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Impact of Burden of Diseases on Utilisation Healthcare Facilities and on Out-of- Pocket Healthcare Expenditure of the Households of SMCA: A Conceptual Model from Theoretical Foundation

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Abstract:

Recent studies show that with the other developing countries, India is passing through the phase of demographic as well as epidemiological transition with decrease in communicable related diseases and increase in non-communicable diseases, followed by injuries and accidents. The effect of this changing dimension of disease pattern must fall on the health seeking behaviour of the people as well as on the healthcare institutions. But the country fails to provide an adequately functional public health infrastructure for all class of the society and utilisation of public health facilities continues to be low particularly, among the people living in the urban areas. They move to private hospitals or clinics resulting in high out-of- pocket (OOP) healthcare expenditure and a greater financial burden on low income groups. The paper aims at developing a comprehensive model which will provide us with the understanding the impact of burden of disease on the health seeking behaviour or utilisation of healthcare facilities and health expenditure made by the people to get relief from disease and impairments. The model also builds linkage between disease burden of the people and financial burden due to the out-of-pocket of health expenditure through the treatment process.

Key Words: Epidemiological transition, Utilisation of Healthcare Facilities, Out-of- pocket (OOP) healthcare expenditure

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Introduction

In recent decades, modern economists have pointed out that several third-world countries remained underdeveloped because of underdevelopment of human resources. In other words, economic development remains a far cry without human development of the country and human development is only possible when everybody enjoys good health. Because good health contributes to the productive capacity of the economy by increasing the supply of potential man-hours through a reduction in mortality, morbidity as well as disability, and brings changes in the attitudes of the people towards work, savings, birth control and other aspects of human behavior (Fuchs, 1966). In that sense, health is an investment (Mushkin, 1962). But despite several changes in economic policy, importance of 'social' variables, such as education and health always remain out of the main focus in Indian financial budgets (Dreze and Sen, 1998). Human Development Report , 2013 shows that India ranks 136th out of 186 countries with Human Development Index at 0.554 (Rajadhyaksha, 2013) and national average for the country stands at 0.467 as on March, 2014 (IAMR, Planning Commission, Government of India, 2014). Recent studies show that with the other developing countries, India is passing through the phase of demographic as well as epidemiological transition with decrease in communicable related diseases and increase in non-communicable diseases and injury cases (Ghosh and Arikiasamy, 2010; Varatharajan, 2011; Bloom et al., 2013). The effect of this changing dimension of disease pattern must fall on the health seeking behaviour of the people as well as on the healthcare institutions. But the country fails to provide an adequately functional public health infrastructure (Reddy, 2006; John TJ, and Muliylil .J, 2009). Further, utilisation of public health facilities continues to be low and it is particularly higher among the poorest segments of the society (Saksena et al., 2010).

In rural areas people mostly depend on public health centers for immunisation, vaccinations or peri-natal and post-natal care, delivery of child etc., but for the treatment of major diseases or chronic illness, they move to private hospitals or clinics (Ray et al., 2011; Kumar et al., 2011) which comprise high cost of medicines, diagnostic tests, medical equipment and longer duration of treatment. This results in high out-of- pocket (OOP) healthcare expenditure and a greater financial burden on low income groups (Xu et al., 2007). Moreover, the impact of diseases may lead to impoverish the families through loss of income, moreover, families are often found to borrow, sell, or mortgage their capital assets (Reddy, 2009). Further, World Health Statistics 2012 reveals that OOP health expenditure (as a % of private expenditure on health) in India was 86.35 percent in 2010 (World Bank Report, 2012). Studies conducted so far in India and abroad considered either impact of disease on utilisation of healthcare services or impact of disease on out-of -pocket healthcare expenditure separately. This study will try to establish the comprehensive view of the impact of burden of disease on both utilisation of

healthcare services and out of pocket healthcare expenditure by the households in Indian context, particularly in a corporation city where there is no any structural guideline for healthcare institution and having cosmopolitan cultural background and mixed healthcare system.

Understanding Morbidity, Utilisation of Healthcare and Healthcare Expenditure from Theoretical Background

Morbidity and morbidity measurement

Disease and illness are not synonymously used in the sociological literature. While on the one hand, disease is the unwanted biological process or condition disturbing the individual, on the other hand, illness is considered as the experience and the social or psychological impacts of the disease on individual (Cockerham, 2007). However, in his pioneer work 'social system', Parsons (1951) is of the view that , "illness is a state of disturbance in the 'normal' functioning of the total human individual, including both the state of the organism as a biological system and of his personal and social adjustments". This 'state of illness or disability in a population', can also be termed as morbidity, where people are in between 'ideal health condition' and 'death' (Majumder, 2006). Parsons (1951) made an attempt to relate functional aspect of health services and the social aspects of the illness experience, and introduced a new thought, called medical sociology. This medical sociology further transformed into sociology of health and illness, which mainly focuses on the social aspects of health-related issues. The theory throws light on how the institution of medicine contributes to a functioning of social system and how illness impacts the social system. But, the epidemiological shift marked attention of the social scientists, demographers, anthropologists, economists and other professionals, when acute illnesses were apparently displaced from the society and chronic diseases were emerged as the major cause of mortality. This shift in causes of mortality in the developed countries, known as 'epidemiological transition' (Omran, 1971). The theory emphasises that during the process of modernisation of society, a long-term shift takes place in mortality and disease patterns whereby deadly acute infectious diseases are gradually displaced by chronic, non-infectious, degenerative and man-made diseases which emerge as the leading cause of death and major form of morbidity (Omran, 1971).

In this context, Kroeger, (1983) provided functional definition of morbidity and measures of morbidity. According to him, morbidity measures are of two types. One is self- perceived morbidity which focuses on the self assessment of pain and suffering by an individual, and other is observed morbidity which considers the assessment or diagnosis of any health abnormality by the clinicians or other medical professionals.

However, the commencement or the continuation of the treatment by and large depends on 'perceived seriousness of the disease' by the sick person, not on the clinically diagnosed impairments, as viewed in Health Belief Model (Rosenstock, 1974). Further, Murray and Chen (1992) classified the self-perceived measures of morbidity into three categories: symptoms or impairments, functional disability and handicap, and health service use. Though the data relating to symptoms of different diseases of the people can easily be available through household level survey, but the availability of functional disability and other impairment data at the individual level or at the population level is quite impossible, rather, scarce in most of the developing countries including India. Under this circumstance, levels of health service use or extent of health facility utilisation by the people may be applied to assess the morbidity pattern or epidemiological profile of the people or burden of disease of any area (Salomon and Murray, 2002).

Utilisation of Healthcare Services

Research on utilisation of healthcare services has become wide spread a topic of interest. Several models have been proposed to understand the reasons behind the utilisation of healthcare services. Probably, the first theory of healthcare utilisation is the Parsons' (1951) sick role theory showing how patient's health seeking behaviour is influenced by socialisation patterns, considering the normative values of the culture or subculture. Further, in 'stages of illness and medical care' theory, Suchman (1965) points out five stages of individual's decision making process through which utilisation of healthcare facilities are determined are: 1) the individual's symptom experience; 2) the individual's conjecture of a sick role; 3) medical care contact; 4) the assumption of a dependent-patient role via acceptance of professional healthcare treatment; 5) the individual's recovery from illness. Later on, adopting psychological approach, Mechanic's (1968) general theory of health seeking explains how individuals recognise their illness and make decisions regarding the choice of particular source of care. In this tradition, social learning theory and health belief model emphasises the individual health seeking behaviour considering four variables: 1) perceived susceptibility to disease; 2) perception of illness severity; 3) perception of benefits versus costs; 4) promptness to action (Rosenstock, Strecher, & Becker, 1988).

Besides these theories and models, two other major frameworks such as Andersen and Newman model (1973) and Kroeger's model (1983) explain the healthcare services utilisation of an individual from the behavioral aspect. Anderson and Newman (1973) argue that utilisation of healthcare services is a function of three factors viz. 1) predisposing factors comprising of socio-cultural characteristics such as social structure, health beliefs and demographic profile; 2) enabling factors represent family attributes and community resources such as personal or family income, health insurance,

a regular source of care, travel, extent and quality of social relationships, and 3) need factors comprising of illness characteristics, perceived health status, and expected benefit from treatments. According to Anderson and Newman (1973), two types of need are found in healthcare services. One is perceived need and other one is evaluated need. Perceived need is felt by the individual in the form of want, but when perceived need is turned into demand, it becomes evaluated need, that is, utilisation of healthcare services. Later on, Andersen's revised behavioural model incorporates three important issues regarding health service use: type of available healthcare service, the purpose of the healthcare service and frequency of healthcare service use (Andersen, 1995; Andersen & Newman, 2005). Finally, the model depicts the direct relationship between health behaviors and health outcomes of the individuals (Andersen, 1995). On other hand, Kroeger model (1983) views that utilisation of healthcare services mainly depends on other behavioural factors such as patient characteristic, disorder characteristics, patients' perception and service characteristics. Disorder characteristics reflect the severity and nature of the disease. Patient's perception comprising of the perceptions about expected benefits of treatment, perceptions about disorder type and perceptions about cause of the disease. It is also important to discuss a particular illness experience (i.e. disease episode) and associated healthcare or medical care. Further, Kroger (1983) categorised healthcare service providers into four groups: modern care, traditional healers, drug sellers and self-medication or no treatment. Further, Cockerham (1982) finds that social network has significant influence on the utilisation of healthcare services.. It is also found that the higher is the severity, the higher is the utilisation of healthcare services (Pathak, 1981), and the more is the number of diseases episodes, the more is the healthcare utilisation (Richardson, 1970; Fosu, 1994).

However, Individual health seeking behaviour can better be understood by the Grossman's model of demand for health (Grossman, 1972) which is based on the neoclassical paradigm of rational consumer and constrained utility maximization theories. The model views that as a durable capital stock, health always depreciates over the life time. Therefore, to maintain the same health status all over the time, an individual needs to increase the investment in his or her health by following healthy lifestyle such as proper diet, regular exercise, balanced recreation etc., or by increasing the utilisation of healthcare services or medical services. Therefore, if individual desires good health, then demand for healthcare services as well as utilisation of healthcare services increases (Grossman, 1972 a). Later on, Acton (1975) and other included the alternative treatment choices (allopath, homeopathy, traditional, etc.) and type of healthcare (public, private or else) in healthcare decisions in the model. But in his model, Jacobson (2000) viewed family as the producer of health and all members of the family have common preferences

over the healthcare. These models provide an insight into the individual's decision to utilise healthcare facilities but empirical support of these models is rare or limited.

Healthcare Expenditure

Ensuring good health to everybody at affordable cost is one of the important goals of the government of all countries of the world. Abel-Smith (1963, 1967) found that GDP is the key determinant of healthcare expenditure of any country. There is also theoretical debate regarding the need of government intervention in healthcare market (Culyer, 1976). It is often argued that on efficiency and equity ground as well as the controlling the market failure, government intervention in healthcare sectors is necessary (Economic Research Foundation, 2006). Further, the problem of external demands for healthcare emerges as a general problem in health economics and it requires sound public expenditure theory (Culyer, 1971). Economists are also concerned with impact of high costs of health imposed on the government, patient, patient's family and relatives, the local community, as well as on the other agencies (Lee and Mills, 1983). However, question remains unanswered as to who will bear the increasing costs of healthcare services, whether the individual himself or the government or others in the era of globalisation, introduction of new modern and expensive technology in the healthcare market. Further, Kampala Declaration on Fair and Sustainable Health Financing (2005) is of the view that "Out-of-pocket spending on health should be minimized while governmental spending on health increased and expanding the scope of prepayments... with a view to avoiding impoverishment of individuals".

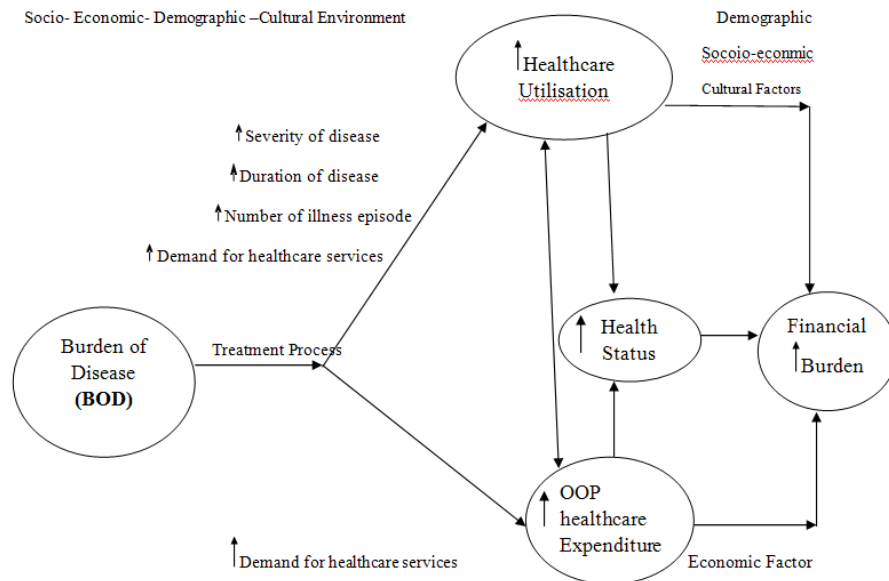
From the literature review, it is evident that there are many factors which influence the utilisation of healthcare services and out-of-pocket healthcare expenditure, but the first and foremost reason (i.e need factors such as perceived health status, severity of diseases, and duration of diseases etc) for which healthcare services are utilised and out of pocket healthcare expenditure is incurred are less researched or need to be explored further in the Indian context, particularly in a corporation city where there is no any structural guideline for healthcare institution as exists in the rural areas of the country under the aegis of National Rural Health Mission (NRHM).

Conceptual Framework of the Model

Diagrammatical presentation depicted below shows how burden of disease impacts the utilisation of healthcare services and out-of-pocket (OOP) health expenditure by the households through the process of treatment or health seeking behavior. When health status of the people decline or when more people suffer from any kind of physical as well as mental illness, burden of disease of the people in the society increases. Increase in burden of disease can cause an increase in the demand for healthcare services. Further,

increase in the demand for healthcare services results into an increase in utilisation of healthcare services and demand for healthcare facility is backed by the capacity to pay for healthcare expenditure by the individual members or the household. Thus, the more will be the burden of disease, the more will be utilisation of healthcare services. Further, the more will be utilisation of healthcare services, the more will be OOP health expenditure. Conversely, the more will be OOP health expenditure, the more will be utilisation of healthcare services. Here, OOP health expenditure by the household can be a good reflection of healthcare demand. Individual or group health insurance coverage may play vital role in this regard. Health insurance coverage by the household may influence them to utilise more healthcare services with the expectation of reimbursement. It may lead to decrease in out-of-pocket health expenditures by the households, which, in turn, improves the health status and reduces the burden of disease. Thus, it is expected that high income-group households and households protected by health insurance have more capacity to make higher OOP health expenditure than the other counterparts. Moreover, utilisation of healthcare services is demand as well as supply driven phenomenon. Therefore, to improve the health status of the people or to reduce the burden of disease, both the utilisation of healthcare services and OOP health expenditure should be increased proportionately.

Figure 1: Diagrammatic Representation of Impact of BOD on Utilisation of Healthcare Services and OOP Health Expenditure



Description of the Model

When a person perceives himself or herself as sick or when a person's normalcy is disturbed due to physical, biological or psychological reason, the person feels the need or demand for healthcare services to get relief from sickness. On the other side, if the family member or others feel the health related problems of small children or aged persons who cannot express their own difficulties, medical care or healthcare service care is also sought. Perception of sickness or disease is influenced by various socio-cultural, behavioral factors. Different questions come to the mind of the sick person or other members of the family such as what type of disease it is, how severe it is, associated risks, where to go for treatment, how much would be the treatment costs etc. Further, disease type such as communicable, non-communicable or others first needs to be perceived which is influenced by several factors such as past experience, factual knowledge, awareness and other personal factors like education and consciousness. After that understanding the severity and associated risks of disease become also important for taking decision of whether to visit or utilise any healthcare service provider or not. It is expected that the more will be the number of ill persons, types of disease, severity of disease the more will be the utilisation of healthcare services and vice versa. Similarly, the longer will be duration of disease the more will be utilisation of healthcare services and vice versa. Thus, high disease burden leads to a high utilisation of healthcare services subject to the availability of healthcare service in that area and affordability of the household. Further, socio-economic, cultural and demographic factors of the household may influence to take decision regarding the choice of a particular pattern of care, type of care and system of medicines.

Generally, it is perceived that educated and urban people utilise the modern healthcare services and people living in the backward areas or rural areas utilise the traditional healthcare services. It may be due to lack of awareness, non-availability of modern healthcare facilities or others. Further, healthcare expenditure may also depend on the choice of healthcare service providers. It is also expected that hospitalisation or outdoor patient (OPD) visit at formal private healthcare provider much is costlier than those at public healthcare and other charitable health institutions. On the other side, poor health has significant effect on OOP health expenditure by the individual member or the households. As disease type, degree of severity, number of disease episodes and duration of disease episodes changes, OOP health expenditure by the household also changes in the same direction. Further, an increase in households' OOP health expenditure sometimes discourages to utilise or access to healthcare services which may increase the disease burden. However, it is believed that good health improves the productivity, increases income and this, in turn, leads to an improve the economic well-being as well as the living standard of the individual. On the contrary, if more expenditure is made to

increase the utilisation of healthcare services with the expectation of getting better health or reducing the burden of disease, household may have to face financial crisis which would affect the economic well-being adversely and thereby, high OOP healthcare expenditure may increase the financial burden as well as reduce the living standard of the people. Therefore, model portrays that burden of disease has considerable impact on utilisation of healthcare services and OOP health expenditure by the household.

Conclusion

The model shows that increase in utilisation of healthcare services and expenditure on health is necessary to improve the health status or reduce the burden of disease of the individual. Thus, health status of individual is positively related to utilisation of healthcare services and expenditure on healthcare services. Further, choice of healthcare provider depends on several factors such as socio-economic condition, perceived benefits, information, and social networks of the individual or household. This model provides us with the comprehension for the selection of variables studying the impact of burden of disease on the health seeking behaviour and health expenditure made by the people to get relief from disease and impairments. The model also builds linkage between disease burden of the people and financial burden due to the out-of-pocket of health expenditure through the treatment process. Finally, the model can be fitted with required data using suitable econometric approach which will further help the researchers to conduct the empirical study in the field concerned.

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