



ISSN (E): 2277- 7695  
ISSN (P): 2349-8242  
NAAS Rating: 5.03  
TPI 2019; 8(4): 615-620  
© 2019 TPI  
www.thepharmajournal.com  
Received: 18-02-2019  
Accepted: 20-03-2019

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## Irrational prescribing of medicine and increasing burden of medical cost on poor household in India: a challenge for public health

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### Abstract

Medicine is one of the most important contributors of life expectancy. Essential medicine is the foremost cause of death and disability in developing countries can be prevented, cured and improved with cost-effective essential medicine. But besides this thousands of people don't have access to essential medicine. Majority of the people spent their huge share of income on medicine which traps them into a vicious circle of poverty. The huge prescription of medicine is a main cause of treatment delay. Essential medicines save lives and enhance the health of population but only when they are accessible in an inexpensive, reasonable and affordable cost, and when they are used in an appropriate way. Besides certain police measures and programs a huge chunk of population doesn't have access to essential medicine and this remains the pivotal public health issue in India. Availability of harmless, effective, affordable and quality medicines for all is one of the most important targets of Sustainable Development Goals. For acquiring universal health coverage access to safe, effective and affordable essential medicine is a paramount aspect. The main aim of this paper is to examine the burden of medicine cost and its socio-economic impact on households. This paper is based on secondary data. It is estimated that by improving access to existing essential medicines and vaccines, about 10 million lives per year could be saved. The studies revealed that as much as 25%–70% of overall health expenditure in developing countries is spent on medicines whereas, around 10% of health expenditure in most high-income countries is consumed by medicines. In India medicine consumed higher share of total health expenditure over 43%. Several studies depict that more than three lakh crore rupees that households spent on health, and about 42% of the total out-of-pocket expenditure (OOP) went in procurement of medicines. Households spent around 28% of the OOP spending in private hospitals and this constitutes 62.6% of the total OOP health spending in India both government and private source.

**Keywords:** Expenditure on medicine, out-of-pocket expenditure, irrational medicine, essential medicine

### Introduction

Medicines are a vital source for reducing pain especially for those who residing far from healthcare system. The reason behind this is very obvious. The contributions of medicines are most important in healthcare systems. Medicines enhanced the health indicators and reduce the burden of disease but it is only possible when they are affordable and accessible for all. In the contemporary time there has been a substantial debate on the fact that the rising price of medicine creates hindrance in the path of accessibility to health. Majority of the people cannot afford medicine due to high price. They account the substantial amount of total health expenditure in India. Millions of people in developing countries delay medical treatment due to burden of health expenditure. The main concern here is that the rising medical cost on inappropriate prescription of medicines. These have a great socio-economic impact on the household. Unreasonable use of medicines is a menace that the healthcare system is confronting all over the globe. Such irrational practices are very harmful and deteriorate health care delivery. They create barriers for the poor patients and the outcome is exhaustion of already limited resources that may have been useful for catering other health related needs. So, from the above discussion we realized that there is a need to talk about the rational use of medicine that uplifts the health indicator in particular and health care system in general. The "rational use of medicine" not only promotes health care system but also increases accessibility and reduces the burden of health care cost from poor households. In India majority of the people pay full cost on medicine from their own pocket because of the inappropriate health insurance coverage. The World Health Organization (WHO) report revealed that more than half of all medicines are

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inappropriately prescribed, dispensed, or sold. Furthermore, about 50% of patients are failed to take correct medicines. The issue of use of irrational medicine mostly evident in third world nation which lead deteriorates health system because of less attention towards the implementation of drug price policies. The excessive use of irrational medicine weakens the potential to access essential medicine. Essential medicine play utmost role to reducing mortality and morbidity rate but only when they are easily accessible, affordable, qualitative in nature and used in a proper way. Besides improving health indicators in India as compare to earlier time but still absence of essential medicine persist the grave public health concern, that also create problem in the path of sustainable development goal.

Aftermath, monitoring the menace of irrational medicine use is realised to be most vital not only for promoting healthcare services but also favourable for sustainable use of resource. A study reveals that as much as 25%–70% of overall health expenditure in developing countries is spent on medicines whereas, around 10% of health expenditure in most high-income countries is consumed by medicines.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5419375/pdf/pharmacy-04-00035.pdf> in accessed in 2-1-2019.

According to World Health Organisation, in developing and transitional countries, in primary care less than 40% of patients in the public sector and 30% of patients in the private sector are treated in accordance with standard treatment guidelines.

A survey carried out by Hill AM, Barber MJ, & Gotham D, on estimated costs of production and potential prices for the WHO Essential Medicines List in 2018, which depicts that in low-income and middle-income countries (LMICs), only 58% of essential medicines are available in the public sector, and 67% in the private sector, according to surveys of pharmacies. Medicines account for a quarter of all health expenditures globally, and 100% of health expenditures for about half of households in Low-income and middle-income countries. In India, around 50–65% of the population don't accessing medicines.

Almost 70% of Indians' overall medical expenses are out-of-pocket and 70% of those expenses are on drugs alone Out-of-pocket expenditure pushed 34 million people below the poverty line (McMullan Patrick, *et al*, 2108. p1) <sup>[6]</sup>.

As Almarsdottir and Traulsen point out, “industrialised countries can to some extent afford medicines that are new and expensive, whereas most developing countries will have to be very restrictive and keep to essential drug lists. Both these decisions can be viewed as rational in the light of each country's economic situation”. However, the growing health care spending in most developed countries has reignited debates that perhaps even in these rich nations, the EML concept may still be very applicable and highly essential. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5419375/pdf/pharmacy-04-00035.pdf> -accessed in 2-1-2019.

### **Irrational Prescribing and Corruption**

The increasing corruption and growing destructive practices in medical domain depicts that there is paramount need to initiate a solid mechanism which will safeguard the public health needs. Irrational prescribing refers to prescribing that fails to conform to good standards of treatment. The irrational prescribing consists of five ways, namely: under-prescribing, over-prescribing, incorrect prescribing, extravagant prescribing, and multiple prescribing. Under-prescribing

indicates the occurrence where the vital medicines are not prescribed, or an inadequate dose or treatment spell is delivered. This can happen when, for instance, an insufficient weight-based dosage is directed in patients such as children. (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5419375/pdf/pharmacy-04-00035.pdf> accessed in 2-1-2019).

Van den Heuvel *et al.* carried out a study among Dutch general practitioners, which revealed that 65% of patients, prescribing physicians after thorough consideration decided not to prescribe a specific medication. Under-prescribing can pay to substantial morbidity and mortality, while it vestiges an area of medicine use that has involved less consideration. Wauters *et al.*, for example, has described a strong link between under-prescribing and misuse with hospitalization and death among a cohort of community-dwelling elderly people aged 80–120 years. Over-prescribing refers to cases where a medicine that is not indicated is prescribed, or if indicated, the duration of treatment is too long or the quantity of medicine given to patients exceeds the amount required for the current course of therapy. This can include, for instance, giving 21 days course of an antibiotic for a minor infection that requires just 7 days of treatment, or when an antibiotic is prescribed in the first place for a suspected viral infection. Incorrect prescribing also happens when a medicine is given for the incorrect diagnosis, the prescription is arranged inadequately, or modifications are not made to incorporate the patient's co-existing medical, genetic, or environmental conditions. Extravagant prescribing is said to have befall when a prescriber issues a more luxurious medicine when a less lavish one of comparable safety and efficacy exists, or where a prescriber treats a patient symptomatically instead of tackling the underlying serious condition. An example may include writing an unnecessarily expensive cough mixture when it presents no documented extra benefits from commonly available cheaper options. Though the above types of irrational prescribing happen in different frequencies across regions of the world, the WHO has outlined some commonly encountered patterns of irrational prescribing. Some of the commonly observed patterns include the excessive use of injections, multiple drug prescriptions, the excessive use of antibiotics for treating minor acute respiratory infections (mostly viral in origin), and the use of minerals and tonics for managing malnutrition. This list is not exhaustive, and highlights the extent to which the inappropriate use of medicines remains a worldwide challenge. The main reason of all above said prescribing is profit maximization. All these irrational prescribing led to out of pocket health expenditure. The inappropriate prescribing decimates the socio-economic condition of the poor household and trap them into vicious circle of poverty from which they can never come out. (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5419375/pdf/pharmacy-04-00035.pdf> accessed in 2-1-2019)

### **Factors responsible for the Irrational Use of Medicines**

There are so many factors that are responsible for the irrational prescribing or use of medicines. These factors can be outlined to numerous stages of the medicine use cycle, and can be generally categorized into those deriving from patients, prescribers, workplace (health system), supply system (including industry influences), regulation, drug information or misinformation, or a mixture of these factors. Unaware patients who may have the insight that there occurs a pill for every illness can utilize excessive pressure on health providers to prescribe medicines, even when this is not

needed. The impact of patients in the prescription of various drugs such as antibiotics has been widely recognized. Regarding prescriber-related factors, irrational prescribing can rise as a consequence of numerous internal or external factors. For example, the prescriber may absence suitable training, or there may be insufficient continuing education, causing in the dependence on out-dated prescribing practices which may have been learnt while under training. There are also practices by pharmaceutical companies that are seen to enhance irrational prescribing. For instance, pharmaceutical sales representative visits to doctors have been found to not only increase the prescription of the promoted drug, but also to lead to a decrease in the market share of competitor products. There is evidence to support that pharmaceutical sales representatives often exaggerate the efficacy of their products while questioning the integrity of competitor brands, and may even encourage off-label use. Irrational Prescribing According to the WHO, irrational prescribing is a “disease” which is difficult to treat-prevention is however possible. (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5419375/pdf/pharmacy-04-00035.pdf> (accessed in 2-1-2019).

**Pharmaceutical firms and medic in India**

According to planning commission in India, the pharmaceutical companies promote irrational use of medicines; they invest almost 25% on its yearly revenue on sale enhancement alone as compared to insignificant 7% on the research and development in 2008-09. They don't bother about the quality of product but only surplus. So this need a strong mechanism which can control on this illegal practice that is very harmful for the poor population. There is a great nexus between the pharma and the doctors, pharmacist contact to the doctors and give more than 50% share on the unwanted prescribing, so they do the same for money. For controlling this menace Medical Council of India has clearly formed a law which state that any doctor who will accept freebies in the form of gift, cash or travel facility, etc from pharma companies should be given punishment. This law is passed by the Ethics Committee and subsequently agreed by the Union Ministry of Health and Family Welfare, which led to the amendment to the MCI (Professional Conduct, Etiquette and Ethics) Regulations, 2002. In India mostly the health care market is controlled by majority of independent doctors who are employed and run private health clinics. The efforts made by Medical council of India about to tackle the freebies is confined only in paper and not have any substantial effect on unlawful practice of doctors like receiving bribe from the pharma companies. (Nagla, 2018:258-59) [2]. In India 86% of rural population and 82% of urban population were not covered under any medical insurance scheme (Ahmed, 2018) [4].

Dr Sanjeev Chhibber, a Senior Cancer Surgeon I Delhi and the President of the Naua Daur Party, say that doctors sometimes prescribe unnecessary investigations because of the kickbacks they receive from pharmacies, laboratories, equipment seller and sundry other medical “brokers” (Frontline, Oct 31. 2014) [18].

**Some Obstacles for Health Enhancement**

- **Unequal access** – All over the world about 30% of the people don't have consistent access to essential medicines. But this figure is above the global average (50%) in the poorest parts of Africa and Asia.
- **Health improvements** - In many third world countries public spending on health is very low like in India, which led to the deteriorate public health sectors which is main source of treatment of the majority population.
- **Medicine financing** - In the developed countries around 70% of medicines are publicly subsidized where in low- and middle-income countries 50% to 90% of medicines are paid for by patients themselves. In India 70% patients pay medical bill from themselves.
- **Treatment costs** - high costs of treatments with new essential medicines for tuberculosis, HIV/AIDS, bacterial infections and malaria will be unaffordable for many low- and middle-income countries like India. (WHO, 2004).

**Objectives**

- To examine the affordably and accessibility of essential medicine.
- To analyse the burden of medicines cost and impact on socio-economic condition on households.
- To put forth the strategies for tackling the irrational use of medicine.

**Material and Methods**

The paper is primarily based on secondary data. The researcher collected data from different source such as National and International reports, newspaper, Books, Research Articles, Journal, Magazines, etc.

**Result and discussion**

**Expenditure on Medicine and Health Requirement**

There is a great disparity between the cost on medicine and health needs in the world. About 16% of the world's population living in high-income countries accounts for over 78% of global expenditures on medicines. The proportion spent on medicines is higher in low per capita income countries. On average 24.9% of Total Health Expenditure is spent on medicines, with a wide range from 7.7% to 67.6%.

**Table 1:** Tends in Key Health Financing Indicators for India across NHA Round

Indicator	NHA 2004-05	NHA 2013-14	NHA 2014-15
Total Health Expenditure (THE) as per cent of GDP	3.9	4	4.2
Total Health Expenditure (THE) Per capita (Rs )	1201	3638	3826
Government Health Expenditure (GHE) per cent of THE	22.5	28.6	29
Out of Pocket Expenditures (OOPE) as per cent of THE	69.4	64.2	62.6

Source: National Health Account, 2014-15

Table 1 demonstrates that there is a minute increase in the government spending on health as 22.5% in 2004-05 and 29% in 2014-15. There is an increase of almost 7% in the said period. The table also revealed that the share of out of pocket

payment as the percentage of total health expenditure is slightly decrease as 69% in 2004-05 and 62.6% in 2014-15 which seen around 7% per cent of reduction in OOP expenditure. This depicts that there is close relationship

between the public spending on health and reduction in burden of OOP expenditure. As government spending increase on health (7%) this the burden OOP payment decreases as the same percentage (7%).

As per the National Health Accounts (NHA) reports the high cost on medicines are the vital economic burden on the household that snatch the basic necessities by majority of poor households. This survey depicts that more than three lakh crore rupees that households spent on health, and about 42% of the total out-of-pocket expenditure (OOP) went in procurement of medicines. Households spent around 28% of

the OOP spending in private hospitals and this constitutes 62.6% of the total OOP health spending in India both government and private source (NHA, 2014-15). A case published on the Hindustan Times (Hindustan Times, Dec 11, 2017) about a private hospital (Fortis Hospital) in Gurgaon which revealed that a girl of seven year old who suffering from dengue admitted in this hospital and later on she died aftermath, the doctors said to the family that to pay the bill a sum of over Rs16 lakh, which was shocking for them. So from this we can acknowledge that how can a poor family buy good health.

**Table 2:** Items wise share of Out-of-Pocket spending on health by household

Items	Household OOP Spending (Rs crore)	Percentage of OOP payment
Pharmacies	1,30,451	43.13%
General hospitals - Private	86,189	28.50%
General hospitals - Government	22,429	7.42%
Medical and diagnostic laboratories	20,610	6.81%
Providers of patient transportation & emergency rescue	18934	6.26%
Offices of general medical practitioners	15,760	5.21%
Providers of preventive care	4,225	1.40%
All Other ambulatory centres	1,645	0.54%
Other health care providers not elsewhere classified	1,210	0.40%
Retail sellers and Other suppliers of durable medical good & medical appliances	559	0.18%
Other health care practitioners	412	0.14%
Total	3,02,424	100.00%

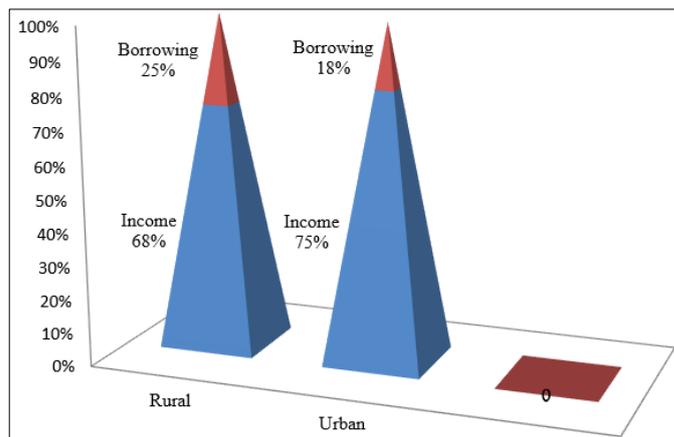
Source: National Health Account, 2014-15, NSSO & Hindustan Time, 11 Dec, 2017.

The tables 2 revealed that Out of pocket spending is very high (43%) on medicine. OOP payment is higher in private hospital (28.50%) then in Government hospital (7.42). Diagnostic test also account higher amount (6.81%) transportation and emergency rescue (6.26). The burden of OOP payment decimates the socio-economic life of households. The financial burden on health is the key cause of treatment delay in India. CK Mishra, (Former Union health secretary) at a conference organised by National Institute of Public Policy (NIPFP) said that “OOP, when catastrophic, results in seven crore people falling back into poverty line,” (Hindustan Time, 11 Dec, 2017).

There is no clear evidence about the medical cost on irrational medicine. But the NHA & NSSO provides only the general cost on medicine which is high as compare to other medical goods.

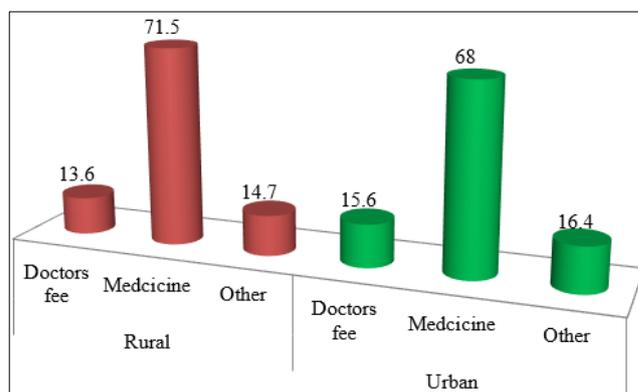
The vital concern in healthcare sector is high cost of drugs/medicine and endorsing high prized non-generic medicine. There is no matter for consumers if these medicines are essential but they prescribed non-essential drugs which are the main source of income loss of poor household. This depicts that there is a need of strong regulation on pharmaceutical firm.

Figure 1 revealed that rural household spent their income (68%) on medical treatment and borrow 25% while in the urban household spent their 75% income on treatment which is more than rural household and borrow 18% which is less than rural household. Figure 2 revealed that medicine is the only single medical good on which rural household spent over 71% while urban household spent 68% which is slightly lower than rural households. After medicine rural household spent around 15% on diagnostic test and urban household spent 16% on the same items. So this demonstrated that good health is remaining a dream for majority of the population in both rural and urban area in India. Only those can buy well-being who have socially, economically and politically well sound.



Source: Ahmed, 2018, & NSSO, 2014

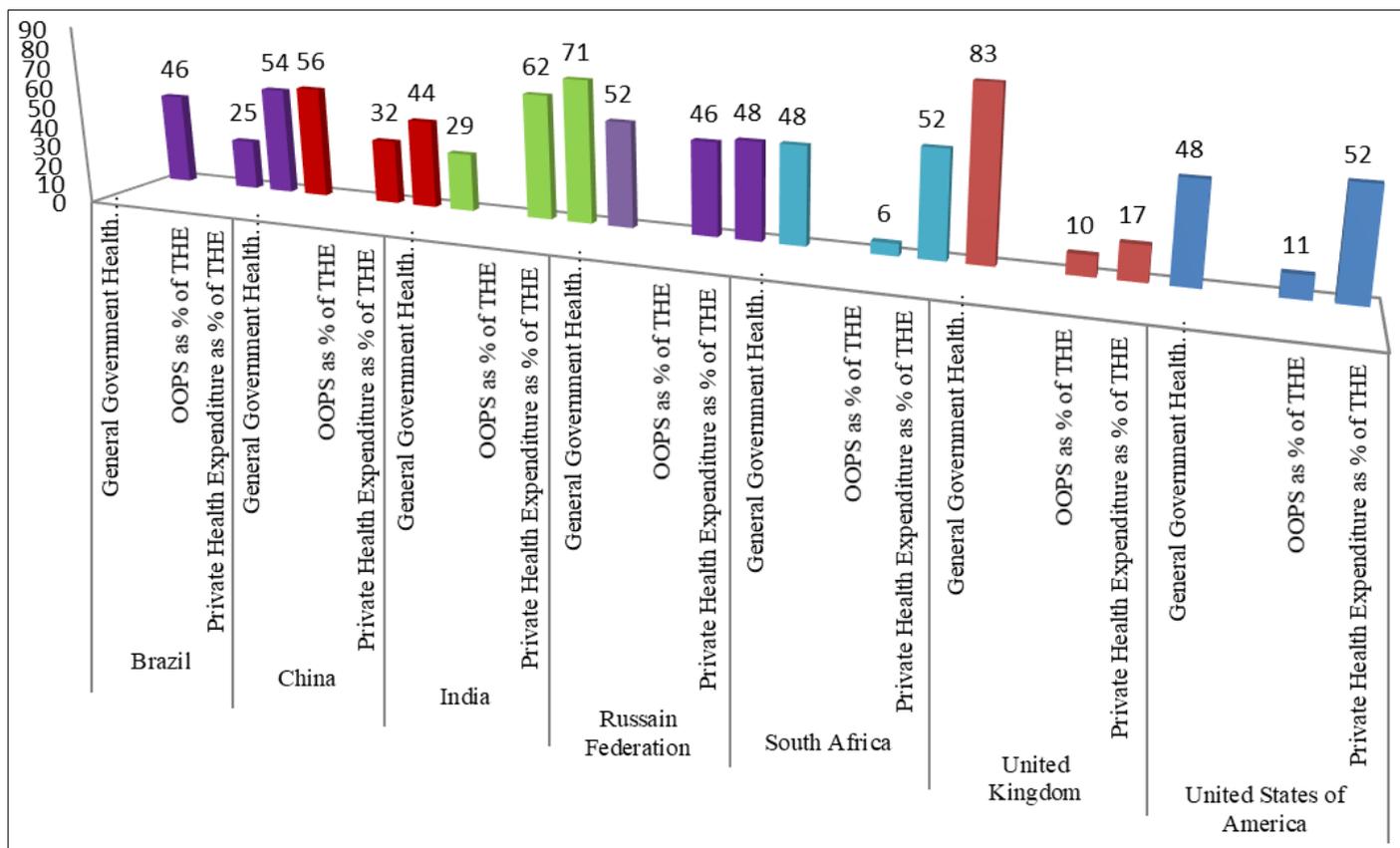
**Fig 1:** Region wise percentage distribution of Source of Money for Medical Treatment of households



Source: Ahmed, 2018, & NSSO, 2014.

**Fig 2:** Percentage distribution of Total expenditure by household on different items

International Comparison



Source: NSSO 2014-15 & Hindustan Time, 11 Dec, 2017.

Fig 3: Comparison of Key Health Financing Indicators for BRICS, US, UK For 2014

As a percentage of GDP, Indian spends only 1.1% on health in 2014-15 (NHA). National Health Policy (2017) set an objective of increasing this figure to 2.5% of GDP by 2025 (Hindustan Time, 2017). The figure 3 revealed that India has highest OOP expenditure in the world.

Figure 3 also depicts that among the entire above said nation public spending on health is very low (29%) in India, OOP payment (62%) and private spending on health (71%) are very much high as compare to other above-mentioned nations. In this figure we can see that United Kingdom public spending is very high among all the mentioned nations which also reduced OOP expenditure. So India need to increase public spending on health then there is a possibility in OOP payment reduction.

Conclusion

The increasing corruption and growing destructive practices in medical domain depicts that there is paramount need to initiate a solid mechanism which will safeguard the public health needs. If the government fail to tackle this menace then there is a possibility that in future public health face a challenge in choosing costly medicine for chronic disease, particularly cancer disease. Well-being is an asset for the countries socio-economic and political elevation. Therefore, there is a vital need to design strategies to mend affordable access to essential medicines under the current health care reform.

Reference

1. Kafi AK. Socioeconomic determinants of health system in India under the aspect of colonial structures, Frankfurt:

R.G. Fischer Verlag, 1991.  
 2. Nagla M. Sociology of health and medicine, New Delhi: Rawat Publication, 2018.  
 3. Chaganti, Suba Rao. Pharmaceutical Marketing in India, New Delhi: Excel Book, 2008.  
 4. Ahmed A. Privatization of Health Care and Increasing Burden Of Health Expenditure on Household: A Challenge for the Universal Health Courage in India', International Journal of Basic and Applied Biology. 2018; 5(3):165-170.  
 5. Angell M. The Trust About the Drug Companies: How They Deceive Us and What to Do About It, New Delhi: Random House, 2004.  
 6. McMullan Patrick. Improving access to medicines via the Health Impact Fund in India: a stakeholder analysis, Global Health Action. 2018; 11(1):1-20.  
 7. Kotwani Anita. Medicine Prices in the state of Rajasthan, Report of a survey of medicine price, availability, affordability and price components in Rajasthan, 2013.  
 8. Islam Shahidul. Irrational Use of Drugs, Healthcare Level and Healthcare Expenditure in Bangladesh. 2017; 2(4):152-158.  
 9. NSSO. 71<sup>st</sup> Round, Ministry Of Statistics and Programme Implementation, Government of India, 2014.  
 10. GOI. National Health Account Cell, Ministry of Health and Family Welfare, Government of India, New Delhi, 2014.  
 11. World Health Statistics. Progress towards the SDGs: A selection of data from World Health Statistics 2018 SDG3: Ensure healthy lives and promote well-being for all ages, 2018.

12. Holloway Kathleen. The World Medicines Situation 2011 Rational Use of Medicines, 2011.
13. Cameron A *et al.* The World Medicines Situation 2011 Medicines Prices, Availability, 2011.
14. Lu Ye, Hernandez Patricia, Edejer Tessa. The World Medicines Situation Medicine Expenditures, 2011. [http://apps.who.int/medicinedocs/en/d/Js6160e/2.html#Js6160e.2 /](http://apps.who.int/medicinedocs/en/d/Js6160e/2.html#Js6160e.2/)).
15. The Hindu, 2013.
16. The Times of India, 2013.
17. Hindustan Time, 2017.
18. Trivedi D. Unfair Practice, Frontline, 2014.
19. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5859811/pdf/bmjgh-2017-000571.pdf>. Accessed 7-2-2019
20. <https://www.ibef.org/download/Pharmaceuticals-January-2018.pdf>. Accessed 5Jan 2019
21. <https://www.justthinktwice.gov/social-consequences-using-drugs>. Accessed 5Jan 2019
22. <http://apps.who.int/medicinedocs/en/m/abstract/Js18026en/>. Accessed 5Jan 2019
23. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5844053/pdf/zgha-11-1434935.pdf>. Accessed 7Jan 2019
24. [http://whocc.goeg.at/Downloads/Conference2011/PraesentationenPPRIKonferenz/Day1\\_afternoon\\_Theatersaal\\_1500\\_Ewen.pdf](http://whocc.goeg.at/Downloads/Conference2011/PraesentationenPPRIKonferenz/Day1_afternoon_Theatersaal_1500_Ewen.pdf). Accessed 6 Jan 2019
25. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5419375/pdf/pharmacy-04-00035.pdf>. Accessed 7Jan 2019
26. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3643337/>. Accessed 8 Jan 2019
27. [http://whocc.goeg.at/Downloads/Conference2011/PraesentationenPPRIKonferenz/Day1\\_afternoon\\_Theatersaal\\_1500\\_Ewen.pdf](http://whocc.goeg.at/Downloads/Conference2011/PraesentationenPPRIKonferenz/Day1_afternoon_Theatersaal_1500_Ewen.pdf). Accessed 8 Jan 2019