OPEN ACCESS

Scholars International Journal of Obstetrics and Gynecology

Abbreviated Key Title: Sch Int J Obstet Gynec
ISSN 2616-8235 (Print) |ISSN 2617-3492 (Online)
Scholars Middle East Publishers, Dubai, United Arab Emirates
Journal homepage: https://saudijournals.com

Original Research Article

Impact of Education and Income on Health Status among People at Rural Area in Sirajganj of Bangladesh

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DOI: https://doi.org/10.36348/sijog.2025.v08i03.002 | **Received:** 28.01.2025 | **Accepted:** 04.03.2025 | **Published:** 11.03.2025

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Abstract

Background*:** Health is a basic human need and fundamental human right. The health status of developing countries of the world is miserable and unacceptable. A large segment of the population in developing countries is deprived to access to basic health care and carry ill health. Although the impact of education on health is important for economic policy in developing countries, the overwhelming majority of research to identify the health returns to education has been done using data from developed countries. Education plays a central role in modern labor markets. Hundreds of studies in many different countries and time periods have confirmed that better-educated individuals earn higher wages, experience less unemployment, and work in more prestigious occupations than their less-educated counterparts. ***Objective: This study was aimed at assessing the impact of education and income on health status and associated factors of people in rural area of Bangladesh. ***Materials and Methods*:** The community-based comparative cross- sectional study was conducted in Sirajganj, Kamarkhand Upazila in Sirajganj district situated in the northern part of Bangladesh from 01 May to 20 September 2023. Data was collected with a semi structured questionnaire. Collected data were analyzed with statistical package for social sciences (SPSS) version 22.0.390 rural respondents were included in the study. Age groups 26 to 35 were the majorage group. Majority 129 (86%) were Muslim with lower socio-economic status of 69 (46%). ***Result*:** In general, the (24%) take balance diet regularly and the (76%) do not take balance diet regularly. Followed by (64%) participants get enough food every day and 36% don't get enough food. One of the central findings of this study is the significant impact of education on health status among rural residents. The data indicates that individuals with higher levels of education tend to report better health. This aligns with the existing literature, which consistently demonstrates the positive association between education and health outcomes. ***Conclusion*:** This research contributes to the broader discourse on social determinants of health and provides a foundation for evidence-based policymaking and interventions aimed at promoting health equity in rural areas.

Keywords: Impact, Education, Income, Health-Status, People.

INTRODUCTION

Rural populations across the globe often face significant health disparities when compared to their urban counterparts. In Bangladesh, a country predominantly comprised of rural communities, the challenge of addressing these disparities remains a critical concern. Sirajganj District, nestled in the heart of Bangladesh, exemplifies this issue, with a substantial portion of its population residing in rural areas where access to quality healthcare services is limited.

Rural health disparities are influenced by multifaceted determinants, and two of the most prominent among them are education and income. Education serves as a key determinant of health, empowering individuals with knowledge and promoting health-seeking behaviors (Marmot *et al*., 2008). Income, on the other hand, determines access to healthcare resources, including the ability to afford medical services and medications (Wilkinson & Marmot, 2003). Bangladesh has achieved remarkable progress in human development, which is reflected in the high levels of its population. It is a common understanding that people

with higher level of education lead a more healthy life due to their enhanced level of awareness compared to the less educated individuals. Two important prerequisites for an effective health policy are; monitoring and forecasting the population's health and its health determinants. Health of any individual or that of a society or community is not dependent on a particular single factor. In fact it is the product of the interaction of our environments, socio-economic status, psycho-social conditions and cultural norms and beliefs with our genetic inheritance (WHO, 2004).

Objectives:

The primary objectives of this study are:

- To assess the educational attainment levels of rural residents in Sirajganj District.
- To analyse income disparities within rural communities in the district.
- To explore the relationship between education, income, and health status among rural residents.
- To provide evidence-based recommendations for policymakers and healthcare providers to improve health outcomes in rural Sirajganj.

MATERIALS AND METHODS

Data Collection Process and Timeline:

Data collection was conducted over a period of 3 months, from 01 May 2023 to 20 September 2023. Trained enumerators conducted interviews with participants in their households. Data quality control measures, such as random spot-check and regular team meetings were implemented to ensure the accuracy and reliability of collected data.

RESULTS

Table shows that individuals fell in the age group 15-25 years (38%), followed by age 26-35 Years (42%), age group 36-45 Years (16%) and age group 45-50 Years 4(%).It is evident that participants were male 72 which cover 48% and female were 78 which cover 52%. Half of the total participants or 50% participants were Unmarried, followed by 44% were married, 2% were separated, 4% were other.

Table 1: Frequency and percentage distribution of socio Demographic characteristics of sample

Sl No	Variables	Parameters	N=150	Percentage (%)
1.	Age	15-25 Years	57	38%
		26-35 Years	63	42%
		36-45 Years	24	16%
		45-50 Years	6	4%
2.	Gender	Male	48	72
		Female	52	78
3.	Marital Status	Unmarried	75	50
		Married	66	44
		Separated	3	2
		Others	6	4
4.	Religious Status	Muslim	129	86
		Hindu	21	14
5.	Academic Qualification	Primary	48	32
		Secondary	96	64
		Higher & Graduation	6	12
6.	Occupation	Unemployed	48	32
		Employed	24	16
		Housewife	45	30
		Others	30	20
7.	Monthly Income	1000-10000	30	20
		11000-20000	66	44
		21000-30000	33	22
		Above 30000	21	14
8.	Socio-economic Status	Lower Class	36	24
		Lower Middle Class	69	46
		Middle Class	30	20
		Upper Class	15	10

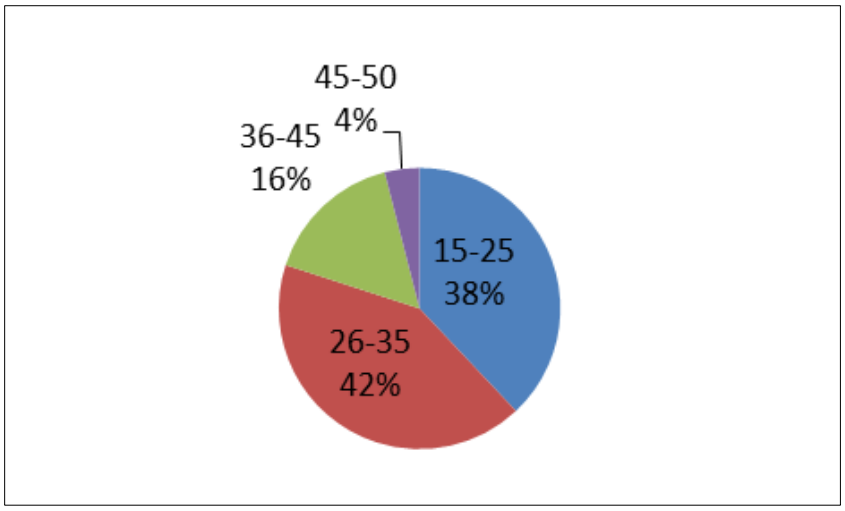

Figure 1: Age Group Percentage

Table 2: Impact of education and income on health status among people at rural area by Yes/No questionnaires:

Sl No	Questions	Yes Respondents		No Respondents	
		Number	(%)	Number	(%)
1.	Do you take balance diet regularly?	36	24	114	76
2.	Does every member get enough food?	96	64	24	36
3.	Do you maintain diet plan?	21	14	99	66
4.	Do you drink sufficient safe water?	141	94	9	6
5.	Do you take bath regularly?	144	96	6	4
6.	Do you maintain personal hygiene?	87	58	33	22
7.	Do you take adequate rest regularly?	57	38	93	62
8.	Do you take any medicine?	36	24	96	64
9.	Do you think your income is enough?	48	32	102	68
10.	Are you getting proper health services from the Government?	00	00	150	100

Table 2 the findings of the Impact if Income and Education on Health Status. Among all participants (14%) participant maintain diet plan and (66%) don't maintain any kind of diet plan. Followed by (94%) drink sufficient safe water and (6%) don't get sufficient safe water, (96%) participants take bath regularly but (4%) don't take bath regularly, (58%) participants maintain personal hygiene but (22%) don't maintain personal hygiene. Followed by (38%) take adequate rest and (62%) don't take rest, (32%) participant's think their income is enough for their family and other (68%) participants think their income is not enough for their family. In general 100% participants do not get proper health services from the Government.

Table 3: Impact of education and income on health status among people at rural area by multiple questionnaires:

Sl No	Questions	Parameters	Answer	
			Number	%
1.	What kind of food do you consume?	Vegetable rich	18	12
		Protein Rich	0	0
		Carbohydrate Rich	132	88
2.	What kind of fat do you use?	Vegetable Oil	21	14
		Non-vegetable	10	6.67
		Others	9	6
3.	What do you do to maintain good health?	Balance Diet	0	0
		Physical Activity	93	62
		Exercise	21	14
		Nothing	36	24
4.	Immunization coverage Status:	Fully	36	24
		Partially	78	52
		Unimmunized	6	4
5.	BMI Range:	Normal (18.5-25)	60	40
		Over weight (25-30)	69	46

Sl No	Questions	Parameters	Answer	
			Number	%
		Under weight (16-18.5)	21	14
6.	What is the way of waste disposal?	Conservancy system	117	78
		Temporary Latrines	18	12
		Non-conservancy	15	10
		Nothing	0	
7.	Do you suffering from any chronic disease?	Diabetes	21	14
		Nutritional Problems	12	8
		Heart Disease	9	6
		Hypertension	6	4
8.	Do you suffering from any mental problem?	Depression	18	12
		Migraine	45	30
		Anxiety	0	
		None	87	58
9.	How is the housing condition?	Mud House	30	20
		Brick House	90	60
		Bamboo House	30	20
		Mud House	30	20
10.	Do you have any bad habit?	Alcohol	9	6
		Drugs	15	10
		Smoking	21	14
		Others	45	30

Table 3 shows the impact of education and income on health status among people at rural area by multiple questionnaires. At first we analysis food habit, 12% consume vegetable rich food, 88% consume protein rich food but nobody use protein rich diet. In the use of fat 14% use vegetable oil, 6.67% use Non-vegetable Oil and 6% use others kinds of Oil. To maintain good health 62% people take physical activity, 14% take exercise, 24% do nothing and no body maintain balance diet. Followed by 52% people partially immunized, 24% fully immunized and only 4% people are unimmunized. The 40% people carry normal BMI range, 46% were over-weight and 14% were under weight. Moreover, the way of waste disposal 78% use conservancy system, 12% use temporary latrines and 10% use Non-conservancy system, 14% participants are suffering from Diabetes, 8% suffering from nutritional problem, 6% suffering from heart disease, 60% had no chronic disease. In the case of mental health problem 12% were suffering from Depression, 30% Migraine, 58% participant had no mental health problem. Followed by housing condition 20% are mud house, 60% brick house, 20% bamboo house. Among the participants 6% had alcohol addicted, 10% drugs addicted, 14% were smoker, 30% have other bad habit and 40% had no bad habit.

DISCUSSION

The analysis of data collected from rural residents in Sirajgonj District reveals valuable insights into the interplay between education, income, and health status. This section discusses the key findings and their implications for understanding health disparities in rural communities.

The Impact of Education on Health Status

One of the central findings of this study is the significant impact of education on health status among rural residents. The data indicates that individuals with higher levels of education tend to report better health. This aligns with the existing literature, which consistently demonstrates the positive association between education and health outcomes (Cutler & Lleras-Muney, 2010; Mirowsky & Ross, 2003). The positive association between education and health can be partly attributed to differences in income between countries. Health and prosperity are positively related. For example, Behrman and Rosenzweig (2004) show that there is a strong negative association between the log of purchasing power parity (adjusted by GDP per worker) and the percentage of low birthweight babies. Low income countries have fewer resources to spend on publicly financed education and health care. Most individuals in low income countries also do not have the means to purchase education and health care themselves. On the other hand, investing in education and health provide the way out of poverty and are necessary conditions for increasing standards of living. (Brink, 2008).

Mechanisms Linking Education and Health

Several mechanisms may explain the link between education and health. Firstly, education equips individuals with the knowledge and skills to make informed health-related decisions, such as adopting healthier lifestyles and accessing healthcare services promptly (Marmot *et al*., 2008). Secondly, education can lead to better employment opportunities and income, reducing financial barriers to healthcare access (O'Rand, 2008). Thirdly, education fosters critical thinking and

problem-solving skills, which may positively influence health-related behaviors (Mirowsky & Ross, 2003). The latter view is supported by the argument in Hammond (2002). There it is argued that the link between education and health increases with age, i.e. that the association is stronger among older populations than among younger people. This is explained by the fact that some health behaviors – such as not wearing a seat belt or condom – constitute a constant risk to health, whereas others – such as smoking and excessive alcohol use – constitute a cumulative risk unhealthy behavior is only translated into observable physical health differences later in life (Hammond, 2002, p. 557). Empirical support for this claim is found in Groot and Maassen van den Brink (2006a). This study finds that the effects of education on selfassessed health become stronger as people get older. According to UN (2003), a cross-country comparison over time shows that increases in educational attainment precede improvements in health status (UN, 2003, p. 87). This temporal sequencing suggests a causal relation between education and health. As argued above, the causal relation between education and health arises because a higher education leads to a healthier life style and because higher educated people are better able to gather, to process and to interpret information about healthy behavior. (Brink, 2008).

The Influence of Income on Health Status

Another significant finding is the influence of income on health status. The data reveals that individuals with higher incomes are more likely to report better health. This aligns with the well-established literature on the socioeconomic determinants of health (Wilkinson & Marmot, 2003; Adler & Newman, 2002). The existence of a significant positive association between income and health, also known as the income gradient in health, has been well documented in the literature (Case *et al*., 2002; Deaton 2002). Despite several contributions over the past decade in a number of fields, which have found robust correlations using data from different countries, it is still not entirely clear whether such a positive association is the result of a causal relationship between income and health. There are good reasons to believe that a causal effect between income and health exists. Higher income families may have better access to care as well as more opportunities to purchase care; whereas people with lower income may be confronted with more stressful situations, which are detrimental to health. (Bhuiya, 2016).

CONCLUSION

In conclusion, this dissertation has illuminated the significant impact of education and income on the health status of rural residents in Sirajgonj District. Education and income are not isolated factors but interact in complex ways to shape health outcomes. These findings emphasize the need for multifaceted interventions that address both education and income disparities.

Improving health in rural communities is not only a matter of healthcare provision but also involves addressing the underlying social determinants. By investing in education, enhancing income opportunities, and promoting health awareness, it is possible to narrow the health disparities gap and improve the overall well-being of rural populations.

This research contributes to the broader discourse on social determinants of health and provides a foundation for evidence-based policymaking and interventions aimed at promoting health equity in rural areas.

Ethical Considerations

Ethical considerations were paramount throughout the research process. The study adhered to ethical guidelines, including obtaining informed consent from all participants before data collection. Participants were assured of the confidentiality and anonymity of their responses. The study was conducted after ethical clearance from Upozilla Chairman of Kamarkhanda at Sirajganj. Verbal informed consent was obtained from the participants. Confidentiality was maintained by omitting their names and addresses on the questionnaires. Mothers were informed of their full right to skip or ignore any questions or terminate their participation at any stage. Collection and able to listen and understand Bengali an also English language and willing to give information.

Conflict of Interest: None declared

Acknowledgments: I am grateful to my Supervisor, Research Assistant, and all participant's of their sincere, voluntary participation.

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