

SOCIAL, ECONOMIC AND BEHAVIORAL FACTORS OF HEALTH AMONG THE WOMEN OF SOUTH AND SOUTHEAST ASIA COUNTRIES

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ABSTRACT

This study is conducted to investigate the social, economic and behavioral factors of health among the women for a panel of five South and Southeast Asia countries. Data of five South and Southeast Asia countries was collected from the respective Demographic & Health Surveys (DHS). Married women currently living with their husbands at the age of 15-49 years were selected as the target population taken from South and Southeast Asia countries. Women health is measured by women body mass index and considered in good health if BMI ranged between 18.5 to 24.9 kg/m². Social factors (age, education, children, household size and locality), economic factors (household wealth and husband's employment status) and behavioral factors (attitude toward women empowerment) were decided to determine their effects on health. The conceptual framework of this paper is based on the behavioral health theories. The Binary logistic regression model is used to predict the relationship between the health (BMI ranged between 18.5 to 24.9 kg/m²) and social, economic and behavioral factors. Women empowerment seems to be positively associated with women's good health (Low=8.1%, middle=62.7% and higher= 15.7%). Similarly, other factors like women's education, women's age, her age at first birth, number of children alive, household wealth, household size, and place of residence, husband education and husband's employment status have a significant influence on women's health. Results indicate that women empowerment (behavioral factors), economic factors and social factors and good health (BMI ranged between 18.5 to 24.9 kg/m²) were positively associated with each other. It has been proved with the evidence of results that women empowerment and other characteristics altogether make a healthy woman.

Keywords: Women Body Mass Index, Demographic Health Survey, Women empowerment Index.

INTRODUCTION

Nutritional status has an essential need for men or women to get the possible growth and success for their survival. Lack of nutrition or malnutrition have adverse effect on women than men. Poor nutrition affects not only women but also leaves the effects of malnutrition on their children at the time of birth (Permatasari, Rizqiya, Kusumaningati, Suryaalamasah, & Hermiwahyoeni, 2021). Underweight women suffer from anemia and anemia affects approximately 43% to 50% of women of their reproductive age in less developed countries (Khoirunnisa, Devaera, Fahmida, Witjaksono, & Prafiantini, 2021). The nutritional situation is alarming in some developing countries as it's the 120 million women in developing countries are underweight, in some regions this ratio varies for example in South Asia approximately 60% of women are underweight (Khoirunnisa et al., 2021; Organization, 2016; Wei et al., 2019).

Consideration of body mass index below than 18.5/kgm² as thinness or smart figure is conceptions of underweight and sign of poverty and malnutrition especially in Asia (Furnham, Badmin, & Sneade, 2002). Women who consider a BMI < 18.5kg/m² seems to be ideal for thinness live with irregular eating habits, belong to underweight and facing many diseases—anemia, low rate of blood pressure, tiredness, bone mineral thickness, anorexia nervosa, bulimia nervosa and leaves their adverse effects on physical and mental health (Neumark-Sztainer, Paxton, Hannan, Haines, & Story, 2006; Stevens, Herbozo, Morrell, Schaefer, & Thompson, 2017). Thinness and keeping a smart look become a fashion nowadays. But when this thinness converts into an underweight or sudden weight loss then it has many adverse effects in the form of several diseases (problems with menstrual cycle, problems in getting pregnant, anorexia Nervosa, malnutrition, and depression). Poverty is a primary cause of poor health (Prügl & Joshi, 2021). Women and men both have an equal right to be healthy. Women's health and wellbeing are related to each other. Employed women with good health contribute to the national income of the country and sustain a good livelihood for households, all over the world (Chiu et al., 2018; Olza et al., 2018). Thinness or flat body figure become a fashion among the girls now a day which

results in continuous weight loss attitude(Zhang, Qian, & Fu, 2018).

Empowering women and giving them equal opportunities is a fundamental human right of a woman and critical to achieving development objectives, including health. Improving women's health and empowering them is the most important to achieve the targets of the Sustainable Development Goals (SDGs)(Chiu et al., 2018; Furnham, Badmin, & Sneade, 2002; Permatasari et al., 2021). Decision-making power was highlighted in previous literature and found a strong and positive relationship with nutrition's(Bose, 2011; Neumark-Sztainer, Paxton, Hannan, Haines, & Story, 2006) . Increasing levels of girls' education, develop a good opportunity to understand the worth of health and play an important role in improving their health(Cutler, Deaton, & Lleras-Muney, 2006). Women age, education and wealth status/income of women have a significant effect on the BMI of women(Hernández-Yumar et al., 2018; Zhang, Qian, & Fu, 2018) .Kirpalani (2016) evaluate the body mass index of African women and found a strong relationship between the psycho-social and behavioral factor and obesity ($BMI > 30 \text{ kg/m}^2$). Age, sex, locality, genetics, habits, income of family and parents' characteristics proved their great importance to determine the weight of an individual.

There is a number of factors on which any individual has no control including genetic diseases, gender and age. But some factors that have their influence on body weight on which an individual has control like social, behavior, economic and demographic factors required attention to be focused on them. In this paper an attempt was made to develop the framework based on the behavioral health theory (Sutton, 2001; Weinstein, Rothman, & Sutton, 1998), women's health can be improved through the behavioral, economic, social and demographic factors. Underweight is a kind of prior health which unusually appear due to irregular habits of eating, lack of nutritional food, continuity of any disease and sometimes its genetically. All these factors which are the cause of being underweight can easily be controlled through the empowering women, behavior support of family, education of women, specifies the age of women for marriage and their baby births, limits the number of children, better wealth status and place of residence.

The conceptual framework of the paper is based on the behavioral health theories: people's health-related behavior and the health belief model and tries to identify the factors relating to people's attitude and behavior that are affecting women health(Kotcher et al., 2021). Underweight is the body weight ($BMI < 18.5 \text{ kg/m}^2$) usually appears due to irregular diet, carelessness, ignorance and financial problems which ultimately turns the women in the depression, anxiety, anemia and many other diseases. That's why in this study age, education, health, locality, husband employment status, women's children, household size and women's empowerment were used to test their effect on the women's weight/nutritional status and identified the gap from the previous studies in the literature in the context of South and Southeast Asia region.

In the present study, we explore the answer of the question "How women health can be improved through social, economic and power-related factors? In addition, recommend some policy measures to minimize the risk of being underweight among the women.

MATERIAL AND METHODS

The data for this study is taken from nationally representative Demographic and Health Surveys. DHS data is best for comparative study across the countries. In the current study, five countries; Pakistan, India, Nepal, Cambodia and Timor Leste were selected from South and Southeast Asia Countries and set to be selected according to the availability of data on the same questions related to BMI, social, economic and behavioral factors.

Table No. 1 Operational definition of Variables

Characteristics	Variables	Measurement scales
Women personal characteristics	Women Education (WE)	No Education=0 Primary=1 Secondary=2 Higher=3
	Body Mass Index (WB MI)	18.5-24.9kg/m ² =1 Other than 18.5-24.9kg/m ² =0
	W omen Age (WA)	15-19=1 20-25=2 26-35=3 Above than 35=4
	Women Empowerment	Low=0 Medium=1 High=3
		15-19=1

	Age at first birth (WAFB)	20-25=2 26-35=3 Above than 35=4
	Husband Employment Status	Did Work= 1 Did not Work=0
Husband Characteristics	Husband Education (HE)	No Education=0 Primary= 1 Secondary=2 Higher=3
	Total number of children ever born (TCEB)	<=4=0 >4=1
	Total number of children Alive	<=4=0 >4=1
Household Characteristics	Gender (GHH)	Male= 1 Female=2
	Age (AHH)	Discrete
Household's Characteristics	Total member of household (THM)	<=5=0 >5=1
	Household Wealth Index (HWI)	Poorest=0 Poorer= 1 Middle=2 Rich=3 Richest=4
	Place of residence (PR)	Urban= 1 Rural=0

Source: Demographic and Health Surveys

Women Health (Dependent Variables)

Health is measured by a women's body mass index. Women body mass index was taken in binary form. Women body mass index below than 18.5kg/m² is coded as 0' and equal and between the 18.5-24.9kg/m² was coded as 1. Women with low body mass and above than 24.9kg/m² considered as underweight, Overweight and Obesity having a poor health.

Construction of Women Empowerment Index (Independent Variable as Behavioral Factors)

Women empowerment index which is constructed from five different dimensions (work status, awareness, decision making, self-esteem and self-confidence) is used as behavioral factors-- were used to construct combine women empowerment index through factor analysis by using their weights. Following the health behavior theories (self- efficacy theory and The Theory of Reasoned Action and the Theory of Planned Behavior) explained the believe on capabilities and their attitude towards actions(Asaolu et al., 2018; Robinson et al., 2017). These believe in capabilities and attitudes towards actions were beautifully portrayed by the women empowerment index.

Social and Economic Factors (Independent Variables)

Social and economic factors such as age, education, husband employment status, household wealth, locality, household size and children were used to found their impact on health. Education is categorized in three groups primary ,middle and education, age is categorized into four groups (15-25, 25-35,35-45 and above 45), age at first birth into three groups (15-19, 20-25,26-35 and above than 35years), husband employment status two groups (did work and did not work), wealth status in five groups (poorest, poorer, middle, rich and richest), locality in two groups (rural and urban), children ever born and children alive in two groups (<=4 and >4) and household size in two groups (<=5 and >5).

Econometric Technique

Econometric analysis was employed by binary logistic regression. The dependent variable in logistic regression is usually dichotomous, that is, the dependent variable can take the value 1 with a probability of success Θ or the value 0 with probability of failure $1-\Theta$. This type of variable is called a Bernoulli (or binary) variable. Logistic regression calculates the probability of success over the probability of failure; therefore, the result of the analysis is in the form of an odds ratio. Logistic regression also provides knowledge of the relationship and strengths among the variable e.g., women empowerment and health which is measured by women body mass index and also find the probabilities of women education, women age, women age at first birth, husband education, husband employment status, wealth status, household size, locality y, total number of children ever born and total number of children alive on women health.

RESULTS AND DISCUSSION

In the parameter estimates of table 2 and 3 their standard errors, p-values (Sig.), and odds ratio are present to explain the impact social factors, economic factors and behavioral factors on the health (BMI ranged 18.5-24.9kg/m²). According to the results (table 2) women with higher and medium empowerment having good health (body mass index ranged 18.5-24.9kg/m²) as compared to low empowerment as their odd ratio were greater than one. There is a strong relationship with women empowerment (behavioral factor) and women's body mass index. Women empowerment indicates women work status, awareness, decision making, self-esteem and self-confidence. There is strong evidence in literature of positive relationship between nutritional status of women, autonomy and decision making (Becker, Fonseca-Becker, & Schenck-Yglesias, 2006; Tuladhar, 1997). Women's body mass index and women's education were positively related to each other and odd ratios are gradually increasing with the increase in the education levels as compared to no education. Women age showing positive and significant impact on women's body mass index (18.5-24.9kg/m²). As women age at her first birth gradually increasing has a positive impact on women's body mass index showing the probability to be in good health (Mungreiphy, Kapoor, & Sinha, 2011). Women younger with age at her first baby birth are a sign of bad health because pregnancy in the younger age is not safe and there are chances to be malnourished and anemic in women.

Table No. 2 Social, Economic and Behavioral Factors of Women Health in South and Southeast Asia (Bivariate Analysis)

Co Variables	Women Health			P value Pearson Chi
	Other than 18.5-24.9 kg/m ²	Ranged between 18.5-29.5kg/m ²	Total	
Women Empowerment				
Low Empowerment	2.3%	8.1%	10.3%	0.00 4054
Medium Empowerment	10.2%	62.7%	72.9%	
Higher Empowerment	1.0%	15.7%	16.7%	
Women's age				
	10.9%	45.9%	56.8%	0.00 7065
20-25	1.7%	20.3%	22.0%	
26-35	1.1%	14.6%	15.7%	
Above than 35	.4%	5.1%	5.5%	
Women Education				
No Education	2.9%	13.8%	16.8%	0.000 1204
Primary	3.2%	22.4%	25.6%	
Secondary	6.9%	39.4%	46.3%	
Higher Education	1.0%	10.4%	11.4%	
Respondent Age at First Birth				
15-19	2.9%	35.5%	38.3%	0.00 6581
20-30	.2%	3.1%	3.2%	
Above 30	11.0%	47.5%	58.4%	
Husband's Education				
No Education	3.4%	19.0%	22.4%	0.000 2987
Primary	1.5%	22.9%	24.4%	
Secondary	2.0%	40.2%	42.2%	
Higher Education	.3%	10.6%	10.9%	
Husband's Employment Status				
Did not Work	1.0%	8.5%	9.6%	0.000 9692
Did Work	7.2%	83.2%	90.4%	
Household's Wealth Status				
Poorest	2.4%	13.4%	15.8%	0.00 1414
Poorer	2.4%	14.8%	17.2%	
Middle	2.8%	16.6%	19.4%	
Richer	3.1%	18.8%	21.9%	
Richest	3.3%	22.4%	25.7%	
Place of Residence				
Rural	8.3%	41.6%	51.9%	0.000 8964
Urban	5.7%	43.4%	48.1%	
Total Household Members				
<= 5	12.7%	79.3%	92.0%	0.000 7218
>5	1.3%	6.7%	8.0%	
Total Number of Children Alive				
<=4	11.1%	66.0%	77.1%	0.000 7691
>4	3.0%	20.0%	22.9%	
Total Number of Children Ever Born				
<=4	7.2%	35.1%	42.2%	0.000

>4

6.6%

51.2%

57.8% 3341

Source: Demographic and Health Survey**Table No. 3 Results of multivariate logistic regression analysis showing the effect of social, economic and behavioral factors on health**

		Body Mass Index (BMI)18.5-24.9kg/m2 Applied to be in good health			
Characteristics	Explanatory Variables	Coefficient (Std. Err.)	Exp(B)	95% EXP(B)	C.I. for
Women Empowerment	Low Empowerment	Ref.			
	Medium Empowerment	0.378*** (.025)	1.459	1.391	1.532
	Higher Empowerment	1.120*** (.042)	3.064	2.821	3.329
Women Education	No Education	Ref.			
	Primary	.588*** (.026)	1.801	1.712	1.894
	Secondary	.404*** (.028)	1.498	1.416	1.583
	Higher Education	.897*** (.057)	2.451	2.192	2.741
Women Age	15-19	Ref.			
	20-25	.123*** (.031)	1.131	1.065	1.202
	26-35	.118 *** (.034)	1.125	1.053	1.203
	Above than 35	.057 * (.034)	1.059	.991	1.132
Women's Age at first Birth	15-19	Ref.			
	20-25	.100 *** (.023)	1.105	1.057	1.156
	26-35	.096*** (.037)	1.101	1.024	1.183
	Above than 35	.121 *** (.028)	1.128	1.069	1.191
Husband's Education	No Education	Ref.			
	Primary	.248*** (.027)	1.282	1.216	1.351
	Secondary	-.110 *** (.028)	.896	.849	.946
	Higher Education	.131*** (.045)	1.140	1.043	1.245
Husband's Employment Status	Did not work	Ref.			
	Did Work	.117 ** (.058)	1.124	1.003	1.259
Total number of Household Members	<=5	Ref.			
	>5	-.160*** (.032)	.852	.801	.907
Household's Wealth Index	Poorest	Ref.			
	Poorer	.181 *** (.026)	1.199	1.139	1.261
	Middle	.227*** (.027)	1.255	1.190	1.324
	Richer	.296*** (.030)	1.344	1.266	1.426
	Richest	.542 *** (.038)	1.720	1.595	1.854
Place of residence	Rural Area	Ref.			
	Urban Area	.217*** (.024)	1.243	1.186	1.303

Total Number of Children Alive	<=4	Ref.			
	>4	-.248*** (.020)	.780	.750	.811
Total Number of Children Ever Born	<=4	Ref.			
	>4	-.317*** (.022)	.728	.697	.761
		.946***			
	Constant	(.053)	2.575		

The regressions include intercept terms. ***, **and * denote statistical significance at the 1 and 5 and 10 percent levels, respectively

Women's husband education and working status both have a positive impact on women's body mass index (18.5-24.9kg/m²) with higher odds ratios. Women belong to the richest household wealth index seems to be having good body mass index compared to living in the poorer households. Women living in urban areas and with household size below than five are showing more probability to have good health as compared to the women living in rural areas and household members more than five. Women 's having children alive and ever born more than four have more chances to be underweight as compared to women having equal or less than four children. The results of this study support the relationship between women health and women empowerment, more empowered women were more health as compared to low empowered women. Women with more actively participate in household decision making, able to do a good job and enjoy the awareness of the media were also enjoying the good health. Women with good health with higher self-confidence and always to live with self-esteem. In the present study, women empowerment index is calculated by decision making, work status, awareness, self-esteem and self-confidence of a woman and this index has a primary role to boost up the women health. This relationship between women empowerment and health was also supported by the previous literature (Permatasari et al., 2021). Women's education and the education of her husband positively enhance the women health. Educations always play its positive role to understand the flaw of humanity that is present in our societies in the form gender discrimination in health. Each level of education increases the women health gradually. Different studies provide the evidence of the positive impact of education on women health (Group, 2006; Zhang et al., 2018). Women with less children and living in the urban areas are healthier (Bodnar & Wisner, 2005). Richest wealth status positively affects the women health supported by many other studies (De Vriendt, Matthys, Verbeke, Pynaert, & De Henauw, 2009; Quisumbing, Brown, Feldstein, Haddad, & Peña, 1996). Empowering the women is not only giving the power and authorities to them it's also a way to enable as more as they can leads to better health facilities. Health is of the central importance, which is greatly affected by the ways in which they are treated and the status they are given in the society as a whole (Mullany, Hinde, & Becker, 2005).

CONCLUSION

Women's empowerment has a positive impact on women's health. Women with higher empowerment with better education, with a smaller number of children and living in the urban areas enjoy the good health. Women are a significant part of the society, their contribution in decision making through their contribution in economic activities is very low. For the improvement of women health, its needs to improve the women empowerment. By empowering the women, it can be increasing the contribution of women in the economic activities which in turn enhance the good health in women.

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