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STRESS AND HEALTH: PSYCHOLOGICAL, SOCIAL AND ECONOMIC FACTORS

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ABSTRACT

This paper described psychological, social and economic factors of poor health in Pakistan. The relationship among stress and health is intended to find out because in our society, the importance of psychological, social and economic factors regarding to health conditions are not fully recognized. The investigated problems include three major topic areas: psychological, social and economic influence on health. This study focused on how psychological, social and economic factors impacts a person's health. For this study data is collected through survey in Southern Punjab of Pakistan to check the significance of psychological, and socio-economic factors affecting health. Statistical software package SPSS has been used for analysis. Cross tabulation and Chi square test are used to check the association between factors. Binary logistic regression model is used to check the psychological, social and economic factor's impact on poor health. The social and economic facilities in rural areas as well as in some urban areas are inadequate, due to low per capita and illiteracy; weak socio-economic conditions worsen their life style. Poor quality of water and area environment contribute to serious illness. Stress causes a negative effect on a person's health.

KEYWORDS

Stress, Health, Economic factor, Social Factors.

JEL Classification Codes: J12 J13 J1

1. INTRODUCTION

Each and every phase of the life of the human beings is influenced by a diversity of factors, including social as well as economic variables. Like every other portion of life, diseases are also affected by a number of factors. Every individual is affected by different factors present in society. The relationship among socio-economic determinants and diseases is intended to find out because in Pakistani society, importance of social and economic factors is not fully recognized (Hill-Briggs et al., 2021; Braveman & Gottlieb, 2014).

Social and economic determinants have huge impact on health and diseases. People with better socioeconomic status have better health as compared to rest. Socio-economic status has a direct impact on disease. Poor socio-economic status can therefore contribute to a person's health. Poor social and economic situations distress health throughout life. Social factors are those factors that influence the lifestyle of people (Dalsania et al., 2021). Some of the important social factors are physical attributes, locality, education level, stress, family size, marital status, and occupation, working and home environment. Poor housing conditions affect person's health (Hynie, 2018). Education is interconnected to health in various ways. Education persuades health through its impact on selection of daily life activities for example exercise, dietary plans, problem solving aptitude and ethics. There has been a strong connection between stress and health conditions. Stress cause a negative effect on a person's health. Economic factors are those factors that affect the financial status. These factors have a huge impact on a person's everyday life. Economic factors include employment rates, personal income and consumption. Income and health status have a strong association. Economic status is directly correlated with health status. People with higher income may get higher health services (Puddephatt, Jones, Gage, Fear, Field, McManus, & Goodwin, 2021; Gilan, & Zardoshtian, 2021).

An early study by Winkleby, Jatulis, Frank, and Fortmann (1992) explored the impact of education, income and occupational status on the prevalence of different diseases using the data on five cities of Stanford. Results concluded a strong impact of these economic factors on the prevalence of different diseases. Another study by Adler and Ostrove (1999) claimed that better individual with better socioeconomic status (SES) has good health status. The existing literature on socio economic determinants of health status generally neglected the interdependence of different determinants of health. Lahelma, Martikainen, Laaksonen, and Aittomäki (2004) conducted a research to explore the link and interdependence among the three socioeconomic determinants of poor health. Cross sectional primary data for the year 2000-2001 was used for analysis. Respondents aged 40 to 60 were approached to collect the data through structured questionnaire. Using logistic regression technique results indicated that each determinant contributed towards the determination of health status. Moreover, each determinant of health (education, occupational class and income) was explained by the other socioeconomic determinants.

Poor mental health is injurious for individual and society. Sweden had experienced increased mental health symptoms since 1990's. Molarius, Berglund, Eriksson, Eriksson, Lindén-Boström, Nordström, Persson, Sahlqvist, Starrin and Ydreborg (2009) conducted a study to Identify the factors determined the health status of men and women in Sweden. Study was based on primary data and the data was collected through postal survey questionnaire. Using random sampling technique 42448 respondents aged 18-84 were approached for data collection. Multivariate multinomial logistic regression model was used for empirical investigation. It was explored that people aged 65-74 had more stable mental health then the young people. Since the young people were facing depression reportedly. Social support, employment status, economic hardship, critical life events and functional disability were found the main determinants of health status of respondents. It was concluded that balanced social and economic life, employment status and physical activity can improve the health status. Griffith, Ellis, MPH, MSW and Allen, MPH (2013) explored social factors causing stress among African American men. It was found that

social and cultural role of gender and being African American a racial factor were the social determinants of health outcomes.

Cois and Ehrlich (2014) explored socioeconomic factors causing worse health outcomes. Hypertension was taken as proxy for physical health. Data of 15000 adults were used for sub-Saharan countries to identify the link between socio-economic factors and health status. It was found that higher level of education and income were independently associated with the high level of hypertension among male respondents as compared to female. Another study by Lacey, Sears, Crawford, Matusko, and Jackson (2016) explored the regional and socioeconomic determinants of mental health. The study was conducted for the two countries (Jamaica and Guyana) of Caribbean region. Using probability sampling data of 1218 Jamaicans and 2068 Guyanese respondents were collected. Descriptive statistics and Chi square test were used for data analysis. Different factors were found for both countries. The rate of depression was high for Jamaicans. The noticeable difference in health status was due the different social and economic factors of these countries. Study concluded that more in depth analysis was needed to explore the additional sources of stress.

Ruiz-Pérez, Bermúdez-Tamayo and Rodríguez-Barranco (2017) explored the socio-economic determinants of health in Spain. The study used the micro data of national health survey. A comparative cross-sectional data for two years was used. Data of 2006 was used as before financial crises year and the year 2011-12 used for after financial crises data. Multilevel logistic regression was used for analysis. Socio-demographic, psycho-social and economic determinant of health were examined. The results indicated that macroeconomic factors like low per capita health spending caused poor health. Due to financial crises cutbacks in health expenditures led to poor health outcomes. Another study for Spain is conducted by Darin-Mattsson, Fors and Kåreholt, (2017) and they explored a different aspect of health determinants. The study identified overlapping effect of socio-economic factor on old age health outcomes for Spain. Using national survey data, the study concluded that all socio-economic factors contributed towards late age health outcome with minor differences in the magnitude of the effect. However, income was found the most effective factor influencing the impact of all determinants and income is also found a strong independent factor of late age health outcomes.

Another study was conducted by Venkateshwarlu, Kavya, Tiwari, Vinay and Vishnu (2017) to establish the link between socioeconomic status and different diseases in India. Data from 1110 respondence was collected and the findings established that socioeconomic status is closely related with different diseases. Across different income groups infectious diseases were more prevalent. In contrast with other studies Naik, Baker, Walker, Tillmann, Bash, Quantz, and Bambra (2017) wrote a review article on the economic determinants of health status. The study reviewed the existing literature on the topic and identified the various economic factor effecting health outcomes.

Economic insecurity has emerged as another determinant of health status. Using British panel household survey Kopaskera, Montagnab, and Benderb (2018) found the impact of various aspect of economic insecurity on health status. Results demonstrated that perceived future risk is more damaging for health than the actual volatility of economic insecurity. Furthermore, economic insecurity was found more damaging for the health of men than

the women. Effect of insecurity was found constant among different income distribution. Viseua, Leal, Jesus, Pinto, Pechorro, & Greenglass (2018) conducted a study for Portugal to explore the impact of economic factors on different mental health problems (stress, anxiety etc.). Primary survey data of 729 respondence was used for analysis. By employing structural equation modeling it was found that financial threat and economic hardship were found detrimental factors for mental health. While using social support as moderating factor it was observed that social support decreased the negative impact of economic stress on mental health.

In contrast with above cited studies a study by Macintyre, Ferris, Gonçalves and Quinn (2018) was a descriptive study that studied socio-economic inequality as a determinant of health outcomes. In context of America and Europe the study concluded that policies should be farmed to reduce the economic inequality for better health outcomes. Hawkins, Bwanika, and Ibanda (2020) used qualitative approach to identify economic factor effecting mental health. For one of the districts of Uganda semi structured interviews were used for data collection and it was found that poverty, unemployment and financial stress were the determinants of mental health outcomes. Person's health condition is one of the major factors persuading the socio-economic development of a country. The phrase "health position" has been used as different aspects including occupation, education, income, physical inactivity etc. (O'Connor, Thayer, & Vedhara, 2021).

The socio-economic status varies from person to person. In Southern Punjab mostly people are less educated, unemployed and have lower social status in comparison to other parts of Punjab, because of inadequate resources. Parts of Southern Punjab comprises of larger area but less population. As the area is industrially under developing, so employment level is too low. The health status of people in parts of Southern Punjab cannot be fully understood unless the socio-economic factors' affecting the health of people is correlated. Therefore, to find out the relationship between socio-economic determinants and diseases from which people living in Southern Punjab are suffering, this study is intended to answer the following research questions.

> "What are the socio-economic determinants of diseases affecting people living in Southern Punjab?"

The social and economic facilities in rural areas as well as in some urban areas are inadequate. Due to low per capita income and illiteracy; weak socio-economic conditions worsen their life styles.

2. THEORETICAL FRAMEWORK AND METHODS OF STUDY

The theoretical framework depicts the understanding of the relationship between the stress and health. The main variables used in the present study are of Psychological, Social and Economic Factors of Health.

2.1 Stress and Health: Psychological, Social and Economic Factors

Any person bears the cost of the stress in the form of poor health. The theory of stress was introduced as stimulus in 1960 and extended this concept by Holmes and Rahe (1967) presented the Social Readjustment Rating Scale (SRRS) covered the 42 life events scores according to the calculated degree of adjustment that would be the demand of a person

experiencing them (e.g. marital status, employment status, loss of loved one, loss or changing the job, increasing weight). According to Holmes and Rahe (1967), stress was an independent variable in the Stress-Health Model, appeared as the cause of poor health and a strong correlation is exists between stress and illness (Rahe, Mahan, & Arthur, 1970; Johnson & Sarason, 1979).

In the beginning Rahe and Holmes (1967) only viewed the human subject as a passive recipient of stress, one who played no role in determining the degree, intensity, or valence of the stressor. Later on, Rahe presented the idea of clarification in his new research (Rahe & Arthur, 1978), signifying that a variation or life incident could be understood as a positive or negative experience based on social, economic, and psychological/emotional and environmental factors. However, the stress as stimulus model still ignored important variables such as prior learning, environment, support networks, personality, and life experience. The present study is a continuation to add the new variables of environment, personality, economic, and social factors in relation to the stress and evaluated their impact on the health.

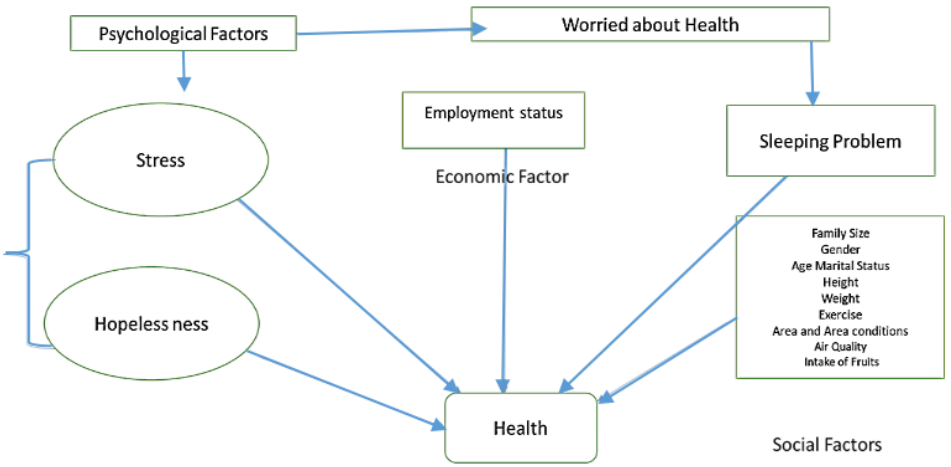

Figure1: Theoretical Framework of study based on Holmes and Rahe (1967) Stress Theory

2.2 Research Design

The major determinants taken into account were psychological, social and economic factors along with stress. The focus was set on how person's health is affected by psychological, social and economic factors. Exploratory and descriptive research design has been used in this study to depict the results. Exploratory research design is used because this study is an attempt to investigate the psychological, social and economic determinants of health. At the same time, it is descriptive in the sense that all the factors used for the study will be fully described. All the analysis were carried out using SPSS (Statistical Package for Social Sciences) version 21. The objective to use cross tabulations and Chi square test is to show how psychological, social and economic factors are contingent upon diseases and other factors.

Data source is primary in this research and the sample size is 1500. Respondents have been selected from any age and gender randomly. Respondents were interviewed through the structured questionnaire.

2.3 Binary Logistic Regression

Mostly psychological, social and economic variables are categorical. Binary logistic regression is used when response variable is a dummy variable and predictor variable is either categorical or continuous. Arif and Naheed (2012), Vaisman et al. (2012) and Kuntz and Lampert (2010) used logistic regression in their research work to examine the social and economic variables affecting person's health.

Table 1
Operational Definition of Variables

Variables	Description	Measurement Scales
Health	Measured by Symptoms of Blood Pressure	Yes = 1 No = 0
Stress	Having Stress	Yes = 1 No = 0
Hopelessness	Feeling Hopelessness	Yes = 1 No = 0
Worried About Health	Always remained Worried about Health	Always = 1 Never = 0
Age	Age of the Respondent	Discrete
Family size	Family Size of the Respondent	Discrete
Gender	Gender of the Respondent	Male = 1 Female = 0
Weight	Weight of Respondent in KG	Continuous
Height	Height of the Respondent in cm	Continuous
Area	Area of Residence of the Respondent	Urban = 1 Rural = 0
Employment Status	Employment status of the Respondent	Not Employed = 1 Employed = 0
Marital Status	Marital status of the Respondent	Married = 1 Not Married = 0
Education	Education of Respondent	In number of Years
Smoking	Respondent is Smoking or not	Yes = 1 No = 0
Exercise	Routine of Exercise of Respondent	Regular = 1 Not Regular = 0
Fruits	Intake of Fruit	Regular = 1 Not Regular = 0
Area Conditions	Environmental conditions of Respondent Area	Polluted = 1 Not Polluted = 0
Number of Children	Number of Children of Respondent	Discrete
Water quality	Water Quality of Respondent Drinking water	Good = 1 Not Good = 0

Source: Survey

3. RESULTS AND DISCUSSION

The Tables 2, 3 and 4 showed the cross-tabulation among the factors affecting the health. Table 2 showed that there are 51.9% of respondent who are neither hopeless nor suffer from sleeping problem as well as are not worried about their health. Whereas 52.4% of respondents are those who are neither hopeless nor suffer sleeping problem but they are worried about their health. There are 40.9% respondents who are not worried about their health conditions, never get hopeless but suffer sleeping problems. The percentage of respondents who do not have the feeling of hopelessness but get worried for their health and have sleeping problem is 47.6, while 30.5% respondents feeling hopeless are not worried about their health and also do not suffer sleeping problems. There are 42.9% of respondents who do not suffer from sleeping problem but are worried about their health and are hopeless due to their disease, whereas 69.5% respondents suffer sleeping problem and are hopeless because of their disease. There are 57.1% respondents who are worried about their heath suffer sleeping problem and are hopeless about their disease. Table 3 showed that 62% respondents fall in 10-22 age groups and they do not take stress or have blood pressure, while rest of 38% in the same age group do not have blood pressure but take stress. Whereas 48% respondents falling in this age group do not suffer stress but have blood pressure and 52% respondents in this age group suffers from stress and blood pressure. There are 37% respondents who fall in 23-35 age groups do not suffer from stress or blood pressure. Almost same percentage of respondents of the relevant age group who do not suffer from stress but have blood pressure. Sixty three percent respondents suffering from stress but do not have blood pressure fall in age group 23-35 and in the respective age group the percentage of respondents with stress and blood pressure is 62.2%. The percentage of respondents falling in age group 36-48 have the highest percentage i.e., 74.9% that suffer from stress and blood pressure and 35.5% respondents who do not suffer from stress and blood pressure. 25% respondents in age group 49-61 do not suffer from stress and blood pressure, whereas 68% respondents are suffering from stress and blood. 32.1% respondents having age from 62 to 74 do not suffer from stress and blood pressure and 66.3% suffer from blood pressure and stress. The percentage of respondents suffering from stress and blood pressure in age group 75 and above is 62.1%. Whereas there are 50% respondents they do not suffer from stress and blood pressure in 75 and above age groups.

Table 2
Association between Hopelessness, Sleeping Problem and Worried about Health

Hopelessness			Worried about Health		Total
			No	Yes	
Never	Sleeping problem	No	699 (39.1%)	87 (32.4%)	786 (58.3%)
		Yes	484 (40.9%)	79 (47.6%)	563 (41 .7%)
Always	Sleeping problem	No	29 (30.5%)	24 (42.9%)	53 (35.1%)
		Yes	66 (69.5%)	32 (57.1%)	98 (64.9%)

Source: Survey

Table 4 showed that 53.5% male and 40.3% female respondents are not suffering from stress and their blood pressure is also normal. 41 .6% male respondents and 33% female respondents are having normal blood pressure but suffering from stress. The percentage of male and female respondents having blood pressure with no stress is 46.5 and 59.7 respectively. The percentage of male and female respondents suffering from stress with blood pressure is 58.4 and 67 respectively.

Table 3
Cross Tabulation of Age, Blood Pressure and Stress

Stress			Age Groups						Total
			10-22	**23-35**	**36-48**	**49-6 I**	**62-74**	**75 or above**	
No	Blood Pressure	No	119 (62%)	71 (37%)	39 (35.5%)	21 (25%)	9 (32. I %)	1 (50%)	260 (42.8%)
		Yes	61 (48%)	70 (33.8%)	58 (25. I %)	63 (32%)	34 (33.7%)	11 (37.9%)	297 (33.3%)
Yes	Blood Pressure	No	73 (38%)	1 21 (63%)	71 (64.5%)	63 (75%)	19 (67.9%)	1 (50%)	348 (57.2%)
		Yes	66 (52%)	137 (66.2%)	1 73 (74.9%)	134 (68%)	67 (66.3%)	18 (62. I %)	595 (66.7%)
Total			**319**	**399**	**341**	**281**	**1 29**	**31**	**1500**

Source: Survey

Table 4
Cross Tabulation of Stress, Gender and Blood Pressure

Blood Pressure		Stress		Total
		No	**Yes**	
No	Female	I 6(40.3%)	I 70(33%)	286(35.6%)
	Male	I 44(53.5%)	I 78(4 I .6%)	322(46.2%)
Yes	Female	I 72(59.7%)	345(67%)	5 I 7(64.4%)
	Male	I 25(46.5%)	250(58.4%)	375(53.8%)
Total	Female	288(35.9%)	5 I 5(64.1%)	803(100%)
	Male	269(38.6%)	428(6 I .4%)	697(100%)
	Total	**557**	**943**	**1500**

Source: Survey

Table 5 showed that 46.8% respondents having family size 1-4 don't suffer stress or blood pressure, whereas 65.2% suffer from stress and their blood pressure is also not normal. 44.9% respondents having family size 5-8 are not suffering from stress and their blood pressure is also normal, while 67.1 % respondents have blood pressure and stress as well. 34.7% respondents having more than 8 family members not suffer from stress and their blood pressure is also normal but is 67.4% respondents are suffering from stress and blood pressure.

Table 5
Cross Tabulation of Family Size, Stress and Blood Pressure

Family Size	Blood Pressure		Total	Family Size	Blood Pressure
I -4	Stress	No	58(46.8%)	66(53.2%)	124(l00%)
		Yes	78(34.8%)	146(65.2%)	224(100%)
5-8	Stress	No	150(44.9%)	184(55.1%)	334(100%)
		Yes	146(32.9%)	298(67.1%)	444(100%)
More than 8	Stress	No	52(34.7%)	98(65.3%)	150(100%)
		Yes	73(32.6%)	151 (67.4%)	224(100%)
Total	Stress	No	260(42.8%)	348(57.2%)	608(100%)
		Yes	297(33.3%)	595(66.7%)	892(100%)
	Total		**557**	**943**	**1500**

Source: Survey

Table 6
Binary Logistic Regression: Psychological, Social and Economic Factors of Health

Explanatory Variable (Health)	B	S.E.	P-value	Exp(B)
Age	.032	.005	.000	1.032
Gender (Male as reference Category)	-.681	.131	.000	.506
Weight	-.002	.005	.704	.998
Height	.009	.004	.036	1.009
Area (Rural as reference Category)	.029	.135	.830	1.029
Employment status (Employed as reference Category)	.260	.126	.039	1.297
Education	.093	.140	.508	1.097
Marital status (unmarried as reference category)	-.137	.170	.419	.872
Smoking (Not smoking as reference category)	.424	.139	.002	1.529
Exercise(not regular as reference category)	-.233	.123	.047	.792
Fruits Intake (irregular intake as reference category)	-.118	.160	.241	.829
Area condition (not polluted as reference category)	.273	.122	.025	1.314
Number of Children	.468	.206	.023	1.596
Water quality (not good as reference category)	-.132	.211	.032	.877
Stress (not stress as reference category)	.206	.120	.087	1.229
Constant	-2.462	.572	.000	.085

Source: Survey

In the Table 6, binary logistic regression analysis has been employed to find out the psychological, social and economic factors of health and health is measured by blood pressure. Age is intended to increase blood pressure as it is statistically significant. The value of gender as female intended to decrease to blood pressure. It indicates that there is a relationship between gender and blood pressure and it is statistically significant. It has been explored in the previous studies that gender impact the health (Macintyre, Ferris, Gonçalves & Quinn, 2018). The value of weight indicates to decrease the blood pressure but it is not statistically significant. The result is dissimilar with the result of Robison (2005) as proved in his study that weight of a person significantly impact the health. The

value of height intends to increase blood pressure and it is statistically significant (Nettle, 2002). The value of area (urban) intended to increase blood pressure. The value of employment status as not employed intended to increase blood pressure. P-value shows that there is a relationship between employment status and blood pressure as it is statistically significant. Number of years of education has positive impact on blood pressure but the P-value shows that the impact is not significant. It can be concluded that there is no relationship between education and blood pressure (Naik, Baker, Walker, Tillmann, Bash, Quantz, & Bambra 2017). The value of marital status as married showed to decrease blood pressure but it is not statistically significant. The value of smoking demonstrated that smoking can increase the blood pressure. P-value shows that there is a significant relationship between smoking and blood pressure. The value of variable (not having regular physical exercise) increases the blood pressure and it is statistically significant. The intake of fruits regularly can decrease the level of blood pressure. The value of area condition as polluted intended to increase the blood pressure. The water quality (good) intended to decrease the blood pressure. Stress intended to increase the blood pressure (Cois & Ehrlich, 2014).

4. CONCLUSION

The value of age, gender, height, employment status, smoking, exercising, area and housing conditions are statistically significant, showing that these predictors have an impact on the health status of respondent, while weight, area, education, marital status, fruits and stress have no impact on the health status because they are not statistically significant. So, from Table 6 it is concluded that the psychological, social and economic factors that affect blood pressure are age, gender, height, employment status, smoking, physical exercise, area and area conditions. As policy suggestion it is recommended that individual should consider these socioeconomic factors for better health outcomes.

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