors were sought out using questionnaire. Logistic regression and artificial neural network methods were applied and found that patient's education, patient's liver disease history, family history of hepatitis C, migration, family size, history of blood transfusion, injection's history, endoscope, general surgery, dental surgery, tattooing and minor surgery by barber were 12 main risk factors that had significant influence on HCV infection.

MATERIAL AND METHODS

A cross sectional study was conducted at the public and private hospitals of Southern Punjab, Pakistan. Interviewing technique was utilized to fill questionnaires. Information about gender, age, locality, education level, occupation, marital status, family size, availability of medical facility, physical inactivity, smoking, socialization, and stress was collected. Chi squares and t tests were used to identify the social factors that affect diseases. SPSS version 21 with 5% and 10% level of significance was used for statistical analysis.

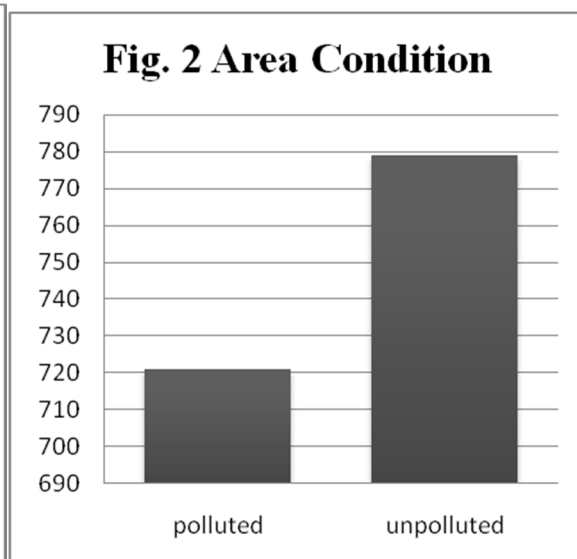
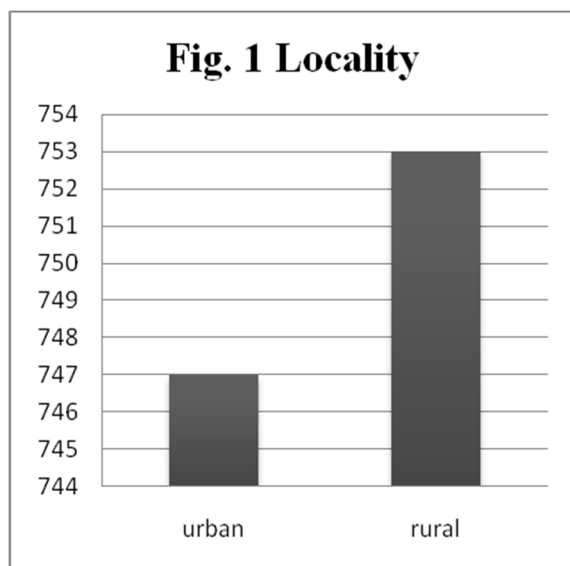
Results

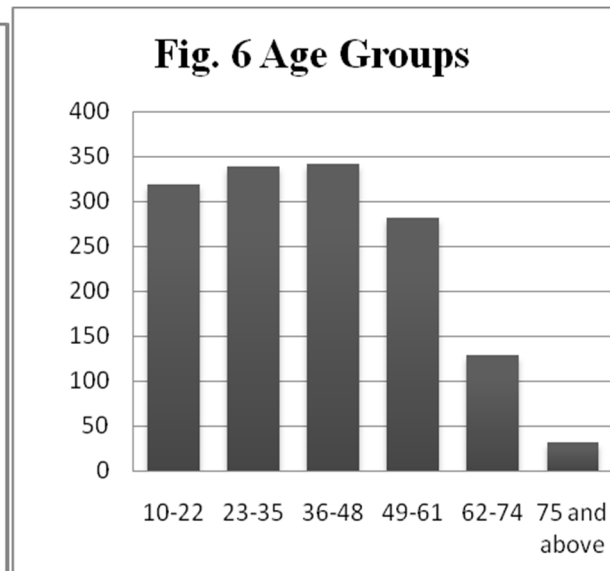
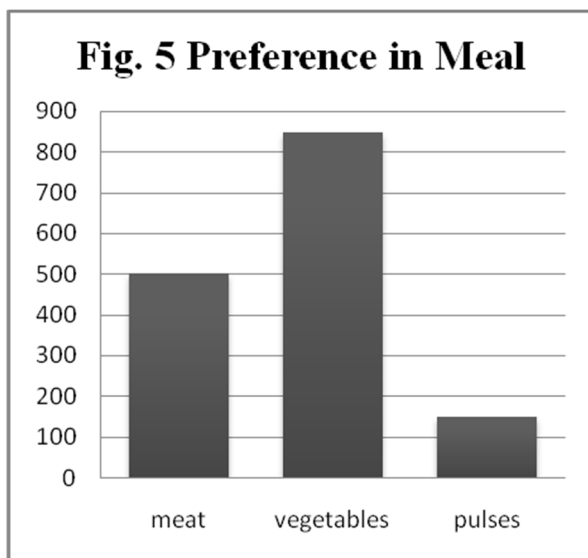
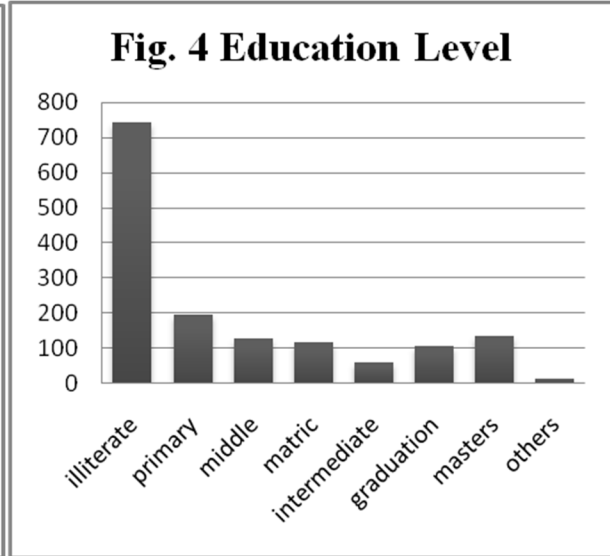
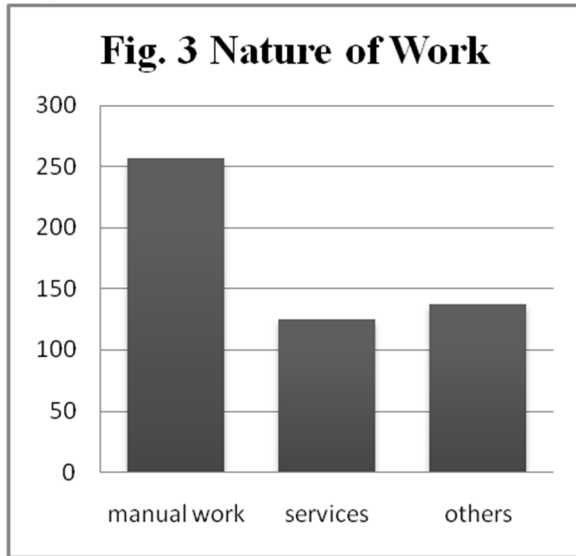
Table 1.Chi-squares

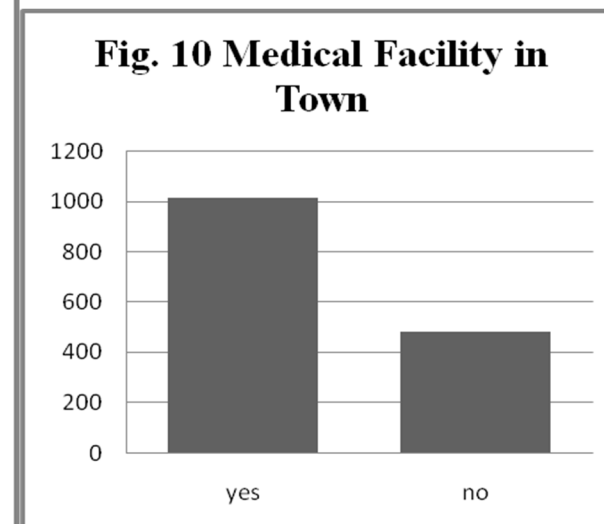
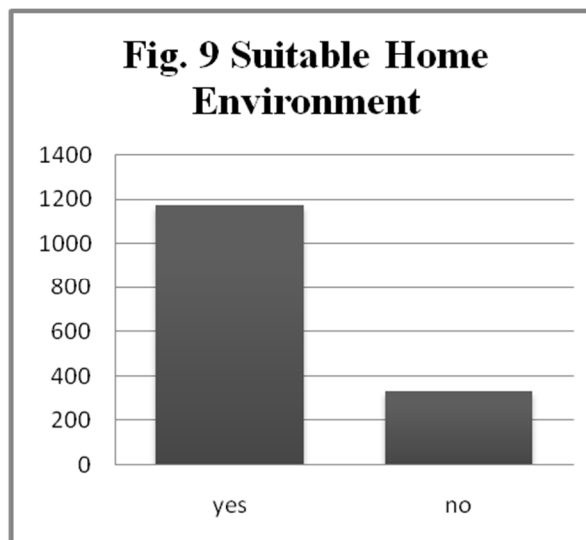
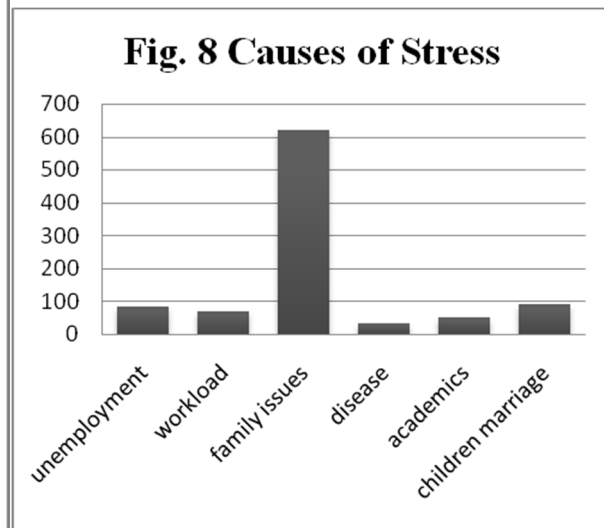
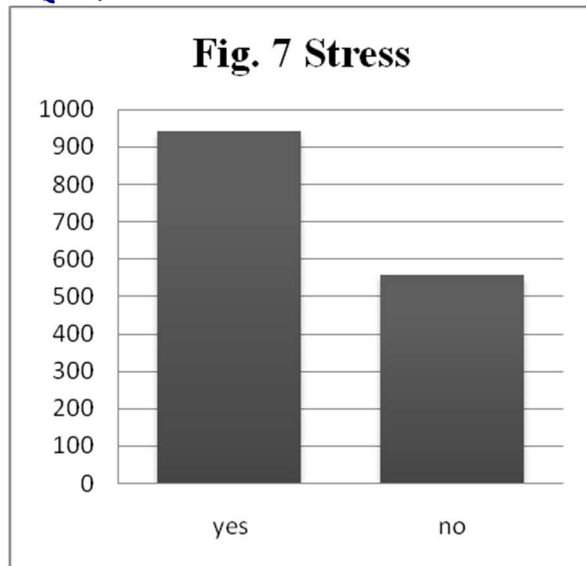
Pearson Chi-Square	Value	df	P-value
Disease and Hopelessness	36.923 ^a	21	0.017
Blood Pressure and Stress	13.881 ^a	1	0.00
Age and Stress	69.580 ^a	5	0.000
Family Size and Stress	3.049 ^a	2	0.218

Table 2.T-Test

	T	d.f	P-value
Equal variances assumed	0.223	1498	0.823
Equal variances not assumed	0.224	1489.419	0.824







Discussion

Table 1 shows that disease and hopelessness are highly associated with each other. It is observed that life threatening diseases are the major cause of hopelessness in patients. Blood pressure and stress have a significant effect on each other. Too much stress is major source of high blood pressure. Age and stress are directly linked together. Age plays a vital role in the reaction of people suffering from stress. Family size do not causes stress is patients. Family size and stress are not dependent on each other.

An independent t test was run to determine if there were differences in frequency of hospitalization between males and females. As we know that p-value determines the significance of test. For both groups of males and females, variances assumed equal and not assumed equal p-values is not significant at 5% or 10% level of significance. It is concluded from table 2 that number of hospitalization is same for males and females. It can be concluded that the frequency of hospitalization for male and female is same.

Fig. 1 and fig. 2 shows that majority of respondents belong to unpolluted rural

areas. Fig 3 indicates that mostly patients are manual workers. Fig 4 shows that majority of respondents are illiterate. High illiteracy rate in the studied area causes people to be manual workers like laborers. Fig 5 shows that 57% respondents prefer vegetables in their meal. Age of most patients is 36-48. 63 % respondents are suffering from stress and main cause of stress is family issues. 78% respondents think that their home environment is suitable for their health. Fig. 10 shows that 68% respondents have medical facility in their town while 32% respondents do not have any kind of medical facility in their town.

Conclusions

It can be concluded from the present study that majority of areas have medical facilities but mostly of these medical facilities are not fully facilitated. Therefore, to lessen the illness rate better medical facilities should be provided in both rural as well as urban areas. Education is the major determinant that influences a person's health. Disease rate of the Southern Punjab can be reduced by increasing the literacy rate and starting the proper treatment of the specific disease on time.

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