Marital Status, Sex and Utilisation of Healthcare Service Among the Older Adults in India

Babul Hossain (✉ bhossain399@gmail.com)

International Institute for Population Sciences <https://orcid.org/0000-0001-5355-1429>

K.S. James

International Institute for Population Sciences

Md Juel Rana

International Institute for Population Sciences

Research article

Keywords: Health care, Elderly, Anderson model, sex gap, Widow

Posted Date: September 30th, 2020

DOI: <https://doi.org/10.21203/rs.3.rs-78097/v1>

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Abstract

Background: The association between marital status and health status among the elderly has been at the forefront of investigation for a long time. However, the study on the effects of marital status on health care utilisation is limited. This study assesses the association between use of inpatient health services and marital status among older adults in India from the perspective of sex.

Methods: Data used in the study have been obtained from the 75th Round of National Sample Survey (NSS) on "Social Consumption: Health" with the sample size of 42,762 individuals aged 60 years or above. The study implements the Andersen's behavioural framework controlling the predisposing, enabling, and need characteristics and uses binary logistic regression models to assess the effect of marital status on inpatient health service.

Results: There is a significant difference in inpatient healthcare use between married and widowed elderly by age, educational level, perceived health and mobility for both sexes. The unadjusted regression analysis shows that widowed are more likely to use inpatient health services both for women (OR=1.57; CI 95%= 1.47, 1.68) and men (OR=1.11; CI 95%= 1.02, 1.2). However, after controlling the predisposing, enabling, and need factors, a strong association between healthcare services and marital status has been found for women, but not for men. Widowed women (OR=1.43; CI 95%=1.33, 1.54) are more likely to use inpatient health care than married women.

Conclusion: The present study has reported the association between the utilisation of inpatient health services and marital status for the elderly in India. Our study advocates that there is a sex difference in the utilisation of inpatient health services by the marital Status in India. Older widowed women should get more focus on health and elderly policy perspectives.

Background

The marital status and its association with health status has been at the forefront of investigation for a long time but with insufficient explanations. Previous studies have demonstrated that with the change in marital status, individuals experience differential health status and health care utilisation [1–5]. Studies have reported that non-married individuals are perhaps more deprived in terms of social and economic status compared to their counterparts, married individuals [6–8]. However, even after adjusting for different socioeconomic and demographic factors, studies have found that non-married especially the widowed suffer more ill-health and depend more on the health care services [3–5].

While there is some clarity on the changes in health status with changes in the marital status, its impact on health care utilisation remains seriously contested. Recent works noticed higher outpatient visits among widows than married in many contexts [9, 10]. Moreover, widowed, along with divorced and separated, have a higher rate of hospitalisation, more extended hospital stay in other countries [2, 3]. A recent study by Stimpson and others (2012) concluded that widowed spend prolonged days of inactivity, perhaps due to ill health [11]. Health care expenditure is also substantially higher among widowed than married individuals [12]. At later ages, widowed people use more social care facilities and more likely to be placed in nursing homes [13]. Interestingly, it was also found that older widowed consistently use lower quality hospitals for health services [4].

In India, conceptually similar work has also been carried out by Sreerupa (2010), concluding significantly higher dependency on inpatient and outpatient health care utilisation among widows than widowers [14]. As against this, some studies have concluded that older widows are less likely to seek health care services for different non-communicable diseases [15]. Another study from India also concluded that due to a change in marital status, women face difficulties to seek health care services [16]. While most studies suggest that the widowed individuals are at adverse side than married in terms of health status, the health-seeking behaviours among widowed women remain unclear.

Studies have reported that with the transition from spousehood to widowhood, there is likely to change in social, cultural, and economic status resulting in differences in health care utilisation [17, 18]). However, these changes depend on more of the sex of individual. A review of major studies in this area, focusing on the sex dimension confirmed that a widowed woman lacks adequate resources than the widowed men especially in the low and middle-income countries as women are directly dependent on their spouses for their social and economic needs [19, 20] In contrast to this, widowed men are mostly suffering from depression and psychological problems [21]. The consequences of the widowhood ultimately reflect in the health outcome and dependency on health services. Studies have found that older widowed females are more dependent on health care use than widowed males [5, 22]. Davidson and others (2011) argue that despite female widows seeks more health care services, very little of the health services professionally meet as per the needs of widows compare to male widows [18].

Although the relationship between marital status and health status has been a matter of intense investigation in many developed countries, the studies are rather limited in India mainly to understand the reasons for poor health status among the elderly. The past study on India mainly focused on the physical & subjective health, disability, and family ties among widowed individuals [23–25]. The studies find that the health status of the widowed elderly is worse than the non-widowed elderly [4]. These studies also attempted to understand the relationship between marital status and health care utilisation, but it provides an inconclusive explanation on why such differential exists [14]. Moreover, the studies did not analyse the differentials and causes in a structured framework. In this background, this study attempts to examine the association of inpatient health services utilisation by marital status among the elderly in India. The study implements the Andersen's behavioural framework to control the effect of predisposing, enabling, and need factors on the association between use of the inpatient health services and marital status [26, 27]. Besides, the sex dynamics in the use of inpatient health service are examined by marital status among older adults in India.

Methods

Data source

Data used in the present study have been obtained from 75th Round (July 2017 -June 2018) of National Sample Survey (NSS) on "Social Consumption: Health" which was conducted by NSS Office, Government of India. The nationally representative survey provides unit-level data following a stratified multistage sampling procedure for the states and union territories of India (except the rural areas of Andaman and Nicobar Islands). The survey covered a sample of 1,13,823 households and 5,55,114 individuals from 8,077 randomly selected villages and 6,181 randomly selected urban blocks.

Study sample

The individuals of interest for this study were elderly obtaining inpatient health services. A total of 42,762 individuals aged 60 years or above was surveyed. After excluding the missing value for the variables, 42,358 elderly are considered for the study. As discussed, the present study attempts to examine the difference in the determinants of inpatient health service between married and widowed in the light of the factors identified under Andersen's behavioural framework [26, 27]. The study population is further divided into the married and widowed group. Moreover, as the sex aspect having a material impact on the health service utilisation, this study further used men and women elderly separately by their marital Status [5, 22]

Measurements

In the study, inpatient health service is taken as the primary outcome variable. In the survey, respondents reported hospitalisation in the last 365 days, considered as using inpatient health service. Here both private and public health institutes are considered to define inpatient health care services. In the present study, the main explanatory variable is the marital status of the elderly. The marital status of the elderly has categories in two groups (married and widowed). In the light of factors identified under Andersen's behavioural framework, the following variables are controlled. Under predisposing factors, age groups (60–64, 64–74, 75–84 and above 85 years), education (no formal education, up to primary and above primary), the household size of elderly (1–3, 4–6 and 7 and above), sex composition of children (no children, only son, only daughter and both), social category (SC/ST, OBC, and others). Enabling factors are elderly's MPCE or monthly per capita consumption expenditure (2000–4000, 4000–6000 and 6000 rupees or above), health insurance coverage (not covered and covered), type of health care institute of admission (private and public), the economic dependency (not dependent and dependent), place of residence (rural and urban). Need factors are the presence of chronic ailment in the elderly (no and yes), their perceived health (poor and good), and mobility (physically mobile and physically immobile).

Data analysis

In the univariate analysis, the weighted percentage of each factor under Andersen's behavioural framework was calculated for the elderly by the marital status. In the bivariate analysis, Chi-square test was performed to examine the difference in inpatient health service utilisation among the married and widowed elderly separately for men and women. To examine the association between the marital status and utilisation of inpatient health services, sex-stratified binary logistic regression models were used controlling the predisposing, enabling, and need characteristics. Five models were estimated: Model 1 included the marital status. Model 2 included marital status and predisposing factors, Model 3 included marital status and enabling factors, Model 4 included marital status and need factors, Model 5 included marital status, predisposing, enabling and need factors. For all statistical tests, the confidence level is considered at $p < 0.001$, $p < 0.01$, and $p < 0.05$ levels. All analysis had been done using Stata/SE 14.0 (Stata, College Station, TX).

Results

Characteristics of the sample individuals

Table 1 illustrates the basic characteristics of older adults across marital status by men and women. Out of the total elderly population, about 34.8% are widowed. The proportion of widowhood is higher among women (52.7%) compared to men (16.1%). The majority of the widowed belong to 65 to 74 years of age group (51.8%). A substantial share of the elderly widowed is economically dependent on others (87.1%). The share of economically dependent is higher among female widows (89.9%) than the male widows (76.9%). Almost 38.3% of the widowed respondents report having a chronic ailment. Among both males and females, 41.6% of widowed sample report poor perceived health. About 17.7% and 24.3% male and female widow respectively report physical immobility.

Table 1

Weighted percentages of sample of elderly (60 + years) in India: National sample survey, 2017–2018.

Characteristic	Women (N = 20,685)		Men (N = 21,673)		Total (N = 42,358)	
	Married (n = 10,811)	Widowed (n = 9,874)	Married (n = 18,507)	Widowed (n = 3,166)	Married (n = 29,318)	Widowed (n = 13,040)
Overall (%)	47.3	52.7	83.9	16.1	65.2	34.8
Age						
60–64	43.2	19.4	31.1	16.5	34.7	18.7
65–74	46.5	52.8	48.5	48.3	47.8	51.8
75–84	9.6	19.9	16.7	23.2	14.6	20.7
85 and above	0.7	7.9	3.7	12.0	2.8	8.8
Educational level						
No formal education	52.8	64.4	28.5	43.9	35.9	59.9
Up to Primary	23.8	22.0	29.0	30.0	27.5	23.8
above primary	23.6	13.6	42.5	26.1	36.6	16.3
HH size						
1 to 3	35.0	27.8	38.2	22.8	37.2	26.7
4 to 6	40.1	57.2	40.9	64.5	40.7	58.7
7 and above	24.9	14.0	20.9	12.7	22.1	14.4
Had children						
No children	1.8	2.6	2.2	2.0	2.1	2.5
Only son	13.4	12.5	13.9	14.6	13.8	12.9
Only daughter	5.9	5.3	6.1	5.2	5.9	5.3
Both	78.9	79.6	77.8	78.2	78.2	79.3
Social group						
SC/ST	18.3	22.6	17.6	16.6	17.8	21.3
OBC	41.4	37.7	42.5	45.4	42.1	39.4
Others	40.3	39.7	39.9	38.0	40.1	39.3

Source: Authors' own calculation based on 75st round of NSS (2017-2018) data.

Monthly per capita consumption expenditure

Note: Percentages are adjust for NSS weights.

Characteristic	Women (N = 20,685)		Men (N = 21,673)		Total (N = 42,358)	
	Married (n = 10,811)	Widowed (n = 9,874)	Married (n = 18,507)	Widowed (n = 3,166)	Married (n = 29,318)	Widowed (n = 13,040)
MPCE[#]						
Less than 2000	40.4	40.0	36.7	39.6	37.8	39.9
2000–4000	39.0	42.7	41.5	43.1	40.8	42.8
4000–6000	15.3	10.6	14.0	10.2	13.8	10.5
6000 or above	7.3	6.7	7.8	7.1	7.6	6.8
Health scheme						
Not covered	74.8	75.5	71.6	73.3	72.6	75.0
Covered	25.2	24.5	28.4	26.7	27.4	25.0
Type of health institute						
Private	53.9	48.7	53.5	48.8	53.7	48.6
Public	46.1	51.3	46.5	51.2	46.3	51.4
Economic dependency						
Not dependent	5.5	10.1	42.1	23.1	31.1	12.9
Dependent	94.5	89.9	57.9	76.9	68.9	87.1
Place of residence						
Rural	65.9	60.1	59.1	65.4	61.1	61.2
Urban	34.5	39.9	40.9	34.6	38.9	38.8
Chronic ailments						
No	62.1	61.7	59.1	65.5	59.7	61.7
Yes	37.9	38.3	40.9	34.5	40.3	38.3
Perceived health						
Source: Authors' own calculation based on 75st round of NSS (2017-2018) data.						
# Monthly per capita consumption expenditure						
Note: Percentages are adjust for NSS weights.						

Characteristic	Women (N = 20,685)		Men (N = 21,673)		Total (N = 42,358)	
	Married (n = 10,811)	Widowed (n = 9,874)	Married (n = 18,507)	Widowed (n = 3,166)	Married (n = 29,318)	Widowed (n = 13,040)
Good	65.3	59.3	65.9	55.5	65.7	58.4
Poor	34.7	40.7	34.1	44.5	34.3	41.6
Mobility						
Physically mobile	85.4	75.7	85.3	82.3	85.3	77.2
Physically immobile	14.6	24.3	14.7	17.7	14.7	22.8
Source: Authors' own calculation based on 75st round of NSS (2017-2018) data.						
# Monthly per capita consumption expenditure						
Note: Percentages are adjust for NSS weights.						

The utilisation of inpatient health services across the marital status

In terms of predisposing factors, Table 2 indicates that the utilisation of inpatient health services significant differences in age, educational level ($p < 0.001$) between married and widowed elderly among both male and female, while in the household size ($p < 0.01$), only among women, there is a significant difference in utilisation of inpatient health services by the marital status. The proportion of the utilisation of inpatient health services significantly increases with age among widowed elderly for both males and females. In contrast, widowed individuals with no formal education utilise higher inpatient health services compared to married individuals. It has found that widowed women in the household size of 4 to 6 use more inpatient health services.

Table 2

Proportions of predisposing factors of the elderly respondents associated with inpatient service across marital status: National sample survey, 2017–2018.

Characteristic	Women		Men			
	Married (%)	Widowed (%)	p-value	Married (%)	Widowed (%)	p-value
Age						
60–64	61.9	38.1	0.000***	90.7	9.3	0.000***
65–74	41.2	58.8		84.7	15.3	
75–84	24.9	75.1		78.6	21.4	
85 and above	6.3	93.8		61.8	38.2	
Educational level						
No formal education	37.1	62.9	0.000***	79.4	20.6	0.000***
Up to Primary	43.7	56.3		85.2	14.8	
above primary	55.3	44.7		90.6	9.4	
HH size						
1 to 3	47.5	54.5	0.000**	90.8	9.2	0.080
4 to 6	33.5	66.5		79.1	20.9	
7 and above	54.5	45.5		90.7	9.3	
Had children						
No children	33.3	66.7	0.011	86.8	13.2	0.453
Only son	43.6	56.4		85	15	
Only daughter	43.9	56.1		87.4	12.6	
Both	41.6	58.7		85.5	14.5	
Social group						
SC/ST	36.7	63.3	0.071	86.3	13.7	0.345
OBC	44.1	55.9		84.7	15.3	
Others	42.3	57.7		86.2	13.8	
Source: Authors' own calculation based on 75st round of NSS (2017-2018) data.						
Note: all analyses adjust for sampling weights. p value = * p-value < 0.05, ** p-value < 0.01, *** p-value < 0.001.						

Results illustrated in Table 3 show the elderly respondents' inpatient service use across marital status concerning enabling factors and need factors. The result shows a significant difference in MPCE ($p < 0.01$), type of health

institute ($p < 0.001$), and economic dependency ($p < 0.001$) between married and widowed women. There is a significant difference in health scheme coverage ($p < 0.05$) between married and widowed men. Irrespective of MPCE, widowed are more likely to use inpatient health services than their counterpart. A similar result is observed in the type of health institute and economic dependency for women by marital status. Eventually, regarding need factors, perceived health ($p < 0.001$) and mobility ($p < 0.001$) reveal a significant difference in inpatient health services between married and widowed in both sexes. In contrast, only among the married and widowed men, there is a significant difference in using inpatient health services with chronic ailment ($p < 0.01$).

Table 3

Proportions of enabling factors and need factors of the elderly respondents associated with inpatient service across marital status: National sample survey, 2017–2018.

Characteristic	Women			Men		
	Married (%)	Widowed (%)	p- value	Married (%)	Widowed (%)	p- value
Enabling factors						
MPCE						
Less than 2000	42.1	57.9	0.004**	84.6	15.4	0.066
2000–4000	39.7	60.3		85.1	14.9	
4000–6000	47.6	52.4		89.1	10.9	
6000 or above	43.9	56.1		86.6	13.4	
Health scheme						
Not covered	83.4	16.6	0.080	85.3	14.7	0.043*
Covered	87.3	12.7		86.3	13.7	
Type of health institute			0.000***			0.090
Private	47	53		85	15	
Public	39	61		83	17	
Economic dependency						
Not dependent	28.2	71.8	0.000***	91.5	8.5	0.097
Dependent	43.1	56.9		81.7	18.3	
Place of residence						
Rural	44.1	55.9	0.10	84.2	15.8	0.082
Urban	38.1	61.9		87.5	12.5	
Need factors						
Chronic ailments						
No	41.9	58.1	0.054	84.9	15.1	0.009**
Yes	41.6	58.4		86.4	13.6	
Perceived health						

Source: Authors' own calculation based on 75st round of NSS (2017-2018) data.

Monthly per capita consumption expenditure

Note: all analyses adjust for sampling weights. p value = * p-value < 0.05, ** p-value < 0.01, *** p-value < 0.001.

Characteristic	Women			Men		
	Married (%)	Widowed (%)	p- value	Married (%)	Widowed (%)	p- value
Good	47.0	53.0	0.000***	87.6	12.4	0.000***
Poor	38.8	61.2		81.9	18.1	
Mobility						
Physically mobile	44.8	55.2	0.000***	85.9	14.1	0.000***
Physically immobile	30.2	69.8		83.2	16.8	
Source: Authors' own calculation based on 75st round of NSS (2017-2018) data.						
# Monthly per capita consumption expenditure						
Note: all analyses adjust for sampling weights. p value = * p-value < 0.05, ** p-value < 0.01, *** p-value < 0.001.						

Factors determining the association of the inpatient health service with marital status

The logistic regression analyses assessed in Table 4 show the relationship between uses of inpatient health services and marital status under the health behavioural framework by Andersen for women and men separately. In Model 1, the unadjusted effect of widowhood on the inpatient health services shows that widowed women (OR = 1.57; CI 95%=1.47, 1.68) and widowed men (OR = 1.11; CI 95%=1.0, 1.21) are more likely to utilise the inpatient health services than their married peers. Controlling predisposing, enabling, and need factors in Model 2, Model 3, and Model 4 respectively, the relationship between utilisation of inpatient health services and marital status shows that widowed women remain more likely to use the inpatient health services than married women. However, such a pattern is missing for the men. Adjusted for all predisposing, enabling, and need factors in Model 5, the relationship between marital status and use of inpatient health services also shows that widowed women (OR = 1.43; CI 95%= 1.33, 1.54) are more utilise inpatient health services than married women. There is no evidence of marital status as a substitute factor for men in the use of inpatient health care facilities.

Table 4
Binary logistic regression on association of inpatient healthcare service with marital status controlling predisposing, enabling, and need factors, 2017–2018

Variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	ORs	CI (95%)	ORs	CI (95%)	ORs	CI (95%)	ORs	CI (95%)	ORs	CI (95%)
Women										
Married®										
Widowed	1.57***	(1.47, 1.68)	1.52***	(1.42, 1.63)	1.61***	(1.5, 1.72)	1.34***	(1.25, 1.43)	1.43***	(1.33, 1.54)
Men										
Married®										
Widowed	1.11***	(1.02, 1.21)	1.05	(0.96, 1.14)	1.04	(0.95, 1.13)	0.97	(0.89, 1.06)	0.98	(0.90, 1.07)
Notes: * p-value < 0.05, ** p-value < 0.01, *** p-value < 0.001. ® indicates the reference category. ORs refers to odd ratio, CI refers to confidence interval; Model 1 included only the marital status. Model 2 included marital status and predisposing factors, Model 3 included marital status and enabling factors, Model 4 included marital status and need factors, Model 5 included marital status, predisposing, enabling and need factors.										

Additional Table A1 and A2 gives the estimated relationship between the other explanatory variables and inpatient health service for women and men, separately. The age of the elderly strongly explains inpatient health services use for both men and women. The old women aged eighty-five years and above (OR = 1.31; CI 95%=1.1, 1.52) are more likely to use inpatient health services than the younger women. Older women (OR = 0.40; CI 95%=0.36, 0.44) and men (OR = 0.32; CI 95%=0.29, 0.35) staying in a household with seven members or above access less inpatient health services than those elderly who are staying in a household with six members or below. Women, having a son, or both son and daughter are more likely to use inpatient health services than other groups. A monthly per capita consumption expenditure (MPCE) with six thousand or above shows an elevated association of health service use for both women (OR = 1.33; CI 95%=1.14, 1.56) and men (OR = 1.30; CI 95%=1.12, 1.51). Further, the elderly having chronic ailment, perceived poor health, and physically immobile are strongly associated with the use of inpatient health services.

Discussion

The present study aims to explain the relationship between marital status and inpatient health service among the elderly in India and suggests that elderly widowed women are more dependent on the inpatient health service than elderly married women. Even after adjusting predisposing, enabling, and need factors under the health behavioural framework given by Andersen, there is no substantial change in the association between marital status and inpatient health service for women. However, the present study does not find evidence of such associations for men.

With the death of the spouse, the elderly widowed women face certain disadvantages that reflect in the social role, access to resources, and social and economic dependency [28–30]. Moreover, widowed women experience

structural alienation from her parental family and changes in the family ties [16, 31]. With the extended duration in the widowhood status, there is a reflection of poor physical health and subjective health among widowed women in India [15, 24]. A certain change in marital status also has a replicative effect on health services utilisation [14]. The study finds that a change in marital status can critically affect the use of inpatient health care services among older women. The widowhood among elderly women pushes them to access inpatient health services. Previous studies have reported, widowed women reluctant to report the initial health problem to household members and they try to be more productive even after their poor health which ultimately leads to severe health problem and admitting in hospitals [16, 18].

In contrast, as in most parts of India, the patriarchal nature of society still prevails. There is not much difference in the social role, privileges of men in access to the resource as compared to women [29, 31]. Thus, the use of the inpatient health care service has not appeared to be typically affected by the widowhood status for men. Unlike the female counterpart, the access to resources of men irrespective of their marital status empowers them to avail of physical and medical care in the households. Therefore, perhaps access to the inpatient health care facilities is lower among the male as compared to the female counterpart.

Along with marital status, under Andersen's health behaviour framework predisposing factors like age, household size; enabling factors like MPCE, economic dependency, and need factors like having chronic ailment, perceived poor health and physical immobility explain part of differential usage of inpatient health service among older women. Along with education, the result is also similar to men. Age is found to be the most significant predictor for poor health and access to the inpatient health care services. The previous studies also documented that the older elderly are more dependent on inpatient health services use than the younger elderly [32–34]. Since the life expectancy of women is higher than men in India, it may pose the women a higher risk of ailments and resultant hospitalisation. The studies have reported that household size is associated with the access to inpatient health care services [35–37]. Our findings also indicate that elderly in small family utilise more inpatient health services than the household with big family size. Perhaps, the small family size limits the number of persons available for taking care of the elderly in the home, which may increase the likelihood of hospitalisation.

The individuals who have better access to knowledge and resources are more likely to use the health care services appropriately than those who have limited knowledge and resources [38, 39]. In our study, we found that educated elderly irrespective of marital status use higher inpatient health care services than uneducated older adults [38]. At the same time, economic status emerges as one of the most significant expiating factors for the utilisation of inpatient health care services. Previous studies also suggested that the elderly with higher monthly per capita consumption expenditure have more access to health care services than their counterpart [39, 40]. In the line of our findings, the earlier study also found that the elderly with poor physical and subjective health are more likely to use inpatient health services as compared to their opposite groups [41]. Similarly, if the physical immobility increases, the likelihood of accessing inpatient health care services increases among the elderly [42, 43].

The findings from present study are consistent with the prior studies in Taiwan and India [14, 44]. In the light of marital protection hypothesis, we find found that widowhood and the use of inpatient healthcare services has a strong association for women and there is inconsistency in such association for men [1–3, 44, 46]. However, the mechanism may be different as the social & cultural norms, and the economic aspects are mostly different from many high-income countries. Nevertheless, despite controlling factors under the Andersen's health behaviour

framework, widowhood among the women come to be the strong explanatory factor for utilisation of the inpatient health care service for women.

The study has a number of limitations. Firstly, in our study, we only considered married, and widowhood status despite the fact that the separation and divorce cases are increasing and possibly have a different consequence on access to health care services. Secondly, the present study only focuses on the change in marital status, and it does not consider the duration in widowhood due to data limitation which may have a possible impact on the utilisation of inpatient health care services. Thirdly, the family history, kinship, and other aspects become essential to infer the health outcomes, which is missing in the study because this study uses cross-sectional data. A longitudinal survey can explore the history of kinship and the elderly's health care access. Fourthly, due to the nature of the cross-sectional dataset, the study is not able to adjust the utilisation of pre-widowhood healthcare services, which they used to access earlier. More studies are needed to examine the association between marital status on health care utilisation for widowed individuals focusing on the role of household members on health care.

Conclusion

The study reports the relationship between the utilisation of inpatient health services and marital status for the elderly in India under the Andersen's behavioural framework to control the effect of predisposing, enabling, and need factors. Our study advocates that there is a sex difference in the utilisation of inpatient health services by the marital Status in India. This study has several implications in literature and policy. Firstly, due to demographic change and an increase in the life expectancy among the women as compared to men, the women are at higher risk of old-age related ailments and resulted in hospitalisation. Besides, the vulnerability in the household may be increased due to the lesser access to resources which is also a possible source of ill health and hospitalisation. Secondly, the marital status of the widowed women has a significant influence on accessing the health care services, while it does not matter for the elderly men. Since the health status of widowed women is poorer as compared to the married women, widowed elderly women should get specific programmatic focus for utilisation of outpatient health care services which may reduce the likelihood of utilisation of inpatient healthcare services.

Abbreviations

SC/ST: Scheduled caste/Scheduled tribe

OBC: Other backward class

MPCE: Monthly per capita consumption expenditure

Declarations

Ethics approval and consent to participate

This study is based on publicly available secondary sources of data. Thus, it does not require ethical approval and consent to participate.

Consent for publication

Not Applicable.

Availability of data and materials

Data used in the present study have been obtained from 75th Round (July 2017 -June 2018) of National Sample Survey (NSS) on "Social Consumption: Health" which was conducted by NSS Office, Government of India which is available in the public domine.

Competing interests

The authors declare no competing interests for the study.

Funding

None

Authors' contributions

BH was responsible for Conceptualisation, Methodology, Formal analysis, and Writing – Original Draft. KSJ was responsible for Conceptualisation, Supervision, Writing- Reviewing and Editing. MJR was responsible for Methodology, Writing- Reviewing and Editing.

Acknowledgment

None

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