



DETERMINANTS OF MORBIDITY AS INDICATORS OF WOMEN'S HEALTH IN TRIPURA: AN EMPIRICAL STUDY

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ABSTRACT Morbidity among people has an important influence on their physical functioning and psychological well-being. The objective of the study is to assess morbidity status of the women population in North Tripura and Unokuti District of Tripura and to determine the important determinants of morbidity. The present paper shows out of the total 350 respondents, a total of 115 rural and urban respondents suffer from chronic diseases. A total of 235 respondents are found to have suffered/ suffering from seasonal diseases. The result reveals that with an increase in age, the probability of suffering from chronic illness increases with $\text{Exp}(B)=1.074$. The risk of being chronically ill decreases with increase in educational attainment (EDLR) with $\text{Exp}(B)=0.861$. The risk of being chronically ill is more for women compared to male respondents.

KEYWORDS : Morbidity, Risk, Disease

INTRODUCTION:

Poverty eradication with an explicit recognition that deprivation has multiple dimensions, both income and non-income, human in particular is the revised approach of Public policy in the New Millennium. Among the non-income dimensions, health and education have received special attention. Recognizing this fact, the central govt of India in 2013 budget promised to spend 0.34 percent of GDP compared to 0.25 percent in 2011-12. The enhanced allocation in Health and Family welfare in 2012-13 is 30477 crore as against 24315 crore in 2011-12. Given the universal trend towards liberalization, privatization and revising the scope for public health centres with emphasis on cost recovery, choice of cost-effective strategy towards health care assumes importance. This in turn would call for an understanding and appreciation of the morbidity profile of the population and the proximate determinants.

Self-reported measures of poor health and morbidities from developing countries tend to be viewed with considerable scepticism. In an influential editorial, Amartya Sen argued that there is a fundamental disconnect between an individual's subjective perception of their health and the objective or actual health condition that they may have (Sen, 2002, 1993). According to Sen, because an individual's assessment of their health is directly contingent on their social experience, socially disadvantaged individuals will fail to perceive and report the presence of illness or health deficits (Sen, 2002). For instance, an individual with no formal knowledge of diseases but residing in an area with substantial disease burden that has inadequate social infrastructure facilities may be inclined to treat disease symptoms as "normal" given their lack of awareness, and therefore, health expectation. Sen, therefore, reasons that perceptions and self-reports of health – which he refers to as the "internal" view of health – can be "extremely misleading" as they obscure the true extent of health deprivation (Sen, 2002).

The study is of interest for a different reason. In particular, following from previous findings (Zimmer et al., 2000) and given the fact that self-assessed health is a subjective measure, there may be differences in the way people from different cultural settings subjectively interpret their health and health disorders.

Therefore in this study it has been attempted to determine the morbidity status of the respondents by considering the self perception of the investigator by observing the health of the respondents during survey.

Background of the study: II

Morbidity among people has an important influence on their physical functioning and psychological well-being. The objective of the study is to assess morbidity status of the women population in North Tripura and Unokuti District of Tripura and to determine the important determinants of morbidity. Relationship of morbidity with Respondents monthly income, Age of the respondents, Education level of the respondents, Marital status (it is categorized as 1=married, 0 otherwise), Respondents working condition (it is categorized as 1=permanent, 0 otherwise), Respondents calorie intake per day, Residence of the respondents (it is categorized as 1=urban, 0 otherwise), Household amenities of the respondent and other socio economic variables among the women population in North Tripura and

Unokuti of Tripura, India.

Departure from a state of physical or psychological well-being, resulting from disease, illness, injury, or sickness, specially where the affected individual is aware of his or her condition. According to the World Health Organization (WHO), morbidity could be measured in terms of (1) number of persons who were ill, (2) illnesses these persons experienced, and (3) the duration of these illnesses.

Using data from a study conducted among rural urban communities in North Tripura and Unokuti, this study examines the factors associated with health status among the adults women aged 18-55 years in these district's settlements with particular emphasis on morbidity experiences in the twelve months preceding the survey.

Health problems in Tripura: III

Major health problems in Tripura are Diarrhoeal diseases, parasitic infestation, infective hepatitis, enteric fever and other waterborne diseases originating from sources such as non-potable drinking water and poor sanitation, malnutrition among children, anaemia, malaria, and respiratory diseases. Diarrhoeal diseases and enteric fever (group of diseases) was the leading cause of mortality in the state. As per data available of recent time, 47.7 percent of rural population is not covered by potable water facilities, 24.6 percent is only partially covered. High endemic levels of diarrheal diseases together with epidemics cause much of the work load for the health services, leaving very little time for other activities such as MCH and Family Welfare (Tripura Human Development Report 2010).

Materials and methods: IV

The study is based on primary data which are collected with the help of a structured schedule from four different castes of population spread over three municipalities of North Tripura and Unokuti District during December 2011 to June 2012. Stratified random sampling technique was applied for the collection of data at household level where the sample units are the adult women in the age group of 18 - 55 years. All the data are collected on 'the basic criteria of selection of population groups were a balanced representation of different social castes such as ST, SC, OBC and General in the sample.

The sample size is 350.

To estimate the result binary logistic regression model has been applied with following set of variables:

Dependent variable

Here the dependent variable is categorical

- Morbidity (Health condition of the respondents observed by the investigator as well as reported by the respondents)=1 for chronic diseases(12 months preceding the survey or more) and 0 otherwise (seasonal and initial stage of any disease)

Independent variables are

- Respondents monthly income
- Age of the respondents
- Education level of the respondents

- Marital status (it is categorized as 1=married, 0 otherwise)
- Respondents working condition (it is categorized as 1=permanent, 0 otherwise)
- Respondents calorie intake per day
- Residence of the respondents(it is categorized as 1=urban, 0 otherwise)

Household amenities(house type-pucca/ kucha, number of rooms, sq. ft. area under roof, kitchen-separate/attached, latrine-sanitary/kucha/attached/ separate, fuel for cooking, water source, electricity, in house drainage, and sewage disposal facility) index

$$(Z_{hai} = \frac{x-M}{\sigma})$$

X= unit observations of the series

M= Mean of the observations

And σ = standard deviation of the series

- Destructive habits (alcohol, exercise, drinking of water, vaccination, medical checkup, working hours, smoking-drinking tobacco chewing etc. and rising time in the morning) index

$$(Z_{ahi} = \frac{x-M}{\sigma})$$

X= unit observations of the series

M= Mean of the observations

And σ = standard deviation of the series

Body mass index (BMI) it is categorized as 1=normal, 0 otherwise

RESULT AND DISCUSSION: V

To assess health in terms of mortality rates only is misleading. This is because; mortality indicators do not reveal the burden of ill health in a community, for example mental illness and rheumatoid arthritis. Therefore morbidity mapping is used to supplement mortality data to describe the health status of a population. In this case study morbidity is given due importance as an indicator of health.

Table: 1 Morbidity Details of the Respondents

Place	Number of respondents suffering from Chronic diseases	Number of respondents suffering from Seasonal diseases
Rural	63	137
Urban	52	98
Combine	115	235

Source: Field Survey

Table-1 represents the morbidity records of the respondents. In Table-1 morbidity records of the respondents(recall basis) is shown into two categories i.e. morbidity due to chronic diseases like chronic gastric, skin diseases, diabetic, TB, sexual impotency etc. and morbidity due to seasonal diseases like cough, cold ,fever, diarrhoea etc. Out of the total 350 respondents, a total of 115 rural and urban respondents suffer from chronic diseases. A total of 235 respondents are found to have suffered/ suffering from seasonal diseases. However, seasonal disease is almost common to those who have suffered or are suffering from chronic diseases. The prevalence of the seasonal diseases is more in rural areas of the district, 137 rural respondents suffer from seasonal diseases. Remaining 98 respondents of municipality areas suffer from seasonal diseases.

Morbidity as Indicator of Health: Model (Logistic)

The health status of the Respondents is analyses here with the help of morbidity as indicator of health. Obviously, high morbidity means lower health status of the respondent and vice versa. Model-1 below is, therefore, constructed with MDB as dependent variable where MDB (morbidity) is a dichotomous variable quantified as follows:

MDB = Frequency of Morbidity experienced by the Respondent in the past: 1 if chronic, 0 otherwise. A logistic regression equation is constructed (Model-1) to find out the determinants of Morbidity. The descriptive statistics of the variables included in Model- 1 are given in Table-2.

Table-2 Selected Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
MBD	350	00	1.00	.33	0.470
RAMI	350	1000.00	2250000.00	20133.98	128382.59

AR	350	19.00	55.00	40.03	9.80
EDLR	350	.00	19.00	9.01	4.81
RESI	350	00	1.00	0.43	0.50
AFI	350	1500.00	600000.00	18078.95	47437.55
RMME	350	.00	12500.00	280.73	1067.36
PCSFAUR	350	23.33	660.50	146.07	104.98
DHI	350	.00	.88	0.45	0.17
RELH	350	.00	1.00	0.76	0.43
Valid N	350				

All the variables of Table-2, except MBD, are there in Model-1. The Mean value of MDB reveals the fact that 33 percent respondents have reported chronic morbidity. The result of the logistic regression equation (Model-1) is given in Table-3.

Table: 3 depict the result of the multivariate analysis of morbidity in relation to socioeconomic, cultural, demographic characteristics and life-style indicators of the respondent. This multivariate analysis adds to the bi-variate discussion by identifying the factors that significantly affect the likelihood of the respondents being suffered from chronic diseases net of all other factors. The result of the logistic regression analysis shows that morbidity (chronic diseases) is significantly related to AR, EDLR, RESI, RMME, DHI and DCIR. On the other hand RAMI, HSA, RIS, ST, AFI, PCSFAUR and RELH have no statistically significant impact on morbidity (chronic diseases).

Table-3 Results of Logistic Regression Equation Dependent Variable: MDB (Dichotomous)

Variables	B	S.E.	Wald	df	Sig.	Exp(B)
RAMI	.00	.00	.08	1	.77	1.00
HSA	.00	.00	.23	1	.64	1.00
AR	.07	.02	16.05	1	.00	1.07
EDLR	-.15	.05	9.09	1	.00	.86
RIS	-.34	.38	.82	1	.36	.71
ST	-.58	.46	1.63	1	.20	.56
RESI	-1.10	.50	4.88	1	.03	.33
AFI	.00	.00	1.02	1	.31	1.00
RMME	.00	.00	30.61	1	.00	1.00
PCSFAUR	.00	.00	.90	1	.34	1.00
DHI	-3.44	1.14	9.07	1	.00	.03
RELH	.04	.44	.00	1	.93	1.04
DCIR	-.00	.00	6.98	1	.00	1.00
Constant	8.08	3.59	5.07	1	.02	3216.45

-2Loglikelihood=280.190

Cox & Snell R Square= 0.372

Nagelkerke R Square= 0.519

The result reveals that with an increase in age, the probability of suffering from chronic illness increases with $\text{Exp}(B) = 1.074$. The risk of being chronically ill decreases with increase in educational attainment (EDLR) with $\text{Exp}(B) = 0.861$. The risk of being chronically ill is more for women compared to male respondents. Similarly, urban respondents have less probability of suffering from chronic illness in comparison to rural respondents. With the increase in RMME, the probability of suffering from chronic illness increases significantly. Calorie intake is important for being fit physically. With the increase in calorie intake the chances of illness decreases. What is surprising is the revealed connection between DHI (Destructive Habit Index) and chronic illness. The result indicates that as DHI increases, the probability of suffering from chronic illness decreases, the odds are against the event. The -2loglikelihood ratio s found to be quite high indicating good model fit and high Nagelkerke R Square value also points towards that fact.

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