Social exclusion and self-reported health among elderly in India: An evidence from Longitudinal Ageing Survey (LASI)

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ABSTRACT

The elderly population have been identified as the most vulnerable group for social exclusion. However, different domain of social exclusion has been found to influence quality of life, social and economic wellbeing of elderly, limited study has yet investigated the role of social exclusion on subjective health status of elderly in India. In our study, we examined whether social exclusion shapes the self-reported health status among elderly aged 60 years and above in India using the first wave of Longitudinal Ageing Survey, India. We found that lack of financial resources, social engagement and support to health services were predominant domains responsible for social exclusion. The present study also showed that the probability of reporting perceived poor health status was found to be associated with dissatisfaction with current living arrangement and social engagement domains. The results of the study showed that there is a need to expand the scope of elderly health programs to address the domains of social exclusion and health status.

Keywords: Elderly, Social exclusion, self-reported health, LASI, India.

Introduction

Global and Indian scenario of ageing process

Demographic transition during last few decades in terms of increase in life expectancy, decline in fertility rates have resulted in population ageing not only in more developed but even in less developing countries (UNDP, 2019; Robledo, 2002). The global life expectancy at birth for males and females has increased from 45.5 and 48.5 years to 68.5 and 73.3 years between 2010 and 2015, up, respectively, in 1950. The United Nations Population Division further projects global life expectancy to reach to 74.5 and 79.1 years for males and females respectively in 2050 (UNDP, 2019). Estimates also suggest that in 2050, 80% of older population will be living in low- and middle-income countries (WHO, 2018). Thus, population ageing has become a concern to more developed as well as less developing countries.

With 18% global population, India is the world's second most populous country experiencing demographic transition in terms of tripling of the elderly population over the age of 60 years and above. The Census 2011 reported elderly population aged 60 and above as 8.6% of the total Indian population, counting 103 million elderly individuals (GoI, 2011). This elderly population is projected to further rise to 19.5% (319 million) by 2050. The estimates also suggest that population aged 45 years and above will rise to over 40% of the Indian population accounting 655 million individuals in 2050 (LASI report, 2021). This has resulted

in shift in major causes of disease burden from children to older population leading to an epidemiological transition. Thus, health status of elderly and to understand economic, social, and psychological aspects of the ageing process become a major concern for policy implications for health of elderly population in India.

Ageing issue and related aspects in broader sense focusing India

A higher prevalence of chronic diseases, physical disabilities, mental illnesses and other co-morbidities is observed among elderly (Srivastava, 2013). Furthermore, elderly is more likely to experience several health-related issues as their age increases (WHO, 2018). An aging population in more developed countries is healthier and better educated. About 60% of these individuals are neither disabled nor dependent whereas, in less developing countries, elderly face with many problems including poverty, heterogeneity, inequity and poor social and family support; further leading to poor health (Robledo 2002).

The health status of elderly is determined by many other factors like social, financial, physical health care system factors etc. Social concerns include migration of younger household members, leaving elderly isolated without any physical support in daily activities; limited food and nutritional requirements, maltreatment towards elderly; and poor knowledge and awareness about the risk factors. Psycho-emotional concerns include isolation, mental and psychological stress. Financial constraints comprise reduction in income, income constraint. The health-care system factors include lack of effective health insurance system for elderly, accessibility and availability of health services for elderly. All these factors determine the health status and thus have a significant impact on the quality-of-life of the elderly (Srivastava, 2013).

Indian studies have revealed that two-thirds of elderly live in rural areas and nearly half are from poor socio-economic status (Lena, 2009). The old age dependency ratio has also increased from 10.9% in 1961 to 14.25 in 2011 (GoI, 2016). Almost half of the elderly are dependents, often due to widowhood, divorce, or separation. Majority of these dependents are the elderly women (70%). The elderly living alone are also found to be more among women (3.49%) than men (1.42%). Studies also reveal that the elderly experience a greater burden of ailments as compared to other age groups across genders and residential locations. They are also more likely to suffer from chronic illness than acute illness (Dey, 2012). Conditions like disability, dependency, chronic morbidity, living alone among elderly contribute in a major way to poor health status.

Social exclusion at global level and in Indian context

Social exclusion is a multi-dimensional phenomenon. It is described a state in which individuals are unable to participate fully in economic, social, political and cultural life, as well as the process leading to and sustaining such a state. The term social exclusion was first used by the former French Secretary of State for Social Action, René Lenoir (1974), to refer to the situation of certain groups of people − "the mentally and the physically handicapped, suicidal people, aged invalids, abused children, drug addicts, delinquents, single parents, multi-problem households, marginal, asocial persons, and other social misfits" (UNDESA, 2016). The concept was further used in other more developed countries for combating the terms poverty and deprivation. (UNDESA, 2016; Peace, 2001).

Social exclusion is a dynamic and complex phenomenon that involves lack or denial of resources, rights, goods and services, and the inability to participate in the normal relationships and activities, available to the majority of people in a society, whether in economic, social, cultural or political arenas. This in turn affects both the quality of life of individuals and the equity of the society (UNDESA). The UNDP suggests three main interlinked dimensions of social exclusion: exclusion from economic life, exclusion from social services, and exclusion from civic life. Thus, social exclusion is considered as a result of multiple and mutually strengthening deprivations of these three main dimensions.

Self-reported health and social exclusion linking

A study conducted in UK reported that social exclusion indicators explained 13.4% of the variance in well-being in the total sample, 13.8% among rural and 18.0% among urban (Dahlberg, 2018). Studies have shown SRH to be associated with factors like education (Howard, 2006), satisfaction with available support (White, 2009); after controlling for covariates.

Gap in Indian studies

It has found that ageing process is predominant phenomena in the southern states namely Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu. However, states of Haryana, Himachal Pradesh, Maharashtra, Orissa, and Punjab are also experiencing an elderly population boom (Dey, 2012). A citizen's right to participate in society is considered as one of the most important aspect of society development. Research about social determinants of health among elderly has recently initiated. Different domains as socio-economic status, family characteristics and social support are integrated and studied. Most of these studies are conducted in more developed countries. Different measures are used to determine individuals' health, one of which is self-reported health (SRH). It is a subjective measure and a significant predictor of morbidity and mortality (Cramm, 2015). Studies have shown SRH to be linked with factors like support for care education, disability or activity limitation, gender and place of residence (White, 2009; Howard, 2006; Rahman, 2003). Studies have revealed that social exclusion and inequalities in health are due to socio-economic inequalities. However, there is limited literature to address the impact of social exclusion on SRH even in more developed countries.

Studies on social exclusion are emerging in India. However, little is known about the health status, and social exclusion among Indian elderly population. Hence, this study aimed at investigating the determinants of social exclusion and its influence on SRH among Indian elderly population using a large-scale study Longitudinal Ageing Study in India (LASI) wave-1.

Methods

Data source

The study has utilized the data from India's first and world's largest longitudinal ageing study, called Longitudinal Ageing Study in India (LASI) Wave 1. The LASI, wave 1 survey has been conducted in 2017-18 in States and Union Territories of the country (excluding Sikkim) among older and elderly population age 45 and above. The study adopted a multistage stratified area probability cluster sampling design to select the eventual units of observation: older adults age 45 and above and their spouses irrespective of age. The survey covered a sample of 72,250 individuals age 45 and above and their spouses, including 31,464 elderly persons age 60 and above and 6,749 oldest-old persons age 75 and above. The survey collected data on variables like socio-demographic characteristics; perceived health status; chronic conditions like hypertension, diabetes etc.; disability and its types; activities of daily living; instrumental activities of daily living; social exclusion indicators like social relation, financial resources, health services and social engagement. The data was acquired from International Institute of Population Sciences (IIPS) for present study.

Measures

Self-reported health

The outcome of the study was Self-reported health (SRH) status, and it is categorized in dichotomous i.e. poor and good health.

Social exclusion

The social exclusion domains included four domains namely social relation (living arrangements, satisfaction with current living arrangement), financial resources (financial support received), health services (covered with health insurance) and social engagement (visit relatives or friends, member of any organization, attending any cultural, political or religious events).

Co-variates

The selected socio-demographic characteristics of study population have been treated as independent variables. The selected independent variables are age (60-116 years), sex (male, female), place of residence (rural, urban), social group (scheduled caste, scheduled tribe, other backward class, others), marital status (currently married, currently not married), education (ever attended school or not) and wealth index (poorest, poorer, middle, richer, richest). The various social exclusion domains were also treated as independent variable in the study.

Data analysis

Data of ordinal type variables was analyzed for absolute numbers and proportions, while continuous variables were analyzed and presented as mean and standard variation. The LASI covers 31,464 elderly aged 60 year and above, and we have considered 2989 individual in the analysis 28983 elderly as missing cases were adjusted. State weight was applied to calculate the State-wise SRH status. The data for good SRH was compared to that of poor SRH for selected social exclusion domains and socio-demographic characteristics using binary logistic regression models with unadjusted and covariate adjusted Odds Ratio calculated at 95%

confidence interval (CI). The data was analyzed using STATA version 15.1.

Results

Socio-demographic characteristics of study population

Table 1 shows the socio-demographic characteristics of study population aged 60 years and above. The mean age of the study population was 68.72 (+ 7.37) ranging from 60-116 years. The proportion of females (52.41%) and rural residents (71.81%) was higher as compared to their counterparts. Nearly two-fifth of the individuals were currently not married and nearly three-fifth never attended school. About 44% of the population belonged to poorest or poorer wealth index.

Table 1: Characteristics of study population aged 60 years and above (N=28983), India, LASI, 2017-18

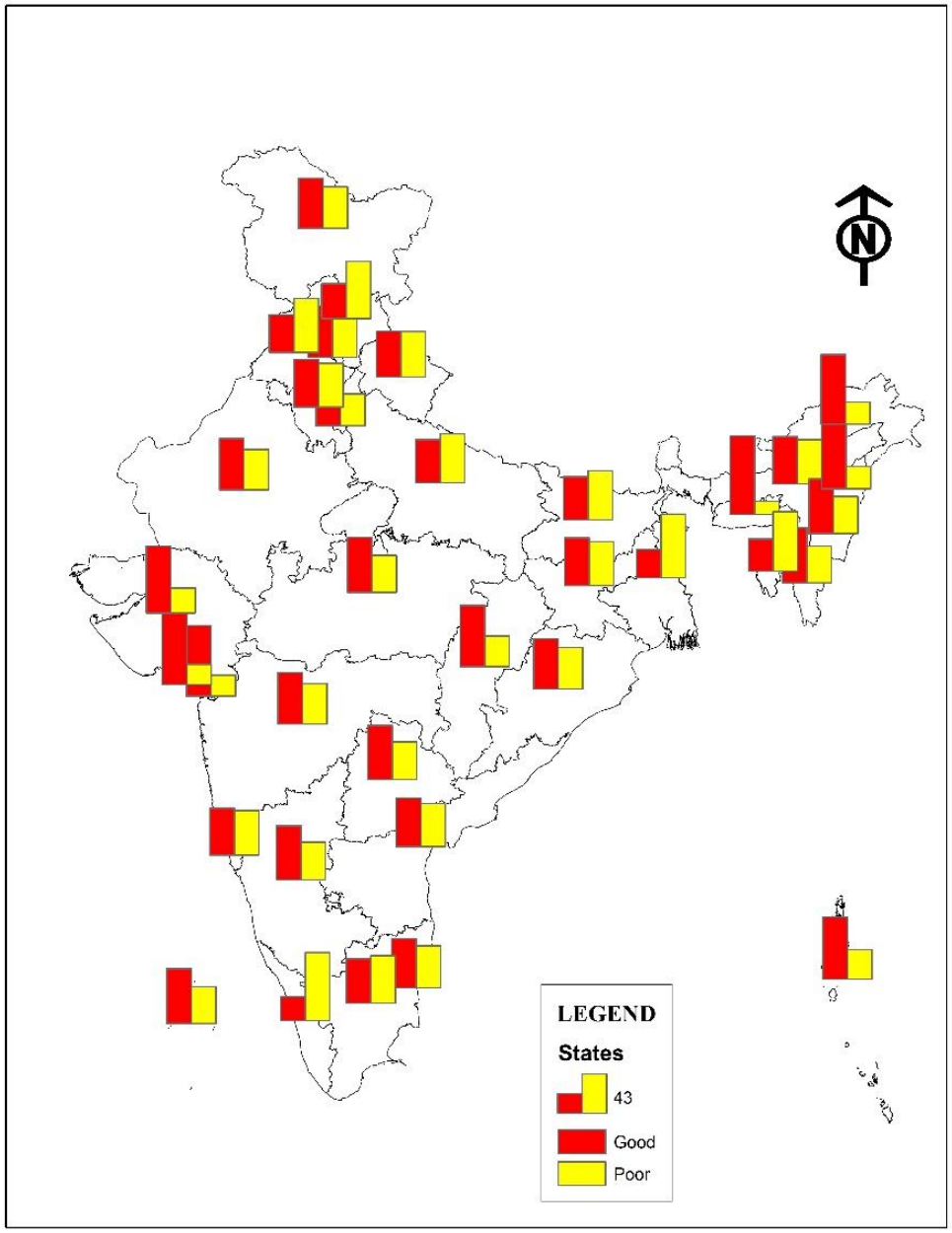
Characteristics	Frequency (n)	Mean/Percentage	SD	Range
Age	28983	68.72	7.37	60-116
Sex				
Male	19386	47.59		
Female	9597	52.41		
Place of residence				
Rural	19386	71.81		
Urban	9597	28.19		
Social group				
Scheduled caste	5713	19.75		
Scheduled tribe	2435	8.42		
Other backward class	13380	46.25		
Others	7403	25.59		
Marital status				
Currently married	18066	62.33		
Currently not married	10917	37.67		
Ever attended school				
No	16482	56.87		
Yes	12501	43.13		
Wealth index				
Poorest	6414	22.00		
Poorer	6326	21.83		
Middle	5997	20.69		
Richer	5463	18.85		
Richest	4783	16.50		

State wise distribution of SRH status

Figure 1 depicts the State wise distribution of SRH status of elderly aged 60 years and above.

About 53.41% of elderly report good health status while 46.59% report poor health status in India. There were 13 states that reported poor health status below the country average. These states are clustered in four parts of the country. These included six northern states of Uttar Pradesh, Bihar, Himachal Pradesh, Uttarakhand, Punjab and Haryana; three southern states of Kerala, Tamil Nadu, and Andhra Pradesh; two eastern states of Jharkhand and West Bengal; and two North-eastern states of Assam, and Tripura.

Figure 1: State wise distribution of Self-reported health (SRH) among elderly aged 60 years and above, LASI, India, 2017-18



Selected domains of social exclusion

Table 2 shows the responses to the indicators for the selected social exclusion parameters among elderly aged 60 years and above. Social relation domain with respect to living arrangement and satisfaction of current living arrangement was observed among majority of individuals. A smaller proportion i.e. only 5.79% of individuals were living alone during survey period, and 5.96% were dissatisfied with their current living arrangement. Majority of individuals lacked financial resources and support to health services. About 84.67% of individuals didn't receive financial support and a similar 81.5% were not covered with health insurance at the time of the survey. A higher proportion of individuals also lacked social engagement wherein 59.29% individuals rarely or never visited their friends or relatives, 95.28% were not a member of any organization and 75.65% rarely or never attended any cultural or religious events.

Table 2: Selected domains of social exclusion among elderly aged 60 years and above, LASI, India, 2017-18

Domains of social exclusion	Frequency (n)	Percentage
Social relation		
Living arrangements		
Living alone	1679	5.79
Living with others	27304	94.21
Satisfaction with current living arrangement		
Satisfied	21830	75.35
Neither satisfied nor dissatisfied	5494	18.96
Dissatisfied	1649	5.69
Financial resources		
Financial support received		
No	24515	84.67
Yes	4438	15.33
Health services		
Covered with health insurance		
No	23597	81.5
Yes	5356	18.5
Social engagement		
Visit relatives/friends		
Several times a month	6007	20.73
At least once a month	5790	19.98
Rarely/Never	17181	59.29
Member of any organization		
No	27614	95.28
Yes	1367	4.72
Attending any cultural, political or religious events		
Several times a month	4090	14.11
At least once a month	2966	10.24

Rarely/Never	21922	75.65
Received poorer service at restaurants or store		
Less than once a year/Never	27712	95.62
More than once in a year	1271	4.38

SRH status and selected social exclusion domains

Table 3 shows SRH status and its association with selected social exclusion indicators. Individuals dissatisfied with current living arrangement had the highest odds of reporting poor health status (AOR = 3.71; 95%CI = 3.26-4.22) compared to those neither satisfied nor dissatisfied with current living arrangement. The odds of poor SRH were also higher among individuals who rarely or never visited relative or friends (AOR = 1.75; 95%CI = 1.64-1.87); rarely or never attending any cultural, political or religious events (AOR = 1.18; 95%CI = 1.10-1.27)

Besides the social exclusion domains, the odds of reporting poor health status were higher among women (AOR= 1.12; 95%CI = 1.06-1.18); whereas it was lower for urban residents (AOR= 0.83; 95%CI = 0.79-0.88).

Table 3: Association between the SRH and selected social exclusion domains, LASI, India, 2017-18

SRH	Unadjusted				Covariate adjusted			
	Odds Ratio	P value	95% CI		Odds Ratio	P value	95% CI	
			Lower limit	Upper limit			Lower limit	Upper limit
Living arrangements								
Living alone								
Living with others	1.00	0.991	0.897	1.114	1.18	0.005	1.050	1.319
Satisfaction with current living arrangement								
Satisfied								
Neither satisfied nor dissatisfied	1.72	0.0001	1.616	1.834	1.73	0.0001	1.620	1.842
Dissatisfied	3.69	0.0001	3.249	4.191	3.71	0.0001	3.264	4.218
Financial support received								
No								
Yes	1.52	0.0001	1.417	1.622	1.49	0.0001	1.388	1.590
Covered with health insurance								
No								
Yes	1.08	0.012	1.017	1.143	1.09	0.006	1.024	1.152
Visit relatives/friends								
Several times a month								
At least once a month	1.35	0.0001	1.255	1.458	1.35	0.0001	1.249	1.451
Rarely/Never	1.78	0.0001	1.670	1.896	1.75	0.0001	1.642	1.865
Member of any organization								
No								
Yes	0.94	0.242	0.857	1.040	0.96	0.429	0.872	1.060
Attending any cultural, political or religious events								
Several times a month								
At least once a month	0.95	0.006	0.857	1.043	0.94	0.251	0.855	1.042
Rarely/Never	0.82	0.0001	1.104	1.266	1.18	0.0001	1.103	1.265

Poorer service at restaurants or store								
Less than once a year/Never								
More than once in a year	1.18	0.001	0.009	0.912	0.81	0.001	0.712	0.917
Sex								
Male								
Female	1.11	0.0001	1.048	1.165	1.12	0.0001	1.057	1.178
Place of residence								
Rural								
Urban	0.77	0.0001	0.733	0.815	0.83	0.0001	0.785	0.876
Social group								
Scheduled caste								
Scheduled tribe	0.53	0.0001	0.489	0.575	0.59	0.0001	0.545	0.645
Other backward class	0.92	0.022	0.863	0.989	0.95	0.132	0.884	1.016
Others	0.97	0.425	0.900	1.045	1.01	0.750	0.938	1.093
Marital status								
Currently married								
Currently not married	1.29	0.0001	1.228	1.364	1.24	0.0001	1.168	1.306
Ever attended school								
No								
Yes	0.94	0.016	0.886	0.987	1.02	0.448	0.966	1.081
Wealth index								
Poorest								
Poorer	0.99	0.796	0.921	1.065	1.02	0.541	0.950	1.103
Middle	0.91	0.014	0.847	0.982	0.98	0.547	0.906	1.054
Richer	0.99	0.708	0.915	1.062	1.07	0.075	0.993	1.157
Richest	1.00	0.945	0.924	1.077	1.10	0.016	1.019	1.194

Note: Adjusted association between SRH and social exclusion domains included age, sex, place of residence, caste, attending school and wealth index.

Discussion

Utilizing the India's first and world's largest longitudinal ageing survey of older adults, the study examined the relationship between social exclusion domains and self-reported health among elderly in India.

The study identified lack of financial resources, lack of social engagement and lack of support to health services as the predominant domain responsible for social exclusion among Indian elderly. These findings are in line with other European studies (Robledo, 2002; Srivastava, 2013). A multi-country study in Europe reported the need for care as a major risk factor for income poverty (Hoff 2008). A study conducted by Barnes et al. (2006) found that advanced old age, single person household, poor mental and physical health, lack of access to private transport, living in rented apartment and reliance on pensions for income were significant predictors of social exclusion in older individuals (Kneale, 2012). Another study conducted in UK reported that social exclusion was significantly correlated with respondents' ethnic origin, educational status, housing tenure, perceived health status and quality of life (Scharf, 2005). Another cross-sectional survey conducted in southern parts of India reported poor social participation, normative integration, access to basic social rights and increased material deprivation resulting in high level of social exclusion (Jose, 2017). A study in

Bangalore reported that the fear of physical dependency, was a major cause of concern for the elderly rather than economic dependency (Gupta, 2001). Also, only 50% of elderly men and 20% of elderly females live on their own income as a major source of livelihood. A major portion of these elderly have to depend on family or others for their financial support (Gupta, 2001).

The study also identified poor health care insurance support for elderly. About 83% of health care expenses is out-of-pocket expenditure in India . Health care service needs increase with age. Insurance coverage is very low in India (only 10% of households had at least one member covered by any form of health insurance). With limited resources and since insurance do not cover outpatient or drug purchase, elderly have a higher chance of catastrophic expenditure and falling into poverty (Dey, 2012).

The study findings also added that social relation domain with respect to living arrangement and satisfaction of current living arrangement was observed among majority of individuals. This may be due to joint family system prevalent in rural India.

The binary logistic regression model shows the odds of reporting poor health status was higher among individuals dissatisfied with current living arrangement; individuals who rarely or never visited relative or friends; rarely or never attending any cultural, political or religious events; among women and rural residents. A study conducted in US using National Health and Nutrition Examination Survey reported that older people needed more support and had poorer health as compared to those who were satisfied with the available support; after controlling for age, race, gender, and educational attainment (White, 2009). Another study revealed that individuals without a high school education had worse physical and mental health and worse SRH status than those with a high school degree, after adjusting for demographic and health-related variables. Health literacy reduced these differences (Howard, 2006). Another study conducted by Rahman et al. (2003) in rural areas reported that SRH incorporated multiple dimensions of health status including physical disability, limitations in activities of daily living, and acute or chronic morbidity (Rahman, 2003).

Socio-demographic factors were also found to be associated with poor SRH status. The study Rahman et al. (2003) reported that older individuals and women were more likely to report poor SRH. Gender discrepancies is the evident in many low- and middle-income countries causing social exclusion through different studies. A study in Kerala also identifies that women are poorer and suffer more morbidity (Gupta, 2012). However, few studies argue that higher social exclusion among women may be due to higher life expectancy of females. Older adults in rural areas are also considered to be vulnerable to social exclusion. This may probably be due to out-migration of younger people for income generation leaving behind the elderly without social support (Scharf 2008).

The National Policy on Older Persons of 1999 provides several welfare facilities for the elderly. Besides, the Central and State governments also have policies like the National Policy on Older Persons, National Old Age Pension Program address the economic

insecurity. However, a majority of elderly do not know about these policies and welfare schemes. Awareness needs to be created among the elderly about these schemes and policies. The National Programme for Health Care of the Elderly (NPHCE) aims to provide preventive, curative and rehabilitative services to the elderly persons through health care delivery system of the country. The NPHCE is a good and new initiative to take care of the ageing population. However, it requires more attention towards implementation and coordination (Verma, 2013).

Strengths and limitations

Being a country-wide representative survey, the findings can be generalized to general older population in India and countries with similar settings. The study being a cross-sectional study, causality of the association cannot be determined. SRH status being a subjective measure and perception of an individual, there is likely to be reporting bias. Apart from this limitation, the study is able to address the important aspect relating to social exclusion, i.e. different domains of social exclusion and relative contribution of different domains of social exclusion to perceived health status.

Conclusions

This study provides valuable insights into determinants of social exclusion and its relationship with the perceived health status of elderly. Our study indicates that social exclusion is predominantly seen in the domains of financial resources, social engagement and support to health care services. The impact of social exclusion is also observed in reporting poor health status with higher odds among individuals dissatisfied with current living arrangement, individuals experienced social engagement exclusion, women and rural residents. The implication of this finding is to expand the scope of elderly health programme limiting social exclusion so as to achieve significant improvements in their perceived SRH status.

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