



## Study on Gender Disparity in Inpatient Care in India

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**Abstract:** There are evidence of existing gender gap in healthcare in India with respect to region, socio-economic status, class, religion, caste, gender and sexuality but not much detailed study has been done in regards to gender gap in hospitalization (inpatient care). Our study aims to find the gender gap/differences in hospital care (inpatient care) and scrutinizing the factors pertaining to it. The data used for this study is collected from the three rounds of National Sample Surveys (NSS) namely the 60<sup>th</sup> round (2004), 71<sup>st</sup> round (2014) and the 75<sup>th</sup> round (2017-18). The raw data are extracted and organized into simple statistical tables applying sample weights. These tables are in turn used to analyze the inpatient hospitalization of the males and females. All the factors like rural-urban setting, age-wise variation, state-wise variation, ailment types, socio-economic groups, medical expenditure, average loss of household income and sources of financing hospitalization are taken into consideration and gender disparities are scrutinized. Significant gender gaps exist in hospital care (inpatient care) in India with respect to all the factors that are dealt with. There should be improvement in the health program designs and policy frameworks in terms of gender specificity as well as monitoring framework to keep a check on the gender issues.

**Keywords:** Gender gaps/disparities, gender differences, rate of hospitalization, hospital care, inpatient care, National Sample Survey (NSS), Health care expenditure (HCE).

### 1. INTRODUCTION

WHO (2011) defines Gender Equity as ‘a process of being fair to women and men with the objective of reducing unjust and unavoidable inequality between women and men in health status, access to health services and their contributions in the health workforce’. Universal Health Coverage (UHC) was launched in India with an aim to provide a complete spectrum of comprehensive, quality healthcare services to each and every Indian citizen irrespective of their socio-economic status or gender status without any financial problem, with expectations of achieving gender parity in health (Boerma *et al.*, 2014; Jaiswal and Jaiswal, 2013). Despite the steps being taken, there is a strong presence of health inequality which varies with respect to region, socio-economic status, class, religion, caste, gender and sexuality. The studies on the issues of the existing health inequalities influenced by income/wealth,

caste/ethnicity and sex/gender tends to describe and correlate the extent of gaps found, but the reasons behind these gaps are yet to be rooted out (Ravindran, 2018; Jaiswal, 2012).

Many studies have the evidences of gender based barriers faced by the women and girls to the accessibility of healthcare services (Barros *et.al*, 2015; Jaiswal, 2013; Houweling, *et.al*, 2007; Jaiswal, 2012; Molina, *et.al*, 2013). One such study done on utilization of the healthcare services in West Bengal finds out that the access to all the healthcare services is greater for the males when compared with females in both rural as well as urban sector. Another strong gender gap in access is cited for public sector hospitalizations in WB, where the utilization of hospitalization is higher in males compared to their female counterparts (Bose, 2014; Jaiswal, 2012).

Gender discrimination also varies with different age groups. Women belonging to the younger and older age groups are less likely to visit the hospital when compared with middle aged women (Kapoor, 2018). A study done in Bihar documents significant gender differences in the neonates, with girls receiving lesser care compared to the boys for neonatal illness and facility delivered post-natal wellness care. Furthermore, this is more prominent among infants with larger number of siblings and among the households with poorest wealth quartile (Vilms, *et.al*, 2017; Jaiswal, 2004). In contrast to this, it is observed that the rate of hospitalization of the males of the age group 15-49 years is significantly lower than that of the females of the same age group (Baker, *et.al*, 2014).

Immense gender gap is noticed with respect to the healthcare expenditure (HCE) in the households. This disparity is significant among the elderly women of the family (Maharana and Ladusingh, 2014). According to a study done on the rural patients suffering from Cancer in a public tertiary health centre in Odisha, the HCE are remarkably lower for the female adults when compared with the males of the same age (Batra, *et.al*, 2018). Another study in HCE in hospitalization reveals that there exists a gender gap in HCE for inpatient care where women face discrimination compared to men across all demographic and socio-economic groups. It is found that for the patients with poor financial condition, the percentage of hospitalization is always higher for men than the women. Moreover, it is less likely for the women in comparison to the mento meet the hospitalization charges by selling of assets and contribution from the relatives. On the other hand, for the males, the chance of borrowing to pay for the healthcare services increases with the onset of adulthood but declines on ageing (60 years and above) (Saikia and Moradhvaj, 2016).

All these studies enhance our understanding of the existing gender gap in the health care market. This paper aims to delve into the concern of gender gap/differences in hospital care (inpatient care) in India since it is comparatively a less researched topic. In doing so, the

study investigates the factors that influence the gender gap in inpatient care. This is done by scrutinizing the three sets of National Sample Survey (NSS) data (60<sup>th</sup>, 71<sup>st</sup> and 75<sup>th</sup> round) through a gender lens to analyze the gender gap in hospital care (inpatient care) in different age groups, urban/rural regions, states and with respect to different factors like type of ailments, socio-economic groups, medical expenditure, household income and sources of financing hospitalization.

## 2. OBJECTIVES

The prime objective of this paper is to study the gender gap/differences in hospital care (inpatient care) in India and scrutinizing the factors pertaining to it. The other specific objectives are given below:

1. To find out the hospitalization rates with respect to gender.
2. To gauge the Statewise gender difference in hospitalization rate.
3. To explore the different factors affecting hospitalization or access to health services.

## 3. MATERIAL AND METHODS

### 3.1. Data

The data used for this research is collected from three rounds of National Sample Surveys (NSS): (1) the 60<sup>th</sup> round (2004), titled as “*Morbidity, Health Care and the Condition of the Aged*”, (2) the 71<sup>st</sup> round (2014), titled as “*Key Indicators of Social Consumption in India (Health)*” and (3) the 75<sup>th</sup> round (2017-18) on “*Key Indicators on Social Consumption in India: Health*”, which are conducted by the National Sample Survey Organization (NSSO), Ministry of Statistics and Programme Implementation, Government of India.

All the three rounds namely the 60<sup>th</sup> round, 71<sup>st</sup> round and the 75<sup>th</sup> round of National Sample Survey (NSS) covered the curative aspects of the general health care system of India, morbidity profile of the population, hospitalised and non-hospitalised treatment of ailments, extent of receipt of pre-natal and post-natal care by women, utilization of the healthcare services provided by the public and the private sector and the expenditure incurred by the households for availing these services. In addition, information on the condition and problems of the aged persons were also included. However, some changes were made from the 71<sup>st</sup> round survey onwards – all treatments whether or not administered on medical advice were considered as medical treatment; ‘disabilities’ were considered as ailments only if the disabled persons were under treatment for a month or more during the reference period; a list of 60 ailments was used; ‘Indian System of Medicine’ (including Ayurveda,

Unani and Siddha), Homeopathy and ‘Yoga or Naturopathy’ were introduced in the list of nature of treatment.

The sample design and sample size of the data collected for the three rounds of NSS is summarized below:

Rounds of NSS	Sample Design	First Stage Units (FSUs)		Second Stage Units (SSUs)	
		RURAL (census villages)	URBAN (urban blocks)	RURAL (households)	URBAN (households)
60 <sup>th</sup>	Two-stage stratified	4,755	2,668	47,302	26,566
71 <sup>st</sup>	Two-stage stratified	4,577	3,720	36,480	29,452
75 <sup>th</sup>	Multi-stage stratified	8,077	6,181	64,552	49,271

### 3.2. Analysis of data

The raw data is taken from the 60<sup>th</sup>, 71<sup>st</sup> and 75<sup>th</sup> round of National Sample Survey (NSS) and analyzed to make simple statistical tables. *Sample weights* are applied for the statistical analysis of the sample data. The in-patient hospitalization of male and female is analyzed with respect to urban and rural setting, state-wise variation and for the entire population of the India to note the presence of gender gaps. In the next step, the gap is further explained with respect to a few variables- types of ailments, different socio-economic groups, medical expenditure, average loss of household income and sources of financing hospitalization.

## 4. REVIEW OF LITERATURE

### Gender Gap in Hospital Care: Global Evidences

Over the past decades, issues related to inequality in health have come to light and have been addressed by the policy makers and the academic researchers (Hosseinpoor *et.al*, 2018; Jaiswal, 2012). The United Nations also stressed upon the fact that both physical as well as psychological services should treat men and women equally and greater efforts are expected from the healthcare institutions in order to reduce the gender gap (Chien *et.al*, 2009; Jaiswal, *et.al*, 2011). The gender differences in hospital care is largely ignored and there is a scant research attention directed to this topic of gender gap in hospital care, hence providing inadequate number of literature to the researchers. To address this issue of gender gap in health, the *World Economic Forum* introduced a framework *The Global Gender Gap Index* in the year 2006 to capture the magnitude of the gender based disparities in countries all over the world and keep a track of their progress over time. The *Global Gender Gap Report 2018* benchmarks 149 countries on their progress towards gender parity on a scale rating

from 0 (disparity) to 1 (parity) across four dimensions, with “Health and Survival” being one sub-index. One of the key findings of this report is that on an average there exists 4% of gender gap in the “Health and Survival” sub-index and no country has yet achieved full parity. Also, the time to close the Health and Survival gender gap remains undefined. With specific issues remaining in some of the largest and most populous countries like India and China (India ranking 147 in the Health and Survival index), it would be hard time closing the gap fully (World Economic Forum, 2018). A cross-sectional study done on the older adults of India and China examining gender differences in the three major health measures—self reported health (SRH), grip strength and cognitive function further draws attention to the gender gap issues prevailing in these countries. A consistent female disadvantage is found in both rural and urban areas of India as well as China in all the three measures, with the gender difference in poor SRH being greater in rural than in urban sub samples (Oksuzyan *et.al*, 2018).

Another study in the low and middle income countries highlights diverse examples of gender and health systems research, and all of these indicate that policy-makers, health practitioners and others who are interested in enhancing health system research and delivery are focussed on one-size-fits-all health interventions that ignore gender and intersectionality dimensions (Morgan *et.al*, 2018; Jaiswal, *et.al*, 2011).

In a high income country like USA, Coronary Heart Disease (CHD) is the leading cause of deaths (Hosseinpoor *et.al*, 2018; Jaiswal, 2012). [20]. A study reveals that for the cases of Emergency Medical Services (EMS) activations for chest pain (CP), only less than one half of the sample population receives the recommended treatments like Aspirin or cardiac monitoring with women receiving a lower percentage of recommended treatments than men (for both Black and White patients with CP). The difference in the treatment rates between men and women is found to be higher for individuals less than 65 years old compared with those 65 and older (Mozaffarian *et.al*, 2015; Lewis, *et.al*, 2018).

Gender differences appear to be different across different age groups and a study of the adolescents in South Africa on healthcare seeking behaviour finds out that the proportion of female adolescents seeking healthcare is more than that of the males of that age (Otwombe *et.al*, 2015). Another study in Sweden reveals how gender differences play an important role in the choice of medical treatment which talks about the experience of the general practitioners (GPs) on women seeking more healthcare than men. The explanation as mentioned by the GPs is that women have increasing contacts with healthcare as there are more screening programs for women. On the other hand, men are perceived to have a higher threshold for seeking healthcare. The GPs mentioned the perception of male being

hearty, strong and able to look after themselves and hence a gap in seeking healthcare (Loikas *et.al*, 2015).

Overall, it is quite evident from all these studies that globally there exists a strong gender gap among various aspects of healthcare, irrespective of the economic backgrounds of the countries. This discrimination is for both males and females varying with the age groups. Furthermore, this poses a challenge for the attainment of Sustainable Development Goal (SDG) 5 on “gender equality” and much is yet to be done to bridge the existing gender gap. This paper focuses on one of the most relevant yet untended aspect of gender gap in hospitalization (inpatient care) in India.

## 5. RESULTS: GENDER GAP IN RATE OF HOSPITALIZATION IN INDIA

According to the 75<sup>th</sup> round of NSS (2017-18), the definition of “hospitalization” is the proportion of persons treated as in-patient per 1000 of population, excluding the cases of admission to the hospital due to childbirth. This definition is same for both 60<sup>th</sup> round of NSS (2004) as well as the 71<sup>st</sup> round of NSS report (2014).

Rate of hospitalization

$$\left[ \frac{\text{Total number of cases of admission to hospital (currently dead or alive) in the last 365 days for any reason excluding cases of admission due to child birth}}{\text{otaestimated population including those who die dinthe last 365 days}} \right] \times 1000$$

Here, cases = (number of people hospitalized) × (number of times they were hospitalized in the last 365 days)

### 5.1. Hospitalization Rate of Male and Female Patients

The rural-urban variation i.e., the number per 1000 of persons treated as in-patient excluding hospitalization due to childbirths in different age groups is being highlighted in this section. We have calculated the ratio of rate of hospitalization of the males to that of the females and this is denoted by “M-F ratio” in Tables 1, 2 and 3. The ideal situation would be when the “M-F ratio” will be equal to “1” which indicates that the hospitalization rate of the males and females are equal. Ideally there should be very less or negligible difference between the rate of hospitalization of the males and females the hospitalization due to childbirths are already excluded. This in turn, would signify that there is no gender gap in the hospitalization rate of the males and females. However, the deviation of the calculated “M-

F ratio” from 1.0 in either direction gives us the estimated gender gap. Here, we are comparing the rate of hospitalization (the proportions of persons treated as in-patient per 1000 excluding the hospitalization cases due to childbirth) among the male and female of different age groups in the rural areas, urban areas and also for the entire rural and urban population of the 60<sup>th</sup> round, 71<sup>st</sup> round and 75<sup>th</sup> round of India’s NSS report. The mathematical equation of the “M-F ratio” is given below:

$$M - F \text{ ratio} = \left( \frac{\text{Number of males hospitalized}}{\text{total estimated male population}} \right) \div \left( \frac{\text{Number of females hospitalized}}{\text{total estimated female population}} \right)$$

Table 1 gives the comparison of the hospitalization rate in the rural population of India and the M-F ratios are calculated of the different age groups. The table as well the graphical representation of the M-F ratio (Figure 1) depicts that all the age groups from the three rounds of NSS show deviation from 1, except for the age group of 45-59 years in the 71<sup>st</sup> round of NSS which shows the ideal M-F ratio. Considering all the three rounds of NSS, the highest deviation from 1 is observed for the M-F ratios of the age group of 0-14 years- for the 60<sup>th</sup> round it is 0.5, for the 71<sup>st</sup> round it is 0.64 and 0.73 in the 75<sup>th</sup> round. This signifies that the highest gender gap lies in the rate of hospitalization of the age group of 0-14 years and this gap has significantly increased from 2004 (60<sup>th</sup> round) to 2014 (71<sup>st</sup> round) to 2017-18 (75<sup>th</sup> round). Thus, it can be concluded that in the rural areas, the highest discrimination in the rate of hospitalization of the males and females is observed between the age group of 0-14 years.

Table 2 gives the comparison of the hospitalization rate in the urban population of India and the M-F ratios are calculated of the different age groups for the 60<sup>th</sup>, 71<sup>st</sup> and 75<sup>th</sup> round of NSS report. From the table and its graphical representation (Figure 2) it is evident that the M-F ratio of each and every age group from all the 3 round of NSS shows deviation from the ideal M-F value 1 hence, signifying gender gap in hospitalization. For the 60<sup>th</sup> round and the 71<sup>st</sup> round, the M-F ratio having highest distance from 1 is for the age group of 15-29 years, the values being 0.31 and 0.35 respectively, whereas for the 75<sup>th</sup> round, the M-F ratio for the age group of 0-14 years shows the highest deviation from 1, the value being 0.5 and is followed by the M-F ratio of the age group of 60 years and above, the value being 0.32. Thus, it can be concluded that for the urban areas, the gender gap in hospitalization was higher for the age group of 15-29 years according to the 60<sup>th</sup> and 71<sup>st</sup> NSSO report but a huge change in trend is seen in the 75<sup>th</sup> round NSSO report. In the 75<sup>th</sup> round, the highest gender gap in hospitalization is observed for the age group of 0-14 years followed by the age group of 60 years and above.

Table 3 gives the comparison of the hospitalization rate in the entire population of India (the urban and rural population taken together) and the M-F ratios are calculated of the different age groups for the 60<sup>th</sup>, 71<sup>st</sup> and 75 round of NSS report. From the data table 3 and its graphical representation (Figure 3) it is quite clear that the M-F ratio of each and every age group from all the 3 round of NSS shows deviation from the ideal M-F value “1”, hence, signifying gender gap in hospitalization. Similar to the rural data in rate of hospitalization, the overall data combining rural and urban population for all the 3 rounds of NSSO shows a similar trend in gender gap in hospitalization. The highest deviation from 1 is observed for the M-F ratios of the age group of 0-14 years- for the 60<sup>th</sup> round it is 0.45, for the 71<sup>st</sup> round it is 0.41 and 0.61 in the 75<sup>th</sup> round. This signifies that the highest gender gap lies in the rate of hospitalization of the age group of 0-14 years and this gap was decreased from 60<sup>th</sup> round to the 71<sup>st</sup> round, which further increased during the 75<sup>th</sup> round of NSS. Thus, it can be concluded that for the total population of India, the highest discrimination in the rate of hospitalization between the males and females is observed between the age group of 0-14 years.

If we scrutinize the tables (Table 1, Table 2 and Table 3) further on the basis of the M-F ratio of the different age-groups, we can see a similar trend for the age-groups 0-14 years as well as 60 years and above, while a different trend for the age-group 15-49 years in the deviation of the M-F values from 1. Considering 0-14 years age group in the rural, urban as well as taking the entire population together, it is observed that the deviation of the M-F ratio is on the higher side meaning that the hospitalization rate of the males is higher than that of the females. Again, the age group of 60 & above (rural, urban as well as the entire population) shows the same trend in the M-F ratio with the deviation from 1 being on the higher side, suggesting that the geriatric women have a lesser rate of hospitalization compared to the men of that age group. If we take a look at the data generated for the age group 15-49 years (for rural, urban and the entire population), an interestingly different trend is observed: the M-F ratio deviates from 1 on the lower side depicting that the rate of hospitalization of the males is comparatively lower than that of the females.

The gender disparity in the utilization of inpatient care in India is thus quite evident, but what are the factors responsible for such inequalities? The probable reason behind the male-bias in the 0-14 age group is that the girl neonates usually face discrimination in the treatment compared to the boys and this is higher for the girls having male siblings in the family. The male preference dominant in the society may lead to the girls receiving lower rate of care compared to the boys and this is reflected in the rate of hospitalization. Also for the age group of 60 years and above, the women are disadvantaged than the men and accounts for a lower rate of hospitalization. This can be due to the fact that at old age



women are usually discriminated and their diseases are often neglected either by themselves or their households. Moreover, the health care system itself is a source of discrimination against older women, who are less likely than others to receive available treatments for cardiac, renal and other conditions that require hospitalization.

A completely different trend is cited between the age group of 15-49 years, with the males facing discrimination than the females in hospital care(excluding those who needed inpatient care for birth delivery). This issue of gender gap in the health of the men is highlighted in the *Bulletin of the World Health Organization* [10]. The men during this age group are considered as the sole earner of the family by the society and hence, they have a greater risk of occupational exposure to physical and chemical hazards (accidents and injuries), more prone to infections, greater risk taking behaviour and adventurous, more likely to consume alcohol and smoke, have health behaviour on notions of masculinity, more likely to be affected by cardiovascular and other diseases (against which women are naturally protected in their pre-menopause or reproductive years). In spite of all these facts, men are less likely to visit a doctor on any illness or even getting hospitalized upon symptoms of any disease or illness. This can be attributed to the fact that they are considered the working class socially and thus, they are either not willing or cannot afford to spend days in hospital during their productive period. Another main reason is the notion of their “masculinity” which makes them less likely than the women of the same age to visit a hospital and report on their health issues, they mostly tend to ignore their health issues at this age. Thus, it is noted that both men and women face discrimination in hospitalization (inpatient care).

## 5.2. Hospitalization Rate of Male and Female Patients, by State

Table 4 gives the state-wise (taking the major states of India) distribution of rate of hospitalization of the males and females in rural areas, urban areas and the total population of India. Tables 5 gives the state-wise distribution of the calculated M-F ratios for the age group of “0-14” years and “60 years and above”. The “M-F ratio” is calculated by taking the rate of hospitalization of the males upon the rate of hospitalization of the females and shown in the table which in turn helps in the assessment of gender gap in rate of hospitalization.

Table 4 and Table 5 lend us some interesting facts which are stressed below:

- For the age-group of 0-14 years (younger population), Bihar, Haryana, Rajasthan and Uttar Pradesh (M-F ratios 2.5, 2.4, 2 and 2 respectively) show highest deviation from 1.0. With the deviation being on the higher side signifies that the females are disadvantaged compared to the males in this age group concerning hospitalization

(inpatient care). Whereas, these states show comparatively lower gender gap for the age group of 60 years & above.

- For the age group of 60 years and above (older population), the highest deviation from 1.0 is shown by Jharkhand and Tamil Nadu (M-F ratios 1.71 and 1.72 respectively). This suggests that the older females face discrimination in inpatient care compared to older males in these states.
- Jharkhand shows a similar trend of discrimination faced by females among the younger as well as the older population while in Tamil Nadu, the older females face more prominent gender discrimination compared to the younger females.
- Punjab (M-F ratio 0.93) and Madhya Pradesh (M-F ratio 0.91) are the only states which show deviation on the lower side for the older population, indicating that the older males face discrimination in inpatient care rather than the older females.
- Furthermore, it is observed that the Northern states of India- Bihar, Haryana, Uttar Pradesh and Rajasthan show highest gender gap in the younger population in contrast to the older population. On the other hand, the Southern states like Tamil Nadu (M-F ratio 1.71) and Andhra Pradesh (M-F ratio 1.64) have higher gender discrimination for the older population.

### 5.3. Gender Gaps in Hospitalization with Respect to Different Factors

#### 5.3.1. Types of Ailments

Figure 4 and Figure 5 have been used to represent the percentage break-up of hospitalization cases by the type of ailment for which the patient was hospitalized, separately for male and female in the rural and urban setting using data from the 75<sup>th</sup> round of *National Sample Survey (NSS)*. It is seen that the highest rate of hospitalization cases for both males and females is pertained to the cases of infections in both rural and urban areas. The next highest rate of hospitalization cases for males is due to injuries, cardiovascular diseases and psychiatric/neurological diseases for both rural as well as urban areas. On the other hand, for the females, the next highest category of ailment for hospitalization is found to be gastro-intestinal, cardio-vascular and genitourinary diseases for both rural and urban areas.

#### 5.3.2. Socio-economic Groups

Table 6 gives the percentage break-up of the hospitalization cases in India by quintile class of household expenditure, separately for rural and urban areas and male and females using data from the 75<sup>th</sup> round of *National Sample Survey (NSS)*. The 1<sup>st</sup> quintile class of household

expenditure is the poorest class with the lowest 20% income group of population, the 2<sup>nd</sup> quintile class being the poor class, the 3<sup>rd</sup> quintile is the middle class, next is the upper middle class (4<sup>th</sup> quintile) and the last being the highest 20% income group of population i.e., the richest class. For the poorest group of population, the rate of hospitalization is quite low for the males compared to the females in the rural setting signifying that the males face discrimination in the inpatient care in the rural areas. For the 2<sup>nd</sup> quintile class, the urban males face discrimination in hospitalization compared to the urban females. An interesting fact that draws our attention towards Table 6 is that, as we move from the lower quintiles to the highest quintile class in terms of household expenditure, the rate of hospitalization is lower for the females compared to the males in the rural areas as well as the urban areas highlighting the discrimination faced by the females across both the regions irrespective of the economic background of the population.

### 5.3.3. Medical Expenditure

Table 7 gives the medical expenditure per episode of hospitalization (excluding childbirth) for males and females in the rural, urban and the entire sample population for the 75<sup>th</sup> round of *National Sample Survey (NSS)*. It is quite evident from the table that on an average a household is likely to spend more on medical purposes for a male member during hospitalization than for a female member in urban, rural as well as for the entire sample population.

Table 8 gives the breakup of medical expenditure per episode of hospitalization (excluding childbirth) for males and females, at different levels of average length of stay (ALOS) taking data from the 75<sup>th</sup> round of *National Sample Survey (NSS)*. It can be noted from the table that as the ALOS increases from less than 1 week to 1-3 weeks to more than 3 weeks, the medical expenditure also increases with a prominent discrimination for females. For all the levels of ALOS, the medical expenditure for females is found to be extensively lower than that of the men. These findings are quite startling considering the fact that data for expenditure on hospitalization due to childbirth has been excluded.

The findings of Table 7 and 8 can be explained as- (1) the society considers men as the sole bread earner of the family and women as non-earning, care giver and not contributing to the household income. The household cannot afford to lose the main source of income and hence, preferring medical treatment of the men over women, (2) females are treated as inferior by the patriarchal society and hence, face discrimination in healthcare like in other aspects.

### 5.3.4. Average loss of Household Income

Table 9 gives the average loss of household income due to hospitalization (excluding hospitalization due to childbirth) for males and females in the rural, urban as well as the entire

sample population, with the data from the 75<sup>th</sup> round of National Sample Survey (NSS). Average loss of household income due to hospitalization implies that hospitalization of any person requires the person to be absent from work, leading to wage loss/salary loss which results in an average loss of source of income for the household. It is clear from the table that the average loss of household income due to hospitalization is higher in case of males compared to females for rural, urban and the entire sample population. This is due to the fact that males are considered as the sole bearer of the household income as per the society and hence, on their hospitalization (meaning absence from their workplace) the source of income of the household gets blocked, which explains the higher average loss of household income. On the other hand, women are considered as the non earning member of the family and their role as care giver is dominant. The source of income would not be directly affected due to their hospitalization implying a lower average loss of household income.

### 5.3.5. Sources of Financing Hospitalization

Figure 6 gives the percentage-wise distribution of the major sources of financing hospitalization (excluding hospitalization due to childbirth) for males and females, with the data from 75<sup>th</sup> round of National Sample Survey (NSS). It is found out from the figure that for both females and males, the major source of financing of hospitalization comes from income/savings but the percentage utilization of income/savings is higher for the females (82.7%) than that of males (79.7%) for financing hospitalization. The next major source of financing the hospitalization expenses comes from borrowings for both females and males with the percentage being higher for males (12.6) than for the females (10.7). In case the major source of financing the hospitalization expenses is contribution of friends/relatives, the percentage is slightly higher for males (3.7%) than females (3.4%).

Thus, it can be concluded that there exists a gender gap for males when utilizing income/savings for meeting the expenses of hospitalization. On the other hand, discrimination is faced by the females in financing hospitalization when the source of financing from borrowings and/or contribution of friends/relatives.

## 6. DISCUSSION

The findings of our research strongly suggest the presence of gender gaps/gender discrimination in inpatient care. Not only women, but men also face gender discrimination in hospital care (inpatient care). As the women between the age groups 0-14 years and 60 years and above face discrimination, similarly, men belonging to the age group of 15-49 years face discrimination in receiving hospital services. One prominent reason for disparity in inpatient care towards women in hospital care is the male bias in the society leading to

negligence of women's health. Likewise men belonging to the age group of 15-49 years tend to neglect their health possibly due to the notion of their 'masculinity' and greater physical strength than women. Another reason can be attributed to the societal image of men being the 'sole earner of the family' or 'working class' making them vulnerable to loss of wages/working hours in lieu of receiving hospital care.

If we take a look at the statewise gender gap scenario, 0-14 year old girls are highly disadvantaged in the Northern states compared to the Southern states of India. This might be due to the fact that the Southern states have a lower population growth, higher literacy rate, higher economic growth and have notable social progress with the status of women being better in this region compared to the Northern states.

Our study speculates gender gap in inpatient care with respect to different factors and it is found out that majority of hospitalization cases in males are due to infection, injuries, cardiovascular diseases and psychiatric or neurological diseases in both rural as well as urban areas whereas, for women the highest rate of hospitalization is for injuries, gastro-intestinal, cardiovascular and genitourinary diseases for both rural and urban areas.

Taking socio-economic background as a factor, the trend of discrimination towards female is persistent in rural as well as urban areas irrespective of the economic background of the sample population.

Medical expenditure is chosen as another factor to look into the gender gap in hospital care and it is found out that the households prefer medical treatment of men over women. The reason being the same: men are given importance as they are considered sole contributors in the household income and women are considered inferior than men. For the same reason, average loss of household income is higher for men compared to women for cases of hospitalization.

Gender disparity is notable in sources of financing hospitalization: men face discrimination in utilization of savings/income for financing hospitalization expenses. If the major source of financing hospital services comes from contribution of friends/relatives, discrimination is faced by females compared to the males in the household.

To sum up, as the majority of existing studies establish gender discrimination in various aspects of health care in India, this paper puts forward an effort to analyze the overall scenario of gender gap in India in inpatient care (hospital care) combining all the relevant factors together to come to a conclusion.

With increasing morbidity of COVID-19, if we analyze the hospitalization with a gender lens, we find that the overall burden of disease is higher for males (66%) compared to the

females (34%) but the relative risk of mortality due to COVID-19 is higher for the females in India (Joe *et.al*, 2020). Now the question arises- is it because of lower rate of hospitalization of women? Further scope lies in exploring and finding an answer to this question. The other unanswered question is whether and to what extent the attitude and practice of the caregivers are responsible for this gender disparity in hospital care.

## 7. CONCLUSION

In conclusion, our study shows that there exist significant gender gaps in hospitalization (inpatient care) for all the age groups- 0-14 years, 15-49 years and 60 years and above. Also, when found out with respect to different states, rural and urban setting, socio-economic groups, types of ailments, medical expenditure, sources of financing hospitalization and average loss of household income due to hospitalization gender discrimination is evident for both males and females. The study identifies that females are more disadvantaged if we look at the age group of 0-14 years as well as 60 years and above while, the males are more disadvantages between 15-49 years of age.

Though the country's one of the major health policies Universal Health Coverage (UHC), encompasses health financing and financial protection covering health service for the entire population of India to maintain gender equality in health, our study highlights the fact that a lot is yet to be done in terms of bridging the gender gap in health. In the matter of health since women have a higher stake, they need to be the central reference point in devising and implementing health policies. If we look at the health policies, they are generally silent in terms of gender equity. Concentrated efforts should also be made to change the social attitude which leads to the elimination of all forms of biases, prejudice and discrimination to reduce gender disparities. Citing all the evidences of gender gaps in inpatient care given by our study, there should be some improvement in the health programme designs in terms of gender specificity and there should be a monitoring framework to keep a check on the gender issues. Moreover, there should be some policy that would ensure that health of women is a public health priority throughout her life irrespective of her age and disease severity.

## 8. CONFLICT OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

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## APPENDIX

**Table 1: Hospitalization Rate of Male and Female in Rural India**

<i>Age group</i>	<i>2004 (60<sup>th</sup> round)</i> <i>(page 24, Statement 21)</i>			<i>2014 (71<sup>st</sup> round)</i> <i>(page 15, Statement 3.6)</i>			<i>2017-18 (75<sup>th</sup> round)</i> <i>(page A-12, Table A-10)</i>		
	<i>Male</i>	<i>Female</i>	<i>M-F ratio</i>	<i>Male</i>	<i>Female</i>	<i>M-F ratio</i>	<i>Male</i>	<i>Female</i>	<i>M-F ratio</i>
0-14	<b>15</b>	<b>10</b>	<b>1.50</b>	<b>23</b>	<b>14</b>	<b>1.64</b>	<b>19</b>	<b>11</b>	<b>1.73</b>
15-29	<b>17</b>	<b>21</b>	<b>0.80</b>	<b>20</b>	<b>32</b>	<b>0.62</b>	<b>14</b>	<b>22</b>	<b>0.64</b>
30-44	<b>23</b>	<b>27</b>	<b>0.85</b>	<b>30</b>	<b>38</b>	<b>0.79</b>	<b>22</b>	<b>28</b>	<b>0.79</b>
45-59	<b>41</b>	<b>37</b>	<b>1.10</b>	<b>52</b>	<b>52</b>	<b>1.00</b>	<b>37</b>	<b>39</b>	<b>0.95</b>
60+	<b>63</b>	<b>49</b>	<b>1.29</b>	<b>106</b>	<b>93</b>	<b>1.14</b>	<b>86</b>	<b>68</b>	<b>1.26</b>

**Table 2: Hospitalization rate of male and female in urban India**

<i>Age group</i>	<i>2004 (60<sup>th</sup> round)</i> <i>(page 24, Statement 21)</i>			<i>2014 (71<sup>st</sup> round)</i> <i>(page 15, Statement 3.6)</i>			<i>2017-18 (75<sup>th</sup> round)</i> <i>(page A-12, Table A-10)</i>		
	<i>Male</i>	<i>Female</i>	<i>M-F ratio</i>	<i>Male</i>	<i>Female</i>	<i>M-F ratio</i>	<i>Male</i>	<i>Female</i>	<i>M-F ratio</i>
0-14	22	17	1.29	28	24	1.16	27	18	1.50
15-29	18	26	0.69	20	31	0.65	18	23	0.78
30-44	28	31	0.90	33	43	0.77	24	33	0.73
45-59	51	45	1.13	65	68	0.96	47	50	0.94
60+	102	81	1.26	142	125	1.14	116	88	1.32

**Table 3: Hospitalization rate of male and female in all India**

<i>Age group</i>	<i>2004 (60<sup>th</sup> round)</i>			<i>2014 (71<sup>st</sup> round)</i>			<i>2017-18 (75<sup>th</sup> round)</i>		
	<i>Male</i>	<i>Female</i>	<i>M-F ratio</i>	<i>Male</i>	<i>Female</i>	<i>M-F ratio</i>	<i>Male</i>	<i>Female</i>	<i>M-F ratio</i>
0-14	16	11	1.45	24	17	1.41	21	13	1.61
15-29	17	22	0.77	20	32	0.62	15	22	0.68
30-44	25	28	0.89	31	39	0.79	23	30	0.77
45-59	44	39	1.13	56	57	0.98	40	43	0.93
<b>60+</b>	<b>72</b>	<b>57</b>	<b>1.26</b>	<b>112</b>	<b>103</b>	<b>1.09</b>	<b>96</b>	<b>75</b>	<b>1.28</b>

**Table 4: Hospitalization rate of male and female by State (major states), (75<sup>th</sup> round of NSS, 2017-18)**

State/UT	Number of hospitalization cases per 1000 persons in 365 days								
	Rural			Urban			Rural + Urban		
	M	F	all	M	F	all	M	F	All
Andhra Pradesh	38	35	37	44	41	43	40	37	38
Bihar	11	14	12	12	15	14	11	14	12
Chhattisgarh	17	19	18	26	31	28	19	21	20
Gujarat	21	21	21	28	33	30	24	25	24
Haryana	28	28	28	31	30	31	29	29	29
Jharkhand	9	12	11	27	32	30	13	16	14
Karnataka	32	25	29	29	27	28	31	26	29
Kerala	114	113	114	106	85	95	110	100	105
Madhya Pradesh	20	19	20	27	29	28	22	22	22
Odisha	30	37	34	29	32	30	30	36	33
Punjab	23	40	31	27	35	31	24	38	31
Rajasthan	26	23	24	27	30	28	26	24	25
Tamil Nadu	33	30	31	37	31	34	34	31	33
Uttar Pradesh	20	21	21	30	33	31	22	24	23
<b>West Bengal</b>	<b>42</b>	<b>38</b>	<b>40</b>	<b>44</b>	<b>49</b>	<b>47</b>	<b>43</b>	<b>41</b>	<b>42</b>

**Table 5: State-wise M-F ratios of “0-14” age group and “60 years & above” (75<sup>th</sup> round of NSS, 2017-18)**

State	M-f Ratio (For 0-14 Years)	M-f Ratio (For 60 & Above Years)
Punjab	1	0.93
Haryana	2.4	1.2
Rajasthan	2	1.53
Uttar Pradesh	2	1.18
Bihar	2.5	1.32
West Bengal	1.74	1.31
Jharkhand	1.8	1.71
Odisha	1	1.4
Chattisgarh	1.5	1.11
Madhya Pradesh	1.62	0.91
Gujarat	1.53	1.23
Maharashtra	1.61	1.23
Andhra Pradesh	1.81	1.64
Karnataka	1.6	1.39
Kerala	1.54	1.15
Tamil Nadu	1.07	1.72



**Table 6: Percentage break-up of hospitalization cases in India by quintile class of household expenditure, separately for each sector and gender (75<sup>th</sup> round of NSS, 2017-18)**

*Percentage break-up of hospitalization cases in India by quintile class of household expenditure, separately for each sector and gender*

*ALL-INDIA*

<i>Quintile class of household expenditure</i>	<i>Percentage of hospitalization cases</i>			
	<i>Rural</i>		<i>Urban</i>	
	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>
1 <sup>st</sup>	11.6	14.1	16.2	16.2
2 <sup>nd</sup>	14.3	13.6	17.7	20.2
3 <sup>rd</sup>	19.1	18.6	21.6	21.2
4 <sup>th</sup>	22.6	22.4	21.3	20.8
5 <sup>th</sup>	32.3	31.3	23.1	21.6
All	100.0	100.0	100.0	100.0

**Table 7: This table is for the representation of medical expenditure per episode of hospitalization (excluding childbirth), by sex (75<sup>th</sup> round of NSS, 2017-18)**

<i>Gender</i>	<i>Rural</i>	<i>Urban</i>	<i>Total</i>
Male	₹ 20,988	₹ 32,249	₹ 24,938
Female	₹ 14,815	₹ 24,074	₹ 18,400

**Table 8: This table gives the gender-wise breakup of medical expenditure per episode of hospitalization at different levels of average length of stay (ALOS), (75<sup>th</sup> round of NSS, 2017-18)**

<i>Gender</i>	<i>Average Length of Stay (ALOS)</i>		
	<i>Less than 1 week</i>	<i>1-3 week</i>	<i>More than 3 weeks</i>
Male	₹ 13,311	₹ 44,550	₹ 1,03,265
Female	₹ 10,698	₹ 38,170	₹ 75,335

**Table 9: This table gives the average loss of household income due to hospitalization (excluding childbirth), by sex (75<sup>th</sup> round of NSS, 2017-18).**

<i>Gender</i>	<i>Rural</i>	<i>Urban</i>	<i>Total</i>
Male	₹ 2,732	₹ 3,395	₹ 2,955
Female	₹ 1,641	₹ 2,034	₹ 1,770

Figure 1: Age-wise distribution of the M-F ratios for the 60<sup>th</sup>, 71<sup>st</sup> and the 75<sup>th</sup> round of National Sample Survey (NSS) taking the rural population

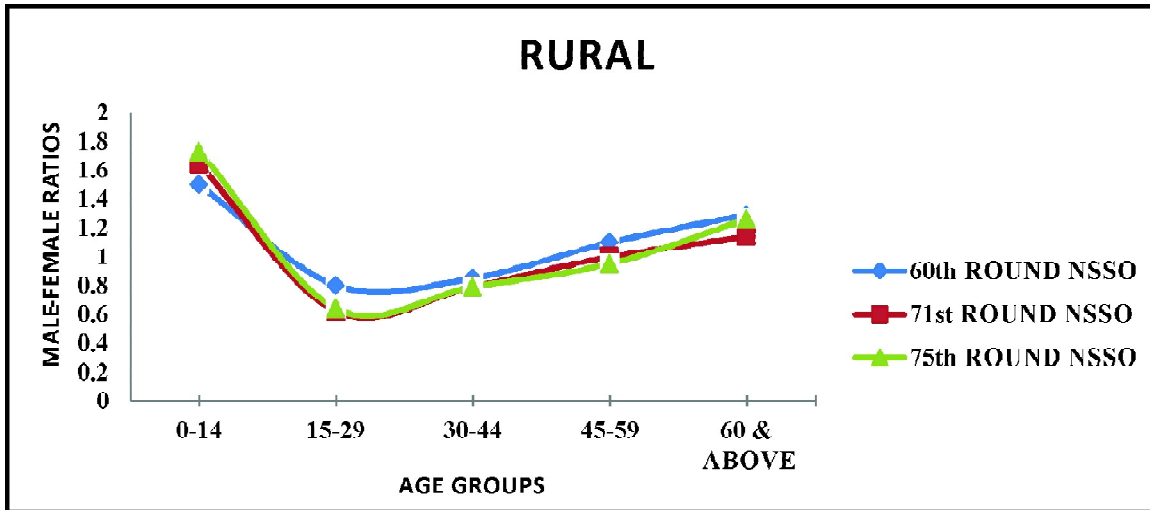


Figure 2: Age-wise distribution of the M-F ratios for the 60<sup>th</sup>, 71<sup>st</sup> and the 75<sup>th</sup> round of National Sample Survey (NSS) taking the urban population

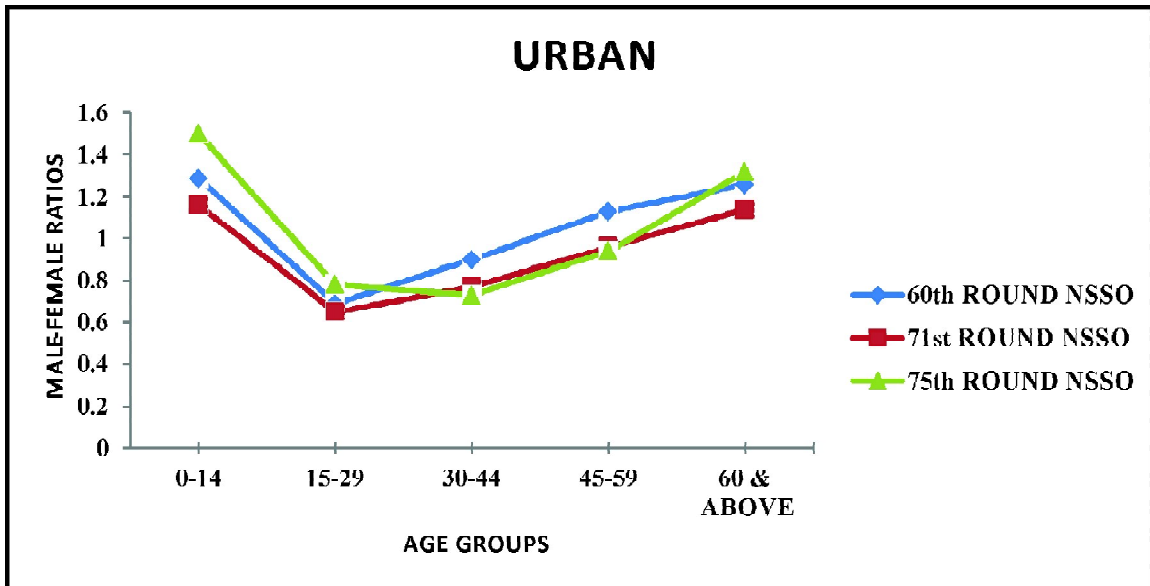


Figure 3: Age-wise distribution of the M-F ratios for the 60<sup>th</sup>, 71<sup>st</sup> and the 75<sup>th</sup> round of National Sample Survey (NSS) taking the entire sample population

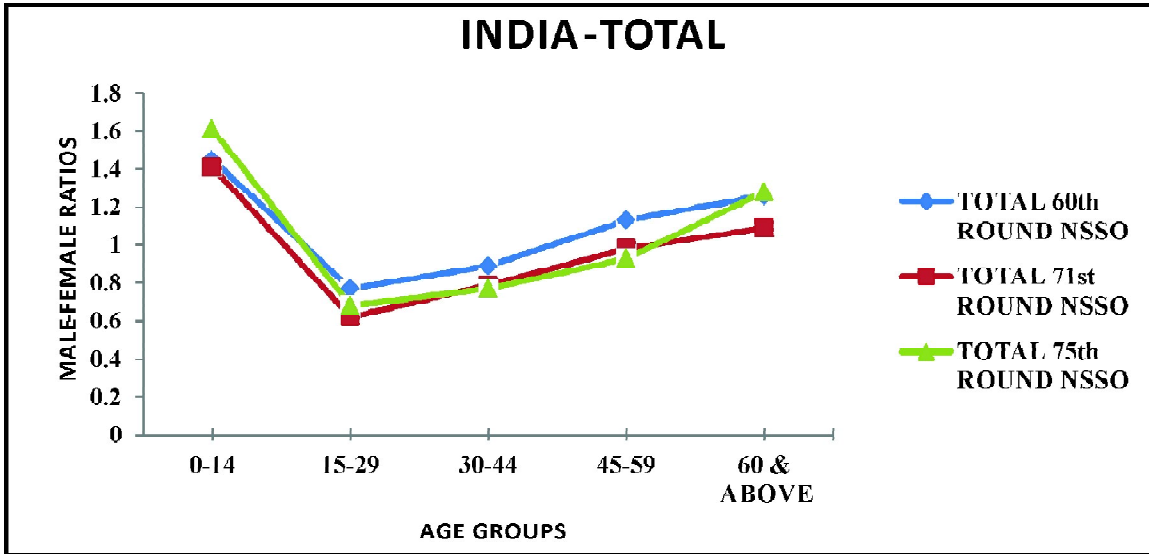


Figure 4: Representation of the percentage breakup of hospitalization cases by type of ailment in the “FEMALES” in the urban and rural population (75<sup>th</sup> round, 2017-18)

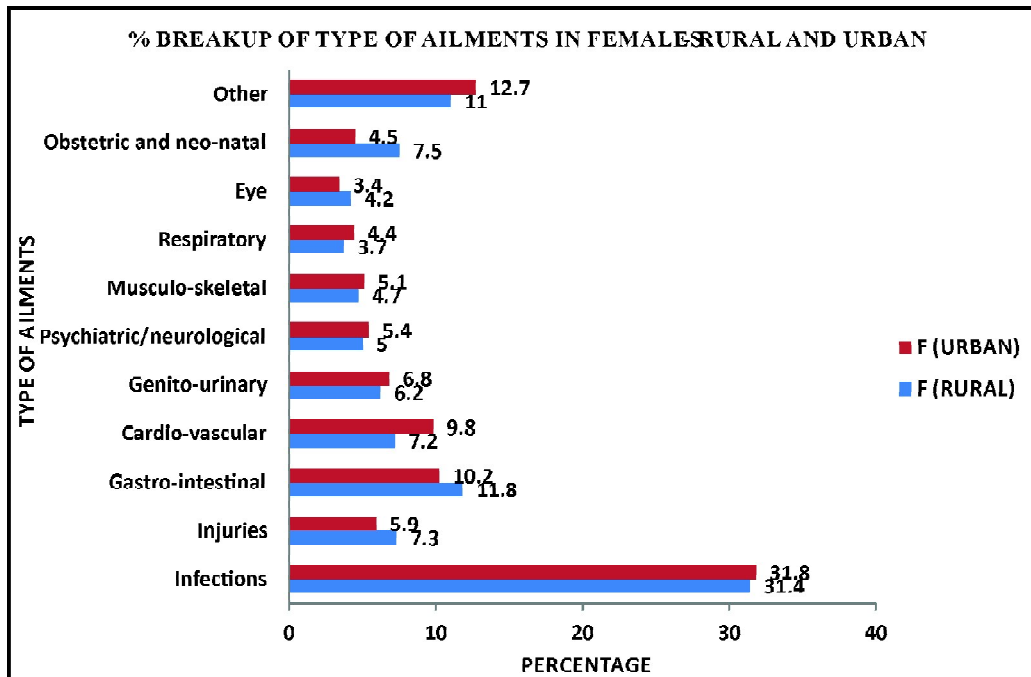


Figure 5: Representation of the percentage breakup of hospitalization cases by type of ailment in the “MALES” in the rural and urban population (75<sup>th</sup> round, 2017-18)

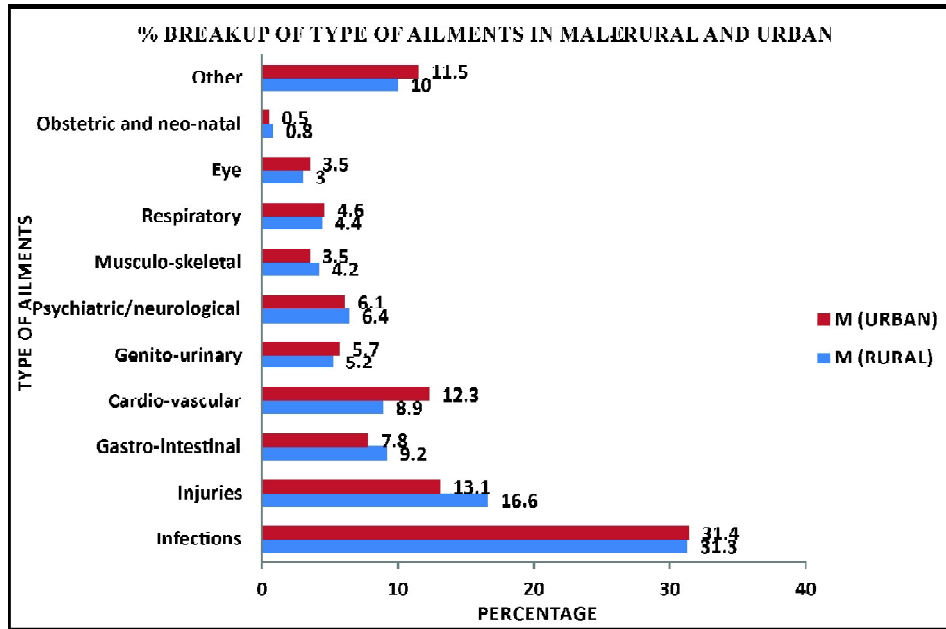
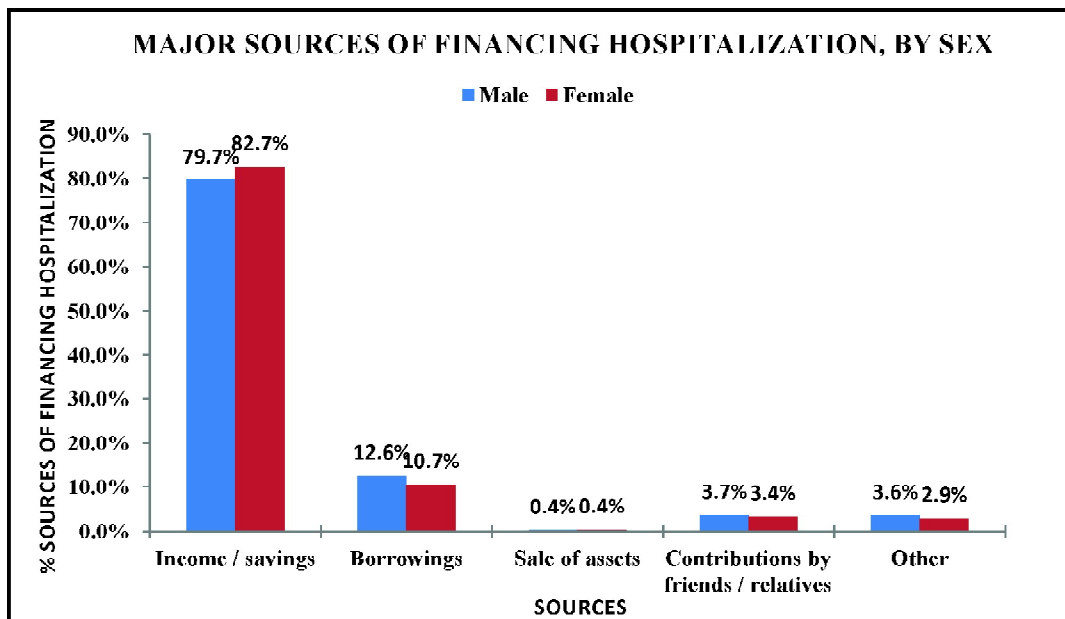


Figure 6: This figure gives the gender-wise distribution of the major sources of financing hospitalization (excluding childbirth), (75<sup>th</sup> round, 2017-18)



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