Research Article

Health Consequences of Widowhood: Structural Determinants, Extreme Poverty, and Social Exclusion in India and Worldwide

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Abstract

A woman who lost her husband permanently, with all evidences is referred as widow and who doesn't have care, support, protection, and financial resources is considered a destitute widow. In India during the Vedic period, they were treated as sinners in their life either in the past or present, which resulted in stigmatisation, social ostracization, discrimination, oppression and marginalisation in every aspect of their life and they faced numerous challenges like financial hardship, social isolation, and difficulties related to remarriage during their early widowhood. Destitute widows vary depending on several factors such as education, age, income, socio-economic background, and employment status. Illiteracy, low levels of education, limited self-confidence, and lack of employment opportunities often lead them to be isolated, excluded, neglected, and marginalised in various aspects of their life. In general, destitute widows experience greater difficulties in meeting the needs of day-to-day affairs including basic amenities, imbalances of upholding the prevailed social values and cultural norms. Their plight often requires significant changes in their attitudes, behaviours, and ways of coping with life. It has consequent to encounter unique and complex problems like alienation. Examining and addressing the issues of destitute widows is important since the pressures arise to access and utilise resources effectively. Moreover, the problems of destitute widows are not confined to traditional societies alone; they extend to contemporary society too, with the continuation of facing numerous social, economic, psychological, and cultural challenges. There is a need of appropriate attention and intervention which can be only through examining these issues by submitting findings which are presented logically in this paper.

Keywords: Widow, Destitute, Widowhood, Social Ostracization, Marginalization, Isolation

Introduction

A widow is a woman who lost her husband permanently with all evidence and who has not remarried (The Shorter Oxford Dictionary, 1961). The term vidhava is an ancient word that can be traced beyond the Vedic language to Indo-European origins and exists, with only slight modifications, in most Indo-European languages. Accordingly, the term appears as Vidua in Latin, Vedova in Italian, Viuda in Spanish, Veuve in French, Vidova in Old Slavonic, Vdova in Russian, Wituwa in Old German, Widuwo in Gothic, Vitavai in Tamil, Bewa in Urdu, Armala in Arabic, Widewe and Widuwe in Old English, Widow in Modern English, and Beva in Persian. The word vidhava is derived from a root related to the Teutonic wid ("to lack"), the Latin videre ("to separate," as in dividere), and the Sanskrit vidh ("to be bereft") (Dutta, 1938). Widowhood is a difficult and distressing experience in a woman's life and brings numerous emotional, social, and economic challenges. The widow realises that her parental home is no longer considered as her permanent residence; at the same time, her in-laws may perceive her as a burden on the family. Due to the sudden loss of a spouse, she is supposed to take responsibility to lead an independent life with extremely difficulties, especially while becoming a destitute widows (Singh & Gill, 1986). Such a situation of widowhood is a painful life across the world for the women who lost their life partner. Her personality also seems to continue for develop, enabling, contributing meaningfully to herself, her family, society, the nation, and humanity as a whole. They face many common challenges.

In India, the problem of widowhood is closely linked to the broader issue of the social status of women. Widows are often regarded as second-class citizens and treated as secondary members within their own families (Lopamudra, 1983). According to Barrett (1976), widows constitute a subculture whose members frequently experience loneliness, despair, and hopelessness. It is frequently associated with reduced social participation and increased social isolation. Widows often lose their status within the family and kinship networks, face restrictions on participating in religious and cultural activities, and experience significant changes in their lifestyles and consumption patterns. They may suffer from emotional isolation, neglect, economic insecurity, and deprivation. These circumstances may also reduce the prospects of favourable marriage alliances and educational opportunities for their children. Changes in dress, restrictions on wearing ornaments, and exclusion from celebrations and entertainment further reinforce their marginalized status.

Widowhood affects more than 258·5 million women globally, including 38·3 million women living in extreme poverty. Despite this scale, widowhood remains an under-recognised structural determinant of women's health, driven by persistent economic deprivation, social exclusion, and gendered discrimination. India, which has one of the world's largest widow populations, lacks systematic empirical evidence linking these structural conditions to the socioeconomic and health-related vulnerabilities of widows (Panayiotopoulos, 2016; Fried L.P. et al., 2022). Although widowhood is

more common in older age, its social and economic consequences disproportionately affect women in low- and middle-income countries, where gender norms, labour markets, and legal structures are stratified by sex and marital status (Mwania et al., 2025; Raja, M.K. et al., 2026). Between 2010 and 2015, the global number of widows increased by 9·0%, but reductions in widowhood-associated extreme poverty were uneven across regions, leaving many widows in settings with weak social protection and entrenched gender inequity (Smyth et al. al (2015), Lloyd-Sherlock et.al (2015), Jiao, X et.al (2025).

India is home to more than 55 million widows, making up nearly 20% of the world's widowed population, with many facing deep economic hardship, social stigma, and reliance on central and state welfare programs. As of 2026, an estimated 14 lakh (1.4 million) widows and destitute women receive active welfare and pension support across Tamil Nadu**.** According to demographic studies based on the Census, districts across Tamil Nadu are categorised relative to the state average (6.4%). Every district in Tamil Nadu maintains a higher widow population proportion than the national average. Female widow populations significantly outnumber male widow populations across all districts. Due to the vast size of the dataset covering all 38 districts, the highly populated regions with the most substantial beneficiary numbers are highlighted below: Villupuram:157,900 beneficiaries, Vellore: 150,800 beneficiaries, Salem: 119,700 beneficiaries, Tirunelveli: 119,000 beneficiaries, Tiruvannamalai: 117,400 beneficiaries. With the help of the online portal of the Tamil Nadu Widows and Destitute Women Welfare Board, a total of 89,002 widows, 12,361 destitute women, and 2,464 spinsters have registered across the state as of July 2026. The state provides a monthly pension of ₹1,000 to eligible destitute widows aged 18 and above through the scheme of Destitute Widow Pension Scheme. As of 2026, around 14 lakh widows across Tamil Nadu receive financial support through the Destitute Widows. Tamil Nadu's overall widow population average stands at 6.4%**,** which is higher than the national average of 4.6%**.** Despite the magnitude of the problem, quantitative evidence on the socioeconomic and structural determinants of widowhood-related vulnerability is limited. Most available work is qualitative and focuses on stigma, dispossession, and ritual practices (Lin et al. (2025) & Edinoh et al. (2025)).

Statement of the Problem

Destitute widows face a wide range of challenges, including inadequate food and shelter, emotional distress, financial hardship, difficulties in educating their children, ill-treatment by family members, and denial of property rights by their in-laws, including brothers-in-law and sisters-in-law, financial hardship, basic amenities like water, sanitation and health hygiene (WASH) which directly influences many other aspects of their lives. The death of a husband results in a substantial decline in household income, leading to a lower standard of living; they struggle to secure necessities such as food, clothing, and shelter. Psychological consequences are equally severe. Loneliness, grief, anxiety, and depression may adversely affect their mental health, while prolonged isolation and insecurity increase the risk of psychological disorders. In addition, widows must adapt to changing family roles and social environments while coping with declining physical, emotional, and social well-being. Few studies have used multilevel statistical approaches to assess the combined effects of education, religion, household structure, labour market exclusion, and discrimination on widows' economic outcomes (Mwania et al., 2025). Systematic analyses that integrate global prevalence data with individual-level socioeconomic and psychosocial measures are particularly scarce, even though broader studies on the social determinants of women's health show how gender, poverty, and social exclusion interact to shape morbidity and mortality across the life course (Allen et al. (2017) & Lassi et.al (2025)).

This study addresses these gaps by combining global and regional widowhood statistics with a micro-level survey of widows in India (Mwania et al., 2025). Using χ^2 tests, multivariable regression, factor analysis, and problem severity ranking, the researchers examined how structural, socio-economic, and psycho-social determinants shape widows' income, social position, and health-related vulnerability (Mosha et al., 2024), and they aimed to reposition widowhood within the social determinants of health framework and to inform policies that address its structural drivers. Therefore, the present study was undertaken to examine the various problems and challenges faced by destitute widows while availing basic amenities like water, sanitation and health hygiene. The findings of the study are presented and discussed systematically which are presented hereunder.

Modus Operandi

The researchers analyzed the 2021-2026 data of Theni district, Tamil Nadu, India (N=154) and also the global widowhood statistics (2010–2015) and conducted a cross-sectional survey of widows in India. Demographic, socioeconomic, and self-reported health indicators were summarized using descriptive statistics. Bivariate associations between income and socio-demographic variables were examined using the χ^2 test. Independent predictors of monthly income were assessed using multivariate linear regressions. Structural discrimination was characterized through factor analysis with principal component extraction, and the perceived severity of the problems was ranked using Garrett scoring. The researchers used a multilevel design that integrated three data sources: (1) global and regional widowhood statistics for 2010–15,

(2) national demographic patterns for India, and (3) primary cross-sectional data from widows residing in Theni District, Tamil Nadu, India (Sabri et al., 2022). This design allowed triangulation between macro-level patterns and micro-level experiences and supported the analysis of the structural, socio-economic, and psychosocial determinants of widows' well-being (Rozario, 2002).

Statistical analysis

A descriptive research design was used to summarize demographic profile and psychosocial characteristics. The researcher used purposive sampling technique to get information from the respondents (N=154) by categorical variables are reported as frequencies and percentages, and continuous variables are reported as means and standard deviations (SDs). Bivariate associations between income categories and categorical predictors were examined using the χ^2-test. One-way ANOVA was used to compare the mean values of continuous variables across income groups, consistent with the analytical practice in social epidemiology and women's health research (Appel et al (2002). Multivariate analysis used multiple linear regression to identify the independent predictors of monthly income. Model fit was assessed using R^2, adjusted R^2, F-statistics, and p-values. Collinearity and other assumptions were evaluated using standard diagnostics (Mangrulkar et al., 2025). To examine the latent structures of deprivation and discrimination, we conducted a factor analysis with principal component extraction and varimax rotation on 13 socioeconomic and psychosocial indicators. The Henry Garrett ranking method was used to prioritize perceived problems based on severity scores, a technique widely applied in social science and livelihoods research in India (Kumari et.al., (2025). To assess the consistency of the identified determinants, we conceptually compared the observed predictor-importance profile with those expected from tree-based and penalized regression frameworks used in contemporary machine learning (ML) applications in population health (Obermeyer and Imanuel, 2016; Topol, 2019). Deep learning models were not used because of the modest sample size, limited number of predictors, and risk of overfitting (Aliferis et al., 2024). Statistical reporting followed the conventions used in The Lancet journals, with two-sided tests and a significance threshold of $p<0{\cdot}05$ (Van Zwet et.al., (2023).

Interpretation

Widows experienced with sustained multidimensional structural disadvantages, educational deprivation, religious marginalization, poor living conditions, and financial insecurity are closely linked to lower income and heightened social exclusion. Public health and social protection responses should explicitly address widowhood through targeted social security, educational and employment support, and the enforcement of income, inheritance, and anti-discrimination rights.

Data sources

Global and regional widowhood estimates were compiled from demographic data covering 84 countries, including the World Widows Report and complementary UN demographic sources (Perrig - Chiello, 2022). National patterns for India are drawn from Census 2011 and analyses of marital status, ageing, and gendered vulnerability from large-scale surveys, such as the Longitudinal Ageing Study in India (LASI) (Banerjee, 2023). The primary dataset comprised 154 widows identified through community-based sampling in urban and peri-urban areas of the Theni district. The researchers included both legally recognized widows and "invisible widows" (women living separately because of abandonment, partner disappearance, or marital dissolution without formal recognition) to capture the spectrum of widowhood-related vulnerability and social exclusion described in earlier qualitative and epidemiological studies after the COVID-19 pandemic.

Evidence before this study

The researchers searched PubMed, Scopus, and Web of Science for articles published between January 1, 2000, and December 31, 2024, (Mwaniaet al. 2025 Raja MKet al. 2026) using the terms "widowhood," "women's health," "economic vulnerability," "gendered poverty," "India," and "structural discrimination" (Mohammad Hashem et.al (2025) & Sunda et.al (2025)). The evidence base is sparse and fragmented, with most studies being qualitative or descriptive in nature. Existing research consistently portrays widowhood as a gendered social condition linked to poverty, stigma, and health disadvantages, particularly where gender norms and legal structures constrain women's autonomy (Ude et al. al (2017) & Mwania et al. (2025)). Women's health is strongly influenced by social determinants, including marital status, structural discrimination, economic insecurity, and exclusion from social protection systems (Lee, 2023).

However, few studies have quantified the socio-economic or structural determinants of widowhood-related vulnerability at scale, and even fewer have explicitly examined the pathways linking education, religion, discrimination, and economic insecurity (Lin et al., 2025).To our knowledge, no prior study has combined global prevalence data with a multilevel empirical analysis of Indian widows that applies χ^2 tests, regression modelling, factor analysis, and problem severity metrics within a single analytic framework (Das et al., 2020).

Added value of this study

This study provides one of the first integrated empirical analyses connecting the micro-level i.e semi-urban and rural

areas of Theni District, Tamil Nadu and the state-wide widowhood estimates with detailed socio-economic, structural, and psychosocial indicators from an Indian sample (Lloyd-Sherlock et al., 2015). By applying multivariate regression, χ^2 tests, factor analysis, and Garrett scoring, we quantified how structural determinants, including education, religion, family structure, and discrimination, shape widows' economic and social marginalization. Similar methodological integrations have been recommended in analyses of gendered socio-economic disadvantage (Mwania et al., 2025).
The researcher identified education and religion as independent predictors of income and delineated four latent domains of discrimination, offering a transferable analytical framework for widowhood research in other low- and middle-income settings (Mwania et al., 2025; Mwania et al., 2025; Raja MK et al., 2026)

Table 1 : Socio-demographic and household characteristics of widows in India (N=154)

Variable	Category	n (%)
Age group	<36 years	56 (36.3)
	36–50 years	83 (53.8)
	>50 years	86 (55.8)
Education	Primary	111 (72)
	High School	34 (22.0)
	Higher Secondary	43 (27.9)
	Graduation	37 (24.0)
Monthly income	≤₹3000	89 (57.7)
	₹3001–6000	59 (38.3)
	≥₹6001	77 (50)
Occupation	Daily wage labour	124 (80.5)
	Private job	17 (11.0)
	Own business	23 (14.9)
	Government job	7 (4.5)
Family size	1–4 members	98 (63.6)
	5–6 members	88 (57.1)
	≥7 members	39 (24.3)
Religion	Hindu	131 (82.3)
	Christian/Muslim/Others	33 (21.4)
Housing	Kutcha	38 (24.6)
	Tiled	39 (25.3)
	Concrete	77 (50.0)
Sanitation	No in-house toilet	82 (53.92)
	No in-house water supply	72 (46.7)
Government pension	Yes	83(53.8)
Current debt	Yes	96 (62.3)

Footnote: Percentages represent the proportion of the total sample for each category. Household size definitions follow Indian demographic standards. Income categories are aligned with thresholds used in the socio-economic stratification of informal-sector workers.

Table 2: Bivariate association between monthly income and socioeconomic variables among widows in India

Variable	χ^2	df	p-value	Significant (p<0.05)
Age	31.389	4	<0.001	Yes
Education	34.554	6	<0.001	Yes
Religion	6.071	2	0.048	Yes
Family size	14.859	4	0.005	Yes
Type of family	14.691	2	0.001	Yes
Marital-status subtype	17.018	2	<0.001	Yes
Years living separately	21.093	4	<0.001	Yes
Place of living	3.201	2	0.201	No
Caste/community	8.935	4	0.063	No

Footnote: χ^2 statistics compare the distribution of income categories with selected socio-demographic variables. Significance threshold set at $p<0.05$. Variables with $p<0.001$ indicate strong evidence of association.

Table: 3 Multivariable linear regression model identifying predictors of monthly income among widows

Predictor	Coefficient (B)	SE	β (standardised)	t-value	p-value
Constant	6214.1	1132.7	—	5.49	<0.001
Age	1.41	29.9	0.004	0.05	0.96
Education	1318.0	409.3	0.233	3.22	0.0015
Religion	–2965.0	1060.4	–0.184	–2.80	0.0056
Family size	–287.4	222.0	–0.098	–1.29	0.20
Type of family	236.5	347.9	0.055	0.68	0.50
Marital status	632.5	582.9	0.071	1.08	0.28
Years separated	71.8	142.5	0.037	0.50	0.62
Community (caste)	161.2	441.2	0.043	0.36	0.72

Model summary: $R^2=0.151$; Adjusted $R^2=0.090$; F-statistic=4.71; $p<0.001$.

Footnote: Education and religion were the only statistically significant independent predictors of income, indicating strong structural determinants of economic vulnerability. Model diagnostics confirmed acceptable multicollinearity and homoscedasticity.

Study Area (Theni District) by 2021-2026.

Widowhood prevalence (7.3%) across the Theni district, showing the highest levels in Bodinayakkanur block (11·1%) and Uthamabpalayam (10·2%). (b) Absolute number of widows living in extreme poverty (millions), with Andipatty (1930) and Cumbum (947) comprising nearly 51% of the Theni District burden. (c) Lorenz curve showing inequality in of widowhood distribution (Gini coefficient = 0·36), indicating a moderate concentration of widowhood across regions. (d) Lorenz curve for extreme poverty widowhood (Gini coefficient = 0·63), reflecting substantial inequality, with poverty disproportionately concentrated in Uthamapalayam block.

Fig. 1 Prevalence of Widowhood, extreme-poverty burden, and inequality patterns across The

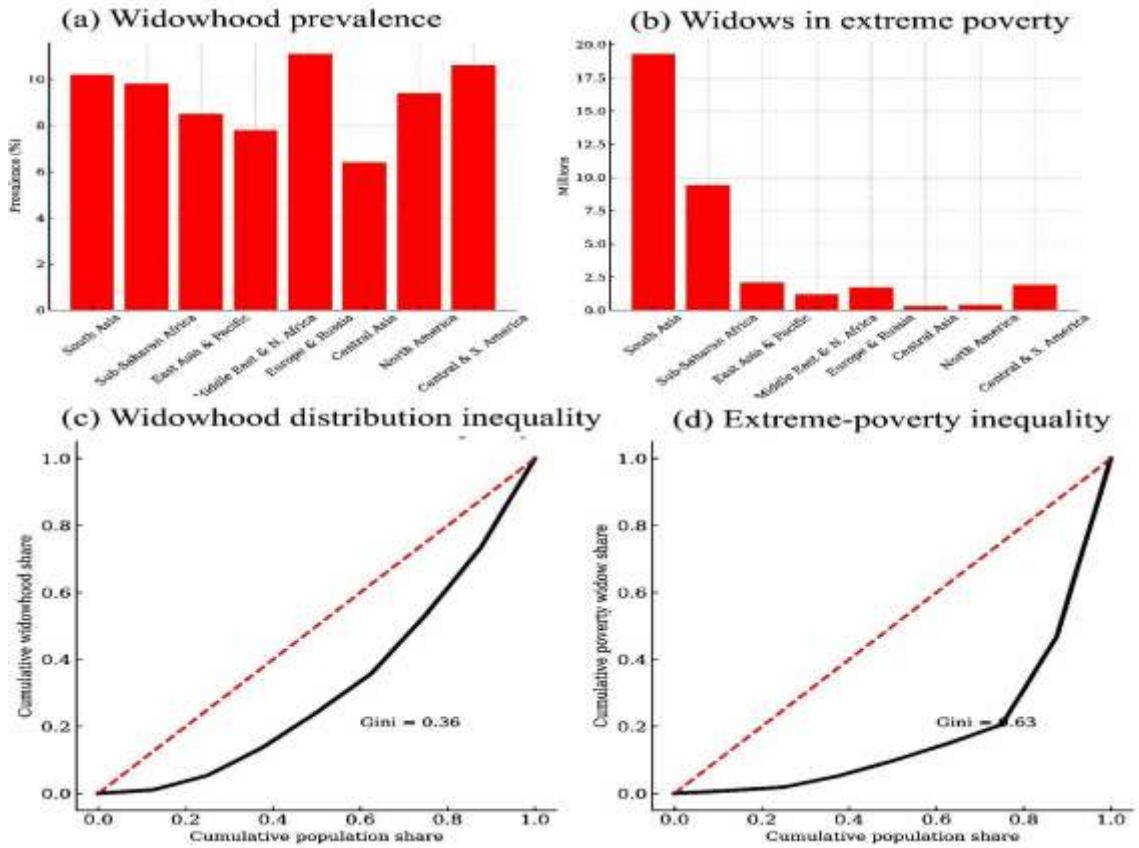
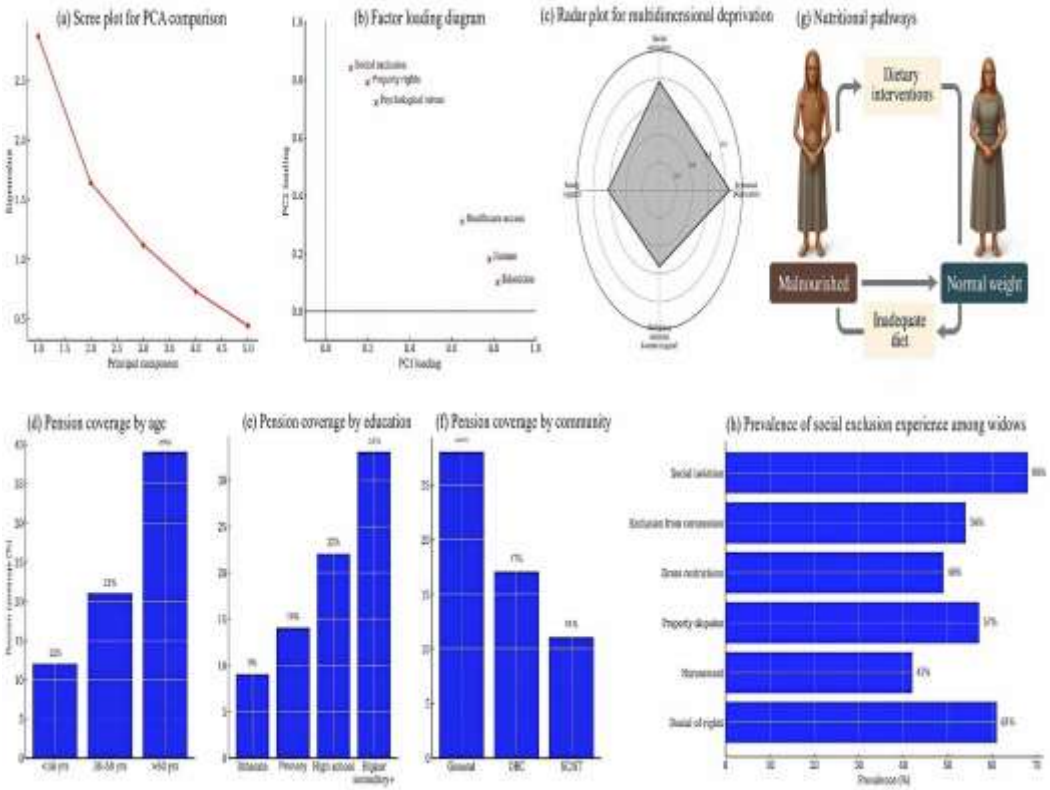


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Widowhood prevalence (7.3%) across Tamil Nadu at Theni district, showing the highest levels in Bodinayakkanur block (11·1%) and Uthamabpalayam (10·2%). (b) Absolute number of widows living in extreme poverty (millions), with Andipatty (1930) and Cumbum (947) comprising nearly 51% of the Theni District burden. (c) Lorenz curve showing inequality in of widowhood distribution (Gini coefficient = 0·36), indicating a moderate concentration of widowhood across regions. (d) Lorenz curve for extreme poverty widowhood (Gini coefficient = 0·63), reflecting substantial inequality, with poverty disproportionately concentrated in Uthamapalayam block. These data illustrate pronounced geographic disparities in the scale and severity of widowhood and highlight the structural inequities shaping women's vulnerability district-wide.



(a) **Fig. 2** Multidimensional deprivation, nutritional pathways, pension coverage disparities, and social exclusion patterns among widows in Tamil Nadu, India.

Scree plot showing eigenvalues for the principal component analysis, with the first four components retained for factor extraction. (b) Factor loading diagram illustrating major contributors to structural deprivation: social exclusion, property rights violations, and psychological stress loaded strongly on PC1, and income and education loaded prominently on PC2. (c) Radar plot summarizing multidimensional deprivation across five domains—social exclusion, economic deprivation, workplace violence, weak support, and family neglect—highlighting broad and overlapping disadvantage. (d–f) Pension coverage across age groups, educational levels, and caste communities. Coverage was lowest among younger widows (<36 years: 12%) and those without formal education (illiterate: 9%), and comparatively higher among widows aged >50 years (39%) and those with higher secondary education or above (37%). Pension receipt also varied across social groups, with markedly lower coverage among SC/ST widows (11%) than among general-category widows (40%). (g) Nutritional pathway diagram showing the transition from malnourished to normal weight, mediated by dietary interventions, and the risk of regression to malnutrition under an inadequate diet. (h) Prevalence of social exclusion experiences among widows, with high rates of social isolation (68%), denial of rights (61%), property disputes (57%), and exclusion from ceremonies (54%). These results illustrate the intersecting structural, nutritional, financial, and social determinants that shape widows' well-being.

(a) Machine-learning–derived predictor importance scores demonstrating the dominant contribution of education and religion to socioeconomic vulnerability, followed by marital status, years separated, family size, debt status, and housing conditions. (b) Calibration plot comparing observed versus predicted income in the multivariable model, showing moderate predictive performance along the line of perfect fit. (c) Three-dimensional gradient surface illustrating income variation jointly by education and religion, with higher earnings concentrated among women with

higher educational attainment and belonging to majority religion groups. (d) Three-dimensional gradient surface showing income variation across education and poverty status, demonstrating a steep gradient between low education and high deprivation. (e) Structural pathway framework mapping the influence of widowhood as an exposure on socioeconomic determinants (low education, religious marginalization, property loss, caste-based discrimination, labour exclusion, social stigma), mediating factors (chronic poverty, limited healthcare access, psychosocial distress, unsafe informal labour, reduced autonomy, and malnutrition risk), and downstream health outcomes (physical decline, depression/anxiety, undernutrition or anaemia, delayed care-seeking, reproductive health burden, and intergenerational disadvantage). (f) Nutritional vulnerability gauge highlighting the high burden of diet-related risk among widows in the lowest socioeconomic strata. Together, these models and conceptual pathways illustrate how structural determinants shape economic marginalization and health inequities among widowed women.

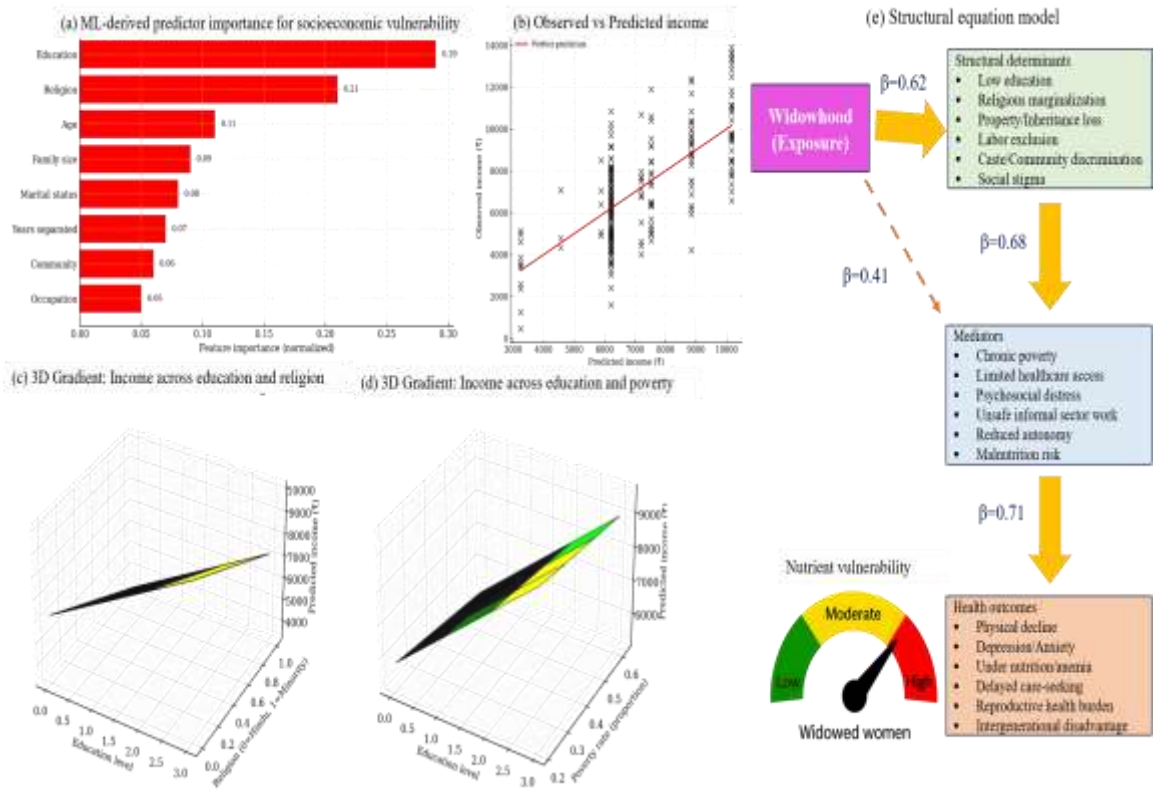


Fig. 3 Socioeconomic determinants, predictive modelling, and structural pathways linking widowhood to health vulnerability.

Living and Working conditions

Of the total respondents, the majority 89 (57.8%) of the respondents' living conditions were good; and out of 154 respondents less than three fourth 108 (94%) of the respondents fairly satisfied with living conditions. Of the total respondents, more than three-fourths, 79 (51%) of the respondents' interpersonal relationships with colleagues were average; more than one-fourth, 73 (47%) of the respondents felt uncomfortable with colleagues; and the vast majority, 89 (81%) of the respondents had faced problems and difficulties sometimes from colleagues and superiors in the workplace.

Table:**4**

S. No	Problems and Difficulties At Working Places	No. of Respondents (N*=154)	Percentage (100%)
1.	Uncomfortable with the working environment	93	60.3
2.	Unequally salary	82	53.2
3.	Discrimination	137	89
4.	Lack of support from colleagues/co-workers	45	29.2

5.	Felt insecure	31	20.1
6.	Financial Needs	57	30.0
7.	Risk of Illness and Injury	66	42.8
8.	Overcrowded and dirty	68	44.1
9.	Irritating place	47	30.5
10.	Noise and Illumination	38	24.7
11.	Lack of freedom	52	53.0
12.	Too challenging	26	16.8
13.	Lack of opportunities to improve skills	32	20.7
14.	Neglect health due to job	59	38.1
15.	Salary not received on time	49	31.8
16.	Work load	54	35.0
17.	Lack of interest to work	46	29.8
18.	Lack of appreciation	31	20.1
19.	Lack of improvement in wage structures	87	56.4

*Source: computed from primary data ** Multiple Responses

Problems and Difficulties in Working Places

The above table express that the majority 93 (60.3%) of the respondents felt that uncomfortable with working environment; followed by that 53.3% and 89.0%, of them were getting unequally salary, social discrimination, lack of support from colleagues/co-workers, felt insecure, financial needs, risk of Illness and Injury, over crowd and dirty, irritating place, noise and illumination, lack of freedom, too challenging, neglect health due to job, salary not received within date, heavy workload, lack of interest to work, lack of appreciation, and lack of improvement in wage structure respectively. The difficulties faced by destitute widows when relying on open toilets. Though we live in modern society, there were a lot of unwanted incidents happening in everyday life, especially sexual vulnerabilities, especially in rural and semi-urban areas of the study, which are extreme physical vulnerabilities - 73 of the study population destitute widows struggled with chronic conditions like arthritis. Navigating uneven, muddy fields, climbing embankments, or squatting over street drains without structural support presents serious mobility hazards and increases the risk of falls and physical injury; high risk of violence and harassment also occurred. Due to a lack of a male "protector" or familial shield, their social isolation, destitute widows were prime targets for both physical and verbal abuse, stalking, and sexual harassment. These risks were multiplied as they were forced to walk long distances to secluded forests or fields to find privacy; psychosocial stress and humiliation**:** 83% of the respondents (destitute widows) often faced severe cultural stigmatization, sometimes being labelled as "inauspicious". They faced the intended psychological anxiety and shame related to the constant fear of being seen. Deliberate Food and Fluid Restriction**:** 90% of the respondents expressed that, with a view to minimising the number of trips, they preferred open fields to go to the toilet; many (74%) of them intentionally reduced their daily food and water intake; over time, this self-imposed deprivation leads to severe dehydration (76%), malnutrition (82%), and rapid physical deterioration (87%). Severe Health and Sanitation Risks: 65% of the respondents were about to wait until dusk or dawn to defecate, causing chronic health problems, including severe constipation and urinary tract infections (UTIs). Furthermore, a lack of access to clean water and soap in open areas forces them (55%) to use soil or ash for cleaning, creating a direct vector for hookworm, diarrhoea, and gastrointestinal infections. Exposure to Environmental and Wildlife Hazards**-**Venturing into remote open spaces or fields before dawn or after dark leaves 51% of the destitute widow respondents unable to protect themselves against attacks by wild animals, stray dogs, and venomous snakes.

Findings

Globally, the number of widows increased by 9·0% between 2010 and 2015, and the number of widows living in extreme poverty decreased by 22·2%. Europe and Russia had the highest widowhood prevalence (11·1%). In the Indian sample, the mean age was 48·7 years (SD 12·3), and 49·3% of the widows were illiterate. The mean monthly income was ₹4820 (SD 2430), and 39·6% earned ≤₹3000. More than half of the households lacked an in-house toilet (52·4%), and 42·7% reported current debt; only 28·0% received government pensions. Income was significantly associated with age (χ^2=31·389; p<0·001), education (χ^2=34·554; p<0·001), religion (χ^2=6·071; p=0·048), family size (χ^2=14·859; p=0·005),

type of family (χ^2=14·691; p=0·001), marital-status subtype (χ^2=17·018; p<0·001), and years living separately (χ^2=21·093; p<0·001). In multivariable models, only education (β=0·233; p=0·0015) and religion (β=–0·184; p=0·0056) remained independent predictors. Factor analysis identified four discrimination domains explaining 51·9% of the variance, with the highest loadings for workplace harassment (0·744), income rights (0·700), and wage disparity (0·577). Garrett's ranking showed discrimination in family and social functions (score 16,303) as the most severe problem.

Summary of Findings and Recommendations

Demographic Profile of the Respondents

The nature of families of respondents destitute widows is that of the total 154 respondents the majority 140 (90.9%) of then were living in nuclear family; 140(90.9%) of then were leading nuclear family along with their children; 111(72%) of them acquired primary education only; 89 (57.8%) of them were living at their own houses and others were living in rented houses, leased houses, slum clearance board houses, Urban local body and NGO given houses and few acres of agricultural lands; 75 (48.7%) of them were living in concrete houses; and 131 (82.3%) of them were belonging to Hindu religion.

Drinking water Supply

The average hours of drinking water supply per day available to destitute widows. Of the total 154 respondents, the majority, 80 (51.9%); 80(51.9%) of them were being expressed that they were able to get drinking water supply only an hour. As for the frequency of supply of drinking water in a week, the majority, 91 (59.1%), expressed that the drinking water had been supplied every day of the week, but the timing was very limited and also untimed; 91(59.1%) of respondent widows expressed that the drinking water supply had been every day in a week.

Source of Drinking Water

From the total number of respondents, the majority, 142 (92%) of the destitute widow respondents had individual household taps at their houses as the primary source of water accessibility due to certain reasons, such as avoiding seeing others and their creosotic commends as destitute widows; some of 88 (57%) and 74(48%), of them use the public water taps, land pumps, bore wells and cart with small tank drum water source as their primary source of water. As for as water treatment towards drinking water is concerned that the simple majority 81(43.8% of did not have any treatment process towards drinking water is concerned followed by that the equal majority 68(44.2%) of them used water filter. The drinking water quality perceived by the respondent destitute widows is that it was colourless (45.5%), odourless (39%) and not salty (38%) and had no sediments; for availing potable drinking water service from either municipality or town panchayats or gram panchayats, they (48%) were paying about Rs.201-250;138 (89.6%) informed that their boy children felt the water from common sources and their girl children also collect water normally at all times;

Non-drinking Water Supply and Usage

As for non-drinking water sources, the majority 83% of the respondents expressed that they collected from the plastic tap, bore well of the houses and sometimes the river in their dwelling area; 59% of them expressed that normally the Panchayat Raj Institutions supply water hourly, both morning and evening, to wash their vessels, clean sweep their houses, wash their clothes and for drinking purposes. Such water was fetched by the girl children normally (87.5%); as for as the quality of non-drinking water sources were concerned that the majority 68(43%) 43(29%), 63(41%) of them expressed that it was colourless, non-salty, and odourless, respectively and they did pay anything for the non-drinking water supply of the municipality.

Availability of Toilet facilities and their usage

As for as the availability of toilet is concerned that the majority 75(51%) of them expressed that they did not have toilet facilities at their houses. Due to such reason, they went for open toilet to the waste lands, busy areas and other river bed areas; 73(47%) of them had toilet facilities at their houses with Indian types; they expressed that their toilets had been of connected with underground drainages (UGD) their toilets were attached with proper septic tank facilities which were away from 5mts of the toilets; they (41) spent about Rs.251-400 per month, they (75) used to waste the hands with the soap, detergents and wash liquids, after the use of toilets; and 75 of them were cleaning the septic tanks whenever it was filled when faced sludge small come out from the septic tanks with help of cleaning lorries for which they spent about Rs.5000/- for onetime cleaning.

Difficulties Faced During Open Toilet

Irrespective of the destitute, widow respondents expressed that due to open toilet practices, they were supposed to face problems such as gender-based violence, fear of snake bites, lack of privacy, finding waste lands was too difficult, which were too distant, inconveniences like shy, waiting for the guy to leave from particular place, requirement of companion, inconvenient access for the aped and physically challenged persons. Though respondents had toilets at their houses, they used to go for open defecation to places like railway tracks, bushes and thorny spaces, reserved space reserved for toilet, just behind their houses, for urgent use around the waterways and empty plots and fields. As far as

time for the open defecation is concerned, they prefer early morning and late evening when the human walks were absent.

CONCLUSIONS

Widowhood is a neglected situation at the global level, but public health is concerned with structural inequalities and social determinants. In India, widows face multiple disadvantages, including low educational attainment, religious marginalization, precarious living conditions, and systemic discrimination, which constrain their income and health opportunities. Addressing these inequities requires targeted policy reforms that recognize widowhood as a critical axis of gender inequality and explicitly incorporate widows' rights and needs into national gender, health, and social protection agendas.

Suggestions

- The civil society has to be educated with an appropriate humanitarian/social education to treat equally of marginalized among the marginalized i.e. destitute widows to overcome their difficulties based on their plight.
- The social begins have to understand that life rituals, customs, and other cultural practices are for the purpose of being together and well–being.
- The iota of general public has to be changed with their conscious that there would be such destitute widows at their families, and ask themselves how are they going to treat them and accordingly.
- The state and central government may provide and implement various schemes to develop the living conditions of destitute widows.
- To help widows become economically independent, the government and non-governmental organizations should provide vocational training in a variety of trades and vocational studies.
- The management shall provide welfare measures such as restrooms, first aid, insurance policies and canteen facilities in the workplaces. It shall try to avoid discriminatory practices and formulate policies for the protection of widows and create a favourable environment for these destitute widows to work safely, securely and freely.

Ethics

This study followed the principles of voluntary participation and confidentiality. Verbal or written informed consent was obtained from all the participants. Ethics approval was granted by the Institutional Ethics Committee of Bharathidasan University.

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