Women's Wages in Rural India's Informal Sector: Does Access to Health Care Matter?

Introduction

One of the noteworthy findings of contemporary research in the context of developing regions in general and of South Asia in particular, is the evidence of robust interrelationships between health/nutrition and labor market outcomes (Thomas and Strauss 1997; See Strauss and Thomas 1998 for a review). Another convincing finding of the scholarly inquiries across the disciplines of Demography, Economics, and Sociology relates to the persistence of gender discrimination within the household (with respect to access to nutrition, education, health care) as well as in the labor market. There have, however, been no updated studies that investigate the relationship between health care access and labor market productivity for the disadvantaged sex – the women in India, the largest country in the region of South Asia. This paper aims to fill that gap in the literature. The objective of the present study is to investigate the association between health care access and wage rate for women in the rural informal sector of India.

India presents a unique case in more than one ways. In the recent years, the international image of India has been significantly enhanced and rightly so, because of its sustained high economic growth rates, high quality technical work force, and willingness to meet the needs for participation in the global economy. India is one of the few countries in the developing world that has consistently implemented developmental and welfare programs within the regime of a stable democracy. One of the other initiatives, namely decentralization, has been taken with much vigor in the past decade and a half entails the devolution of powers and responsibilities to the local government. The idea is to reform the developmental approach from top-down to bottom-up. The literature shows that that decentralization improves the efficiency of the delivery of services (Dethier 1999; Bardhan 2002).

However, the correlation between high levels of economic growth and policy reforms at the macro level with improved service delivery at the micro (individual/household) level is not that straightforward. Unfortunately empirical evidence shows significant gaps in the quality of service delivery at the rural household level continue to exist. The results from a recent study demonstrate that the

rural regions of India suffer from a poverty nutrition trap (Jha, Gaiha, and Sharma 2009). These findings, in other words, suggest the pervasiveness of the vicious cycle of deprivation between low productivity and poor health/nutrition as postulated by the Leibenstein's (1957) efficiency wage hypothesis.

Present Study

In India, 86 percent of women and 83 percent of men in the non –agricultural labor force are engaged in informal activity (ILO 2002). Within the agricultural labor force too, employment in informal sector is significantly high. Lack of capital constrains people to take up self-employment and pushes them into the informal sector. Informal sector is completely unregulated and since it entails payment on daily basis, missing even a day due to illness means loss of wages. In other words, it is not necessary to suffer from major illness episodes to get penalized economically for the workers in the informal sector. Additionally, with nearly 70 percent of the Indian population residing in the rural areas, the rural informal sector is sizable.

The significant size of the informal sector workforce, the robust relationship between health status and labor market, and the special characteristics of women's attachment to the labor force (relative to men's) motivates the undertaking of the present examination of the relationship between health care access and labor market productivity. The research question that we investigate is whether access to health care correlated with higher labor market productivity?

The findings from this study will advance our understanding of the relationship between health care access and wages. In terms of the policy implications, it will shed light on the efficacy of the decentralization system. Lower health care access stemming from poor service delivery implies poor functioning of decentralization.

Data and Methods

The data set that we employ for the study is 2006 Rural Economic and Demographic Survey (REDS) conducted by National Council of Applied Economic Research (NCAER), India. NCAER is a prestigious research organization and is well recognized by the Government of India. NCAER specializes

in conducting large scale household surveys. REDS data is a nationally representative sample of 9,500 rural households located in 242 villages and 16 states of India (NCAER 2006). Apart from the details on social (caste, religion), demographic (age, sex, household size and composition, geographical location), and economic (ownership of land, assets and property, land size, employment, type of occupation, number of days worked, reason/s for not working) variables, it contains information on schooling, illness episodes, cause of illness, access to health care. The survey instrument includes a village questionnaire with information on the availability of educational and health care facilities, other public infrastructure, functioning of the *panchayats*[1], at the level of the village. All the above make REDS an unusually rich and suitable data set for the present analyses. (See Table 1 for the percentage and mean distribution of few characteristics).

We formalize the standard wage regression model;

$$Y_i = \beta X_i + \delta Z_i + e_i, \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad I$$

where X_i = is the vector of individual characteristics with the main independent variable being whether the person received any kind of health care

Z_i = is the vector of household and village level characteristics including whether the village has a well functioning *panchayat*.

Y_i, the dependent variable, following the standard measure of labor market productivity in the literature, is wages.

Apart from the above OLS, we run another specification since there is a selectivity bias based on the access to health care. In order to obtain consistent estimates after accounting for the selectivity bias, we estimate the Heckman two step regression (Heckman 1979). Also, a comparison between the OLS and Heckman selection models will help measure the relative role of other independent variables when there is no access to health care as to when there is.

The first step is the first stage probit regression on whether the person received health care access. The selection equation, whether the woman received health care or not, is formalized as;

[1] *Panchayats* is the Indian name of the local governments. As an outcome of the decentralization system of governance, *panchayats* were delegated significant fiscal and administrative autonomy.

$V_i = \gamma W_i + u_i$, ……………………………….………II

where W_i = vector of independent variables that are related to health care access but not to wages. The sample selection rule thus becomes that the wage rate Y_i^* is observed only when $V_i^* > 0$ (that is the person who had access to health care). Thus, equation I with sample selection specification

$$Y_i^* = \beta X_i + \delta Z_i + e_i = 1 \quad \text{if} \quad Y_i^* > 0 \text{ and } Y_i = 0 \text{ otherwise} \ldots\ldots\ldots\ldots \text{III}$$

where X_i = is the vector of individual characteristics and **does not** include the variable as to whether the person received any kind of health care

Z_i = is the vector of household and village level characteristics and **does not** include whether the village has a well functioning *panchayat*.

The independent variable in the selection equation that does not exist in the second stage main regression equation is the dichotomous variable, whether the village in which the woman resides has a well functioning *panchayat*. Our choice of the independent variable is justified as follows. The well functioning *panchayat* affects the health care delivery system directly but not wages. As expected, both the selection and the second stage equation, a number of commonly used individual and household level characteristics that includes as education, caste affiliation, age among others are considered.

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Table 1. Mean and Percentage Distribution of Select Characteristics for Women in Rural India

Variable	Percentage/Mean
Primary Occupational Activity (percentage)	
Self-employed farming	2.12
Self-employed non-farming	0.28
Salary	0.48
Agricultural wage labor	22.51
Non agricultural wage labor	12.02
Agricultural family workers	24.29
Non -agricultural family workers	0.02
Household work	38.07
Student	0.04
Mean number of days worked in a year	248.19
Mean number of days of work lost due to illness in a year	39.12
Visited or sought any kind of care from hospital/clinic/doctor/ paramedic/midwife/traditional healer during illness (percentage)	
Yes	48.77
No	51.21