HEALTH CARE COST AND PATIENT ADHERENCE: AN EXPLORATORY STUDY

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ABSTRACT

Background – The literature on patient adherence in health service research is mainly concentrated on biomedical aspects of patient adherence whereas the economic aspects of patient adherent behavior cannot be ignored.

Purpose- This qualitative research work is an attempt to explore the impact of health care cost on patient adherence across different illnesses/diseases and identify the moderating variables affecting the impact of health care cost on patient adherence.

Materials and Methods- During August and September, 2013, interviews of inpatients and outpatients of chronic and acute diseases were conducted at their residences. Snow ball sampling method was used. The patients were asked to narrate their recent experiences with a health care service received by them to explore the impact of health care cost on patient adherence. Duration of interview was ranging from 20 to 50 minutes. The interviews were first recorded on the mobile phone, and then converted into the text. Relevant data from narrated stories were considered to draw inferences in this research work.

Conclusion- The health care cost has emerged as an important factor impacting patient adherence. It was also found that the variables such as, patient's/household income, social support, perceived risk, and priority of expenditure moderate the impact of health care cost on patient adherence. A quantitative study is suggested for statistically testing the hypothesis developed in this exploratory study.

Key words: Healthcare cost, patient adherence.

Introduction

Research and development in medical science has improved the health outcome considerably. This on the other hand has increased the health care cost to the recipients of the health care service. Patients may not appreciate the soaring health care cost with improved technology. Health care is a rare service that people need but do not want (Berry and Bendapudi,2007), therefore service providers' efforts should aim towards providing health care at affordable cost. In India, there is a network of public health care system consisting of sub- centers, primary health centers, community health centers, secondary and tertiary care hospitals where majority of the health services are rendered free. People perceive free health care as low quality care, therefore the available public health care is underutilized (Bajpai, 2009). Private health care is very costly hence unaffordable to poor. In unavoidable circumstances, people seek private health care. General understanding is that the recipients of private health care service are being cheated by unnecessary referrals and tests. Medical

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expenditure is a burden on the household income of the poor. Therefore, most patients first try home remedies and self medication before consulting doctor.

The cost of health care in the United States is growing more rapidly than the income of the retirees, employees and employers (Social Security Advisory Board, 2009). The high cost of medicines and care is an important cause of non- adherence in developing countries (World Health Organization,2003). Worldwide the efforts are undertaken to provide universal health coverage and to reduce the burden of the health care cost to the recipients of health service. In United Kingdom, National Health service provides free health care , National Health service Walk- in- Centers provide health care without any appointments and Social Security System provides cash benefits for aged, ill and disabled people (Doddard ,2008). Everyone should have access to the health services they need without being forced into poverty when paying for them (Dye ,2013). The share of income consumed by out –of- pocket costs is considerably higher for those who are older, poorer and in worse health (Social Security Advisory Board, Sept.2009). Aged people with multiple health problems visit more than one doctor. For patients with chronic diseases, the cost of therapy for life-long treatment would constitute large portion of their disposable income (Jin J, 2008) In India, about 39 million additional people fall into poverty every year as a result of health care expenditure (Balarajan, 2011).

Patients' and /or families decide whether or not to comply with prescriptions, maintain the regimen once purchased and maintain the prescription over the life for refills and follow –up (Ellickson et al.2000). Patient adherence to a medication regimen is generally defined as the extent to which patients take medications as prescribed by their health care providers (Osterberg and Blaschke,2005). Adherence to long term therapies is defined as,

"The extent to which a person's behavior- taking medication, following a diet, and/or executing lifestyle changes, corresponds with agreed recommendations from a health care provider" (WHO,2003. p.3).

Sometimes the interactive effects of health care cost and patient adherence/ non- adherence are mutually influencing. Full benefits of medications will be achieved only if patients follow prescribed treatment regimens reasonably closely (Osterberg and Blaschke,2005). Affordability of health facilities is one of the factor related to non-conforming patient behavior (Juvekar,1995).Non-adherence to medication is a wastage of medicines as well as money and may worsen the health condition and may require hospitalization. In developed countries, adherence to long term therapies is around 50% and is much lower in developing countries (WHO,2003).Non –adherence is considered as a major health care problem and the cause of uncounted billions of dollars in unnecessary healthcare costs (Frederick, 1997).

The patient adherence is influenced by medical, physical, social, psychological and economic factors. Past research has emphasized the fact that patients make reasoned decisions about their treatment (Vermeire,2001),in that case the likelihood that they will take the medication increases (Smith,1998). The health seeking behavior and patient adherence to medication to a large extent depend upon the financial position of the patient/family. The health insurance plans, third party payments, free medical service reduce the burden of out of pocket cost on medical care to the patient and increase the level of medication adherence. While people with limited disposable income on health care fill the prescription fully or partially depending on the price of prescriptions, rich people prefer cross country medical service even at extraordinarily high cost.

The empirical findings indicate, varying results especially the impact of biomedical factors on patient adherence and non- adherence across diseases but impact of health care cost on patient adherence is not extensively researched.

Materials and Methods

During August and September, 2013, recipients of health care service were selected by snow ball sampling method. The sample consisted of both inpatients and outpatients across different illness/diseases. Interviews were conducted to explore the impact of healthcare cost on patient adherence. The patients were interviewed at their residences with their prior appointments. They were asked to narrate their recent health care experience/s, which were recorded on the mobile phone. The duration of the interviews was for 20 to 50 minutes. The narratives were converted into the text for analysis and interpretations.

Sample Characteristics

The sample consisted of 10 female and 12 male patients of allopathic and ayurvedic healthcare facilities. While allopathic facilities included both private and public facilities, ayurvedic included only private facilities. The types of diseases covered were cardiac problems, brain tumor, ENT problems, jaundice, stomach pain, fever, arthritis, asthma, blood pressure and diabetes. While 9 were inpatients 13 were outpatients.

The definition as per World Health Organisation, 2003 is considered as the operational definition of patient adherence for this exploratory research. The health care cost consisted the expenditure towards purchase of the health service, medicines, food, and payment towards medical tests, transport etc.

Development of Hypothesis

1. Health Care Cost and Patient Adherence

Narratives

i. "In Hospicio, checkups, tests, medicines and insulin injections are free, therefore last fifteen years I am taking medicines".
ii. "Because I will get free medicines, I go to Primary health center and I take medicines".
iii. "I spent so much money for treatment and medicines, I had to take medicines".
iv. "Since there was no doctor available, nurse gave medicine. Though medicines were free, I did not want to take risk of my health. I did not take medicine".
v. "I am more than 60 years, suffering of Asthma for last two years. I showed to a big doctor (specialist) in Belgaum, he told that I will not get cured completely and I have to take medicines regularly as long I survive. I am poor. Cannot go for work to earn. I have decided to take medicines from Primary health center which they give free. Twice a month I go and collect the medicine and I take the medicine".
vi. "I think my father could afford the medical expenditure only because, at GMC, service, tests and majority medicines are free".
vii. "At ESI Hospitals treatment and medicines are free. I am continuing the treatment".
viii. "At MPT, since I am an employee, medical service is free. Because of MPT treatment, I am recovering."

It is hypothesized that:

H1. Health care cost impacts patient adherence to medication.

2. Health care cost, Patient's/ household income and patient adherence

Narratives

i. "Me and my husband both are pensioners. The bypass surgery was possible because of mediclaim policy ".
ii. "I am a pensioner. My son incurred all the expenditure for angioplasty and for medicines in Apollo which is very costly".
iii. "I am working as a peon. I am the single earning member in my family I had lot of problems in collecting money for bypass and piles operation. Part of medical expenditure was recovered from the employer".
iv. "I am very much worried about the medical expenditure. My father is working as a peon. I want to recover fast. I want to complete my education, work and support my family income".

It is hypothesized that:

H2. Impact of health care cost on patient adherence is moderated by patient's/household income.

3. Health care Cost, perceived risk and patient adherence

Narratives

i. "Doctor was not available. No checkup, no tests were done. Nurse gave some medicine. How to trust nurse? I did not take medicine".
ii. "I am pregnant, I got fever, went to Primary health center. Doctor was not available, nurse gave medicine for two days. I took only two tablets. I was rather scared because of side effects of the medicine".
iii. "I felt little uneasiness, suddenly severe back pain at around 11.00 pm. Son admitted me in Grace Hospital. No senior doctor was available for consultation. All trainee doctors. I had little doubt about them. My son also felt they are just trying and not giving professional service. That night whatever medicines were given I took. Remaining medicines were not used. Next day I was shifted to Apollo Hospital".

It is hypothesized that:

H3. Impact of health care cost on patient adherence is moderated by perceived risk.

4. Health Care cost, social support and patient adherence

Narratives

i. "Doctor told me now medicines will not help. I have to buy hearing aid machine, I had no money to buy. I don't want to burden my husband who is supporting the family. He is also not well. Initially, my son who is working, gave some money. When I told him that machine has to be purchased, he did not say anything".
ii. "Dentists said I have to undergo root canal and I had to go for ten days. Total expenditure will be Rs. 4000. If I continue treatment, I will not be able to go for job for ten days. My boss

will deduct my salary which will affect our family monthly income. I discontinued the treatment".

iii. "My ear pains very badly. I went to Primary health center. They gave medicine, that I took. But pain did not subside. Second time, I went to Primary health center. Doctor told me to do some tests in Belgaum. I didn't have money and if I go for test to Belgaum who will look after the cattle and do the other household work. I did not go and bearing with the pain".

iv. "My husband is more than 70 years old. Does not know cooking. When cataract operation was done doctor told me not to cook on Chulla for 15 days because of smoke. Neighbors gave food for eight days. I was feeling embarrassed, so started cooking after 8 days but on gas. I have two sons, married, but they are staying in the city areas. They were not free. What to do? One son sent money for operation".

v. "My wife only decides which doctor to consult, she accompanies me to the doctor, she follows the medicine schedule, gives medicines in time. Depending upon the income, she decides how much medicine to be bought".

vi. "Son brings the medicine and wife gives in time. So far my son has not asked money from me to buy medicines".

It is hypothesized that:

H4. Impact of health care cost on patient adherence is moderated by social support.

5. Health care cost, priority of expenditure and patient adherence

Narratives

i. "I did not do root canal treatment because of lack of money. That time urgent expenditure was children school uniform, note books etc. Now I collected some money but now Ganesh festival is approaching. So I am postponing my treatment. Rather than root canal, I am thinking for tooth extraction in Belgaum during children school vacation, I feel it is less costly in Belgaum".

ii. "Husband's healthcare expenditure is more important than me for our survival".

It is hypothesized that:

H5. Impact of health care cost on patient adherence is moderated by priority of expenditure or tendency to postpone treatment.

Conclusions

Health care cost is one of the important factor impacting patient adherence. It was found that the outpatients suffering from chronic diseases seeking health care at Public health care facilities and inpatients who have undergone cardiac related operations at Private health care facility have reported high level of patient adherence. Also, income of the patient, social support to the patient, perceived risk, priority of expenditure were found to moderate the impact of health care cost on patient adherence.

Limitations

The exploratory study was restricted to only 22 patients across different illness, and only the effect of health care cost on patient adherence was studied, hence it limits the generalization of findings in different context.

Managerial Implications

The explored variables will help the policy makers and health care providers to provide efficient, effective, and affordable health care to all the recipients of health service so as to enhance patient adherence.

Further Research

A quantitative study is required to be undertaken for statistically testing the hypothesis developed in this exploratory study.

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