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Review Article

Evaluation of socio-economic factors affecting the demand for health

Abdosaleh Jafari[1], Rita Rezaee[2]*

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ABSTRACT

Introduction: Individual health has been proved to be under the influence of various factors such as the use of health care services, diet, smoking and alcohol, physical environment, and health-related behaviors. Therefore, the main determinants of health are factors such as income, education, and access to health services, and systematic changes in these factors lead to socio-economic injustice in health. The present study was carried out through library and internet search. Medline and Google Scholar databases were also utilized.
Combining Contents and Results: According to the present study, an increase in health input expenses would inevitably lead to aggravation of the health situation and decrease in income would result in the worst health status of the poor. Moreover, people with higher education use less health inputs; however, they enjoy higher status than those with lower educational levels.
Conclusion: Health demand approach provides only a part of the information needed for policy-makers and decision-makers in health system. Theoretical and empirical analyses of the health claim could indicate that policy actions are likely to be more effective in overcoming barriers to health but are not capable of determining which one is likely to be more cost-effective . The demand for information about the health only provides the necessary tools about the benefits of special policy making decisions. So the tool should be combined with other techniques including cost-effectiveness and cost-benefit analyses.

Keywords: Health care demand, Injustice in health, Health production

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Introduction

Socio-economic determinants of health are the most important issues in health investment policies. Understanding how health affects medical and non-medical care (education, income, age, housing, conditions, nutrition and working environment) regarding the effectiveness of policies in health care is significant. If the socio- economic factors are more important compared to health care, policy makers should focus more on these factors (1).

Policymakers in both developed and developing countries are committed towards reducing inequities in health. The gap between the rich and the poor health status, particularly in developing countries, is considerable. International organizations including the World Health Organization and the World Bank in poor health are priority targets (2-4).

This study aims to establish a conceptual framework to analyze the determinants of socio-economic interaction of health and equity in health policy and recommend policies in order to reduce inequalities in health.

Intelligence Sources and Methods of Selection:

Library and internet search were used in the present study. To perform the search of the databases, Medline Google Scholar has been used. The search keywords for English literature review include demand for health, health production and socioeconomic inequalities.

Coupling Contents and Results

The present study is an attempt to focus on economic theories of health demand and aims at providing a conceptual framework in order to analyze the socio-economic determinants of health and demonstrate how such factors could be applied in various subjects of policy makings of health such as injustices in social and health policies and preventive design.

Demand Curve and a Geometric Approach to Health: Explaining Health Production Function

In this section, the classical methods for the determination of improvement in consumption as well as the theoretical tools for indifferent curves were used. The concept of

[1]*Faculty of Management and Medical Information, Shiraz University of Medical Sciences, Shiraz, Iran*
2 Quality improvement in clinical education research center, Shiraz University of Medical Sciences, Shiraz, Iran

***Corresponding Author:** **R Rezaee,** Education Development Center, Sina- Sadra Halls Complex, Neshat Ave., Shiraz, Iran. Email: rita_rezaee@yahoo.com.*

health demand and health production function can be explained by indifference curves and budget constraint.

As a firm uses agents such as inputs, raw materials, labor and capital for the production of goods, an individual also uses inputs such as therapy inputs and other factors such as life- style, education, income for health production (5-6).

Figure 1 demonstrates health production function for the production of inputs such uses as environmental positions, individual status and therapy care.

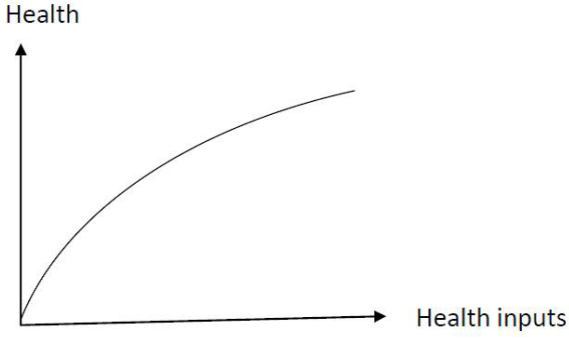

Fig1 :Health production function

Consumer Equilibrium

In order to determine the balance of the consumer, we must first determine how much of the health inputs will work. People spend their money for health inputs so that they can achieve the highest possible level of welfare. i.e. they are trying to achieve the highest indifference curve (7) .

In Chart 2 the utility curve, the health production function and budget lines are plotted respectively, in the first, second, and third quarters. Considering the budget constraint and the health production function, we can see that for a certain amount of health inputs, a single health can be produced and how much consumers will buy these inputs. Before discussing the first quarter, the fourth quarter explanation seems to be necessary. Line 45 is the tool that can help a number of Units on the vertical axis and the horizontal axis in the third and the first quarters. 1U and 2U are indifference curves. PP plot in the first quarter represents the production possibilities curve for consumer goods and health care from other possible combinations which a consumer can achieve through spending and the health production function. The curvature of the bottom (i.e. concave) is the final product to establish downside. Now combination of other health commodities is available for individuals that are the points on the curve that have the same production facilities.

At the point where the highest indifference curve is tangent in production possibilities (curve a) point, consumer allocates his budgets in a way that maximizes his utility (7-10).

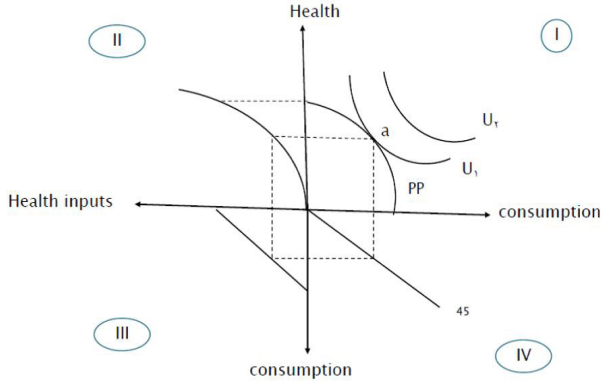

Fig 2: consumer equilibrium in health market

The Impact of Changes in Income on the Consumer Balance

As discussed in the previous section, the interaction between price, income and health production function leads the consumer to the optimum combination of safety and other commodities. In this section, it will be discussed that affecting the consumer behavior will change the optimal mix.

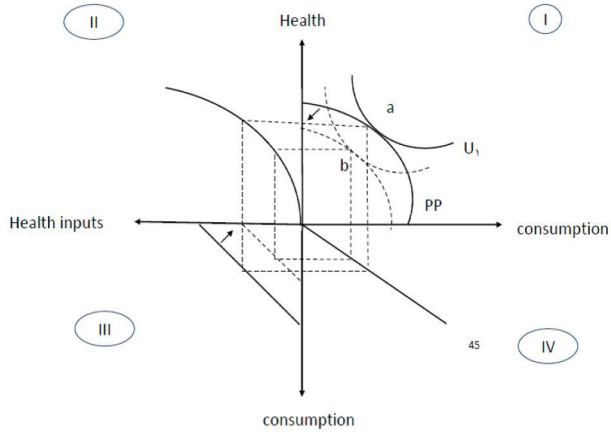

Fig 3: The impact of the changes in income on the consumer equilibrium

First, we assume that reduced income shifts the budget line parallel to the side of the pass. Naturally following such change, the curve of the curved line moves toward the break line production facilities and its location is changed. By tracking all possible points on the new budget line, curve moves inward to the production facilities (10,11).

Reduced income means the number of possible combinations for reduced health and other consumer goods is reduced. As shown in Figure 3, for the consumer the previous optimum combination is unavailable, and people with the level of income can point to b; in fact, there is a lower level of health . (Figure 3) The reason for this situation is that the person, due to lower income, spends less on health (12)

From the perspective of health policy, the revenue decline

means that in low-income countries, it is necessary to have access to minimum health care for poor people; for preventive services, granting subsidies or exemptions for the poor policies is applicable . Also from the view of the injustice of health, loss of income reflects changes in income distribution among social groups. Thus, a greater reduction in income leads to a greater reduction in the use of health inputs and deterioration of health (13, 14).

The Effect of Price Changes on Consumer Balance

Figure 4 shows the effect of lowering prices. Deflation causes the budget line to rotate outward, and the production possibilities curve to move outward, but consumption remains unchanged. The new optimal health and other commodities combined with point b are shown in the first quadrant.

At this point, people have higher levels of health and to achieve it, they use more health inputs. Thus, reduction of the price of a unit of health inputs leads to greater use of health; therefore, improvement in the health status of individuals is established (15, 16).

Reduction of the price, from the health policy perspective, means that health subsidies on inputs (milk, food supplements for children, housing costs, etc.) may result in better health in those who use such subsidies (17, 18).

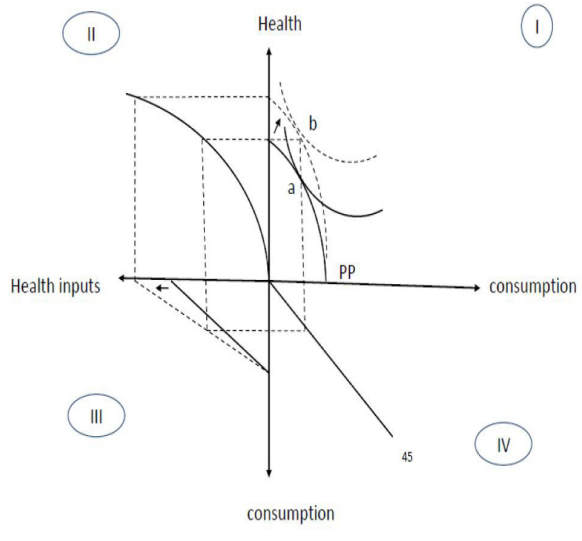

Fig 4: The effect of price changes on consumer equilibrium

The Effect of the Consumer Education on the Balance

The difference between the education level and the performance difference is in the use of health inputs, and thus the health of the curve moves upward. Transference of the health production function upward in the second quarter causes a shift in production possibilities curve (19).

As shown in Diagram 5, in the new equilibrium (point b) individuals have higher levels of health and use much less health inputs. In other words, the level of education reduces the demand for health inputs as well (20).

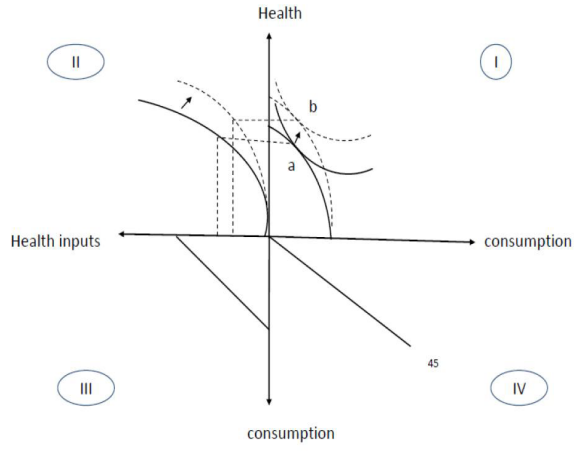

Fig 5: The effect of the consumer education on the equilibrium

It also requires that injustice in education is likely to lead to injustice in health care (21).

Discussion and Conclusions

In this study, the concept of health demand on the basis of improvement processes was discussed using indifference curves and health production function; also, the effect of various influential factors in health, such as income, price and education, on the consumer balance in health care markets was expressed. The approach to health demand provides only a part of the information needed for policy-makers and decision-makers in health system. Theoretical and empirical analyses of the health could indicate that policy making is likely to be more effective in overcoming barriers to health but cannot show which one is likely to be more cost-effective. The demand for information about the health benefits of specific policy measures is providing the necessary tools so that it is combined with other techniques including cost-effectiveness and cost-benefit analyses.

A study titled "The demand for health - Results of new measures of health capital" by Gerdtham and colleagues was conducted in 1999 in Uppsala. The variables in the study include the cost of medical care, income, education, marital status, and age and activity level of the sport. In this study, to assess the level of health in exchange for the three methods, time Trade-off, standard gamble and rating scale and model estimated using OLS, Tobit and Ordered Probit.their results showed that, Smoking and overweight, in the rating scale and standard gamble methods health were negatively significant, but in time Trade-off method, was significantly associated with health status (22).

Wagstaff (1993) in a study entitled "The demand for health - empirical findings of Grossman model " worked with variables such as income , gender and education, according to two equations in two separate age groups under 41 years (the first equation) and over 41 years (the second equation) using a MIMIC. To measure health stock, he used the four indicators: physical activity, mental health, the pain and self-care ability was used. His research showed that the age variable in the first equation, were not significant, while it had the expected negative sign in the second equation. Income and education had the expected

sign in both the equation (23).

Grossman and Kaestner (1997) estimated "Effects of education on health" in USA; their result indicated that there was a positive association between education and health (24).

In conclusion, in most studies about the demand for health, age has a negative impact on the health level of variable costs and variable income, education, and marital status has had a positive impact on health status.

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